



UPC Court of Appeal
UPC-CoA-919/2025
UPC-CoA-920/2025

Decision

of the Court of Appeal of the Unified Patent Court, issued on 16 September 2026

HEADNOTES:

- 1) An absolute bar to proceedings within the meaning of Rule 362 of the RoP is a circumstance which, on legal grounds, precludes the conduct or continuation of proceedings (before the Court) once and for all. An absolute bar to proceedings is not subject to the parties' discretion and cannot be removed or remedied by the subsequent submission of a document or by rectification.
- 2) National law is decisive for determining the res judicata effect of a decision by a national court.
- 3) A substantiated ('concrete', 'specifically', 'spécifiquement') challenge pursuant to Rule 171.2 of the RoP cannot be required if the fact put forward is one that lies outside the party's sphere of knowledge and responsibility. If the fact put forward lies outside the party's sphere of knowledge and responsibility, the party may declare that it is unaware of that fact. The fact is then not deemed to be undisputed; rather, it requires proof.
- 4) If the use of the technical teaching of a patent is lawful in a Contracting Member State on the basis of a right of prior use, the acts in that Contracting Member State cannot give rise to a risk of infringement with regard to the use of the patent in another Contracting Member State. The risk of infringement requires a finding of unlawful use of the patent.

KEYWORDS:

Claim for use / Res judicata of a national nullity judgement / Absolute bar to proceedings /
Declaration of lack of knowledge / Inventive step / Right of prior use

APPELLANT AND COUNTER-RESPONDENT ON APPEAL (CLAIMANT AND COUNTER-DEFENDANT IN THE PROCEEDINGS BEFORE THE COURT OF FIRST INSTANCE)

Heraeus Electronics GmbH & Co. KG, Heraeusstraße 12–14, 63450 Hanau, Germany

(hereinafter: ‘the Claimant’)

represented by Paul Szyuka, Attorney-at-law, CBH Rechtsanwälte PartG mbB

APPELLEE AND APPELLANT (DEFENDANT AND COUNTER-CLAIMANT IN THE PROCEEDINGS BEFORE THE COURT OF FIRST INSTANCE)

Vibrantz GmbH, Gutleutstraße 215, 60327, Frankfurt am Main, Germany

(hereinafter: ‘defendant’)

represented by Dr Christian Paul, Attorney-at-law, Jones Day

PATENT AT ISSUE

EP 3 215 288

LANGUAGE OF THE PROCEEDINGS

German

PANEL AND DECIDING JUDGES

Panel 3:

Ulrike Voß, presiding judge and judge-rapporteur

Bart van den Broek, legally qualified judge

Nathalie Sabotier, legally qualified judge

Jeroen Meewisse, technically qualified judge

Max Tilmann, technically qualified judge

CONTESTED DECISION OF THE COURT OF FIRST INSTANCE

Decision of the Munich local division, 10 October 2025, UPC_CFI_114/2024 UPC_CFI_448/2024

ORAL HEARING ON 25 AUGUST 2026

FACTS OF THE CASE

Parties and the patent at issue

1. The claimant is bringing proceedings against the defendant for direct and indirect infringement of EP 3 215 288 (hereinafter: ‘the patent at issue’) in Germany, France, Italy and Romania in

Claim (UPC-CFI-114/2024, UPC-CoA-919/2925). The defendant has filed a counterclaim seeking a declaration of invalidity of the patent at issue (UPC-CFI-448/2024, UPC-CoA-920/2025).

2. The defendant is a German GmbH which has been a subsidiary of the internationally active Ferro Corporation since 2001. Following a change of name, it has become part of the internationally active Vibrantz Group.
3. The claimant is the registered proprietor of the patent at issue. It acquired the national parts of the patent at issue by way of a spin-off from Heraeus Deutschland GmbH & Co. KG, which was subsequently renamed Heraeus Precious Metals GmbH & Co. KG.
4. The patent at issue relates to a metal sintering composition and its use for joining components. The language of grant of the patent at issue is German. The notice of grant of the patent at issue, which was filed on 8 May 2015 claiming priority from 3 November 2014 (EP 14191408), was published on 29 August 2018. The patent at issue is in force in Germany, France, Italy and Romania.
5. Claims 1 and 6 of the patent at issue, as registered, read as follows:

Claim 1

A metal sinter composition comprising (A) 50 to 90% by weight of at least one metal selected from the group consisting of copper, silver, gold, nickel, palladium, platinum and aluminium, which is present in the form of particles having a coating containing at least one organic compound selected from the group consisting of free fatty acids, fatty acid salts and fatty acid esters, and (B) 6 to 50% by weight of one or more organic solvents selected from the group consisting of terpineol, N-methyl-2-pyrrolidone, ethylene glycol, dimethylacetamide, 1-tridecanol, 2-tridecanol, 3-tridecanol, 4-tridecanol, 5-tridecanol, 6-tridecanol, isotridecanol, 1-hydroxy-C16–C20-alkanes unsubstituted except for a methyl group on the penultimate carbon atom, dibasic esters, glycerol, diethylene glycol, triethylene glycol and aliphatic hydrocarbons having 5 to 32 carbon atoms,

characterised in that

that the mathematical product of the bulk density, determined in accordance with DIN EN ISO 787-11 : 1995-10, and the specific surface area, determined in accordance with DIN ISO 9277: 2014-01, of the metal particles of component (A) lies in the range from 40,000 to 80,000 cm⁻¹.

Claim 6

A method for joining structural elements, comprising (a) providing a sandwich assembly comprising at least (a1) a structural element 1, (a2) a structural element 2 and (a3) a sintered metal preparation according to one of the preceding claims, which is situated between structural element 1 and structural element 2, and (b) sintering the sandwich assembly.

6. For the wording of the remaining patent claims, reference is made to the patent specification.
7. Ferro GmbH had brought an action for revocation before the Federal Patent Court (Case No. BPatG 3 Ni 26/21 (EP)) against the German part of the patent at issue. The action for revocation was directed against Heraeus Precious Metals GmbH & Co. KG and was based on Article 138(1) (a) EPC in conjunction with Article 54

EP (lack of novelty) and Article 138(1)(a) EPC in conjunction with Article 56 EPC (lack of inventive step). During the nullity proceedings, the defendant became the legal successor to Ferro GmbH.

8. By judgment of 7 November 2023 (Annex CBH 8), the Federal Patent Court declared the German part of the patent at issue partially invalid in so far as it goes beyond the following wording (emphasis as in the operative part of the judgment):

1. The use of a metal sintering composition for the permanent joining of structural elements, wherein the metal sintering composition comprises (A) 50 to 90% by weight of ~~at least one metal selected from the group consisting of copper, silver, gold, nickel, palladium, platinum and aluminium~~, which is present in the form of particles, wherein the metal particles are in the form of flakes or have an irregular shape, wherein the metal particles have a coating containing at least one organic compound selected from the group consisting of free fatty acids, fatty acid salts and fatty acid esters, and (B) 6 to 50 % by weight of one or more organic solvents selected from the group consisting of terpineol, N-methyl-2-pyrrolidone, ethylene glycol, dimethylacetamide, 1-tridecanol, 2-tridecanol, 3-tridecanol, 4-tridecanol, 5-tridecanol, 6-tridecanol, isotridecanol, 1-hydroxy-C₁₆–C₂₀-alkanes unsubstituted except for a methyl group on the penultimate carbon atom, dibasic esters, glycerol, diethylene glycol, triethylene glycol and aliphatic hydrocarbons having 5 to 32 carbon atoms,

characterised in that

the mathematical product of the tapped density, determined in accordance with DIN EN ISO 787-11 : 1995-10, and the specific surface area, determined in accordance with DIN ISO 9277 : 2014-01, of the metal particles of component (A) lies in the range from 400,005 to 80,000 cm⁻¹.

2. Use of a metal sintering composition according to claim 1 for the permanent joining of structural elements, wherein the mathematical product of the bulk density, determined in accordance with DIN EN ISO 787-11 : 1995-10, and the specific surface area, determined in accordance with DIN ISO 9277 : 2014-01, of the metal particles of component (A) lies in the range from 50,000 to 70,000 cm⁻¹.

3. Use of a metal sintering composition according to claim 1 or 2 for the permanent joining of structural components, comprising one, two or more different types of metal particles.

4. ~~A sintered metal composition according to one of the preceding claims, wherein the metal particles are in the form of flakes or have an irregular shape.~~

54. Use of a metal sintering composition according to any of the preceding claims for the permanent joining of components, comprising, in addition to the constituents (A) and (B), 0 to 12 % by weight of at least one metal precursor (C), 0 to 10 % by weight of at least one sintering aid (D) and 0 to 15 % by weight of one or more further constituents (E) selected from dispersants, surfactants, defoamers, binders, polymers and/or viscosity-controlling agents.

65. A method for joining components, comprising (a) providing a sandwich assembly comprising at least (a1) a component 1, (a2) a component 2 and (a3) a metal sintering composition according to one of the preceding claims, which is situated between component 1 and component 2, and (b) sintering the sandwich assembly.

76. The method according to claim 65, wherein at least one of the components 1 and 2 has an aluminium or copper contact surface over which the sandwich assembly is formed.

87. A method according to claim 65 or 76, wherein sintering is carried out under pressure or without pressure.

98. A method according to any one of claims 65 to 78, wherein the components are parts used in electronics.

9. The defendant has withdrawn the appeal lodged against this judgment before the Federal Court of Justice (Ref. BGH X ZR 21/24).

Contested embodiment

10. The defendant manufactures silver sintering pastes to order under the designation 'Low Temperature Sintering Silver Paste'. The production site is in Germany.
11. The silver sintering paste is used in low-temperature bonding technology (hereinafter: 'NTV') and is intended for incorporation into organic media for the manufacture of preparations and components for the electronics industry (Exhibit CBH 17). It is applied between the semiconductor component and the substrate and is then sintered.
12. The claimant acquired a sample of the silver sintering paste. In the accompanying data sheet (Exhibit CBH 16), the sample is described as 'customised Ag paste; especially designed for metallisation for chip bonding at low temperature' and bears the number 6380 0130 (SAP: 1426629) (hereinafter: 'the contested embodiment').
13. The contested embodiment has a silver content of 84% by weight (Exhibit CBH 17) or 83.82% by weight (Exhibit CBH 22) and a terpeneol content of 10–20% by weight (Exhibits CBH 17, 23). The silver particles, which have an organic coating, are in the form of flakes (Annexes CBH 21, 24). SF30-type silver flakes were used (Annex JD 89). The bulk density of the silver particles is 2.86 g/cm³, and the specific surface area is 1.75 m²/g (Annex CBH 20). This results in a mathematical product of 50,050 cm⁻¹.

Contested decision

14. By decision of 10 October 2025 (hereinafter: 'the contested decision'), the Munich local division (hereinafter: 'the local division') dismissed the infringement action on the grounds of the existence of a right of prior use in Germany and the lack of evidence of acts of use in France, Italy and Romania. The local division regarded the counterclaim for revocation directed against the German part of the patent at issue as inadmissible on the basis of the judgment of the Federal Patent Court of 7 November 2023, in so far as it was based on Article 138(1)(a) of the EPC in conjunction with Article 54 of the EPC (lack of novelty) and on Article 138(1)(a) of the EPC in conjunction with Article 56 of the EPC (lack of inventive step). In all other respects, it dismissed the counterclaim for revocation. With effect for France, Italy and Romania, the local division declared the patent at issue invalid in so far as its subject-matter goes beyond the version of the German part of the patent at issue upheld by the Federal Patent Court in its judgment of 7 November 2023

. The costs of the proceedings were apportioned as follows: 40 per cent to the defendant and 60 per cent to the Claimant.

APPLICATIONS BY THE PARTIES

Appeal; action for infringement

15. The claimant requests:

I. That the decision of the Court of First Instance (LD Munich) of 10 October 2025 (UPC-CFI-114/2024) be set aside in so far as the action for infringement was dismissed.

II. European Patent EP 3 215 288 B1 has been infringed by the defendant.

III. The defendant is ordered to refrain from, on pain of a penalty payment of up to EUR 5,000 per infringing product to be imposed for each instance of infringement,

III.1 metal sintered compositions comprising

1.1 (A) 50 to 90% by weight of silver,

1.1.1 which is present in the form of particles, wherein the metal particles are in the form of flakes or have an irregular shape,

1.1.2 wherein the metal particles have a coating containing at least one organic compound selected from the group consisting of free fatty acids, fatty acid salts and fatty acid esters, and

1.2 (B) 6 to 50 % by weight of one or more organic solvents selected from the group consisting of

- terpineol,
- N-methyl-2-pyrrolidone,
- ethylene glycol,
- dimethylacetamide,
- 1-tridecanol,
- 2-tridecanol,
- 3-tridecanol,
- 4-tridecanol,
- 5-tridecanol,
- 6-tridecanol,
- isotridecanol,
- 1-hydroxy-C16-C20-alkanes, which are unsubstituted except for a methyl group on the penultimate carbon atom,
- dibasic esters,
- glycerol,
- Diethylene glycol,
- triethylene glycol and
- aliphatic hydrocarbons having 5 to 32 carbon atoms, wherein

1.3 the mathematical product of

1.3.1 the bulk density of the metal particles of component (A), determined in accordance with DIN EN ISO 787-11 : 1995-10,

1.3.2 the specific surface area of the metal particles of component (A), determined in accordance with DIN ISO 9277 : 2014-01,

1.3.3 lies in the range from 50,000 to 80,000 cm⁻¹

in the Federal Republic of Germany, the French Republic, the Italian Republic and Romania

to offer, place on the market, use or possess for these purposes,

if they are suitable for use in the permanent joining of structural elements,
(Infringement of claim 1 of the German, French, Italian and
Romanian parts of EP'288)

III.1' IN THE ALTERNATIVE to section III.1

Metal sintered compositions as described in section III.1 above (features 1.1 to 1.3.3)

in the Federal Republic of Germany, the French Republic, the Italian Republic and Romania

by clearly specifying that they are recommended for use in the permanent joining of structural elements,

in particular where this is done using the words

'Low Temperature Sintering Silver Paste', and/or

"especially designed for metallisation for chip bonding at low temperature" and/or

"Low Temperature Sintering" and/or

'low-temperature joining technology'

as well as offering, placing on the market, using or possessing for these purposes metal sintering preparations prepared in this way

as well as

III.2 metal sintering compositions as described in section III.1 above (characteristics 1.1 to 1.3.3)

in the Federal Republic of Germany, the French Republic, the Italian Republic and Romania, to offer or supply them to third parties for use in the Federal Republic of Germany, the French Republic, the Italian Republic and Romania,

if these are suitable for use in a process for joining structural elements, in which a sandwich assembly is provided comprising at least one structural element 1, one structural element 2 and a sintered metal preparation as defined in section III.1a above, situated between structural element 1 and structural element 2, and the sandwich assembly is sintered,

(Infringement of claim 5 of the German, French, Italian and Romanian parts of EP'288)

IV. The defendant is further ordered, within a period of 45 days of service of the judgment in accordance with Rule 118.8,

1. to provide the Claimant, in electronic form, with a breakdown structured by calendar month and by patent-infringing products—which can be analysed using a computer—detailing the extent to which it (the defendant) has, since 13 September 2017, committed the acts referred to above under No. III. in order to calculate the damages to which the Claimant is entitled, including the defendant's profits from 29 August 2018, as well as to calculate appropriate compensation for the territory of the Federal Republic of Germany from 13 September 2017 to 28 August 2018, specifying

- (a) the names and addresses of the manufacturers, suppliers and other previous owners,
- (b) the names and addresses of the commercial customers and the points of sale for which the products were intended;
- (c) the quantities of products manufactured, delivered, received or ordered, as well as the prices paid for the products;

whereby, as evidence of the information provided, copies of the relevant purchase documents (namely invoices, or alternatively delivery notes) must be read out, with details requiring confidentiality being redacted from the data subject to the obligation to provide information and disclosure;

2. to provide the claimant with a structured statement in electronic form detailing the extent to which the defendant has carried out the acts referred to in point III above since 13 September 2017, specifying

- (a) the individual deliveries, broken down by delivery quantities, times and prices, as well as model designations and the names and addresses of the recipients;
- (b) the individual offers, broken down by offer quantities, times and prices, as well as model designations and the names and addresses of the commercial recipients of the offers;
- (c) the advertising carried out, broken down by advertising medium, circulation figures, period of distribution and distribution area and, for the period from 29 August 2018 onwards, additionally
- (d) the costs, broken down by individual cost factors and the profits generated,

whilst the defendant reserves the right to disclose the names and addresses of non-commercial customers and recipients of the offers, instead of to the Claimant, to a chartered accountant to be designated by the Claimant, who is bound to confidentiality and is resident in one of the contracting member states, provided that the defendant bears the costs thereof and authorises and obliges him to inform the claimant, upon specific request, whether a particular customer or recipient of an offer is included in the list;

3. to hand over to a bailiff to be appointed by the Claimant, for the purpose of destruction at the defendant's expense, any product which is directly or indirectly in its possession or ownership in Germany, France, Italy or Romania and to which reference is made in Section III, including the products recalled and removed from the distribution channels in accordance with Sections IV.4 and IV.5;

4. to notify the commercial customers of the products placed on the market as referred to in Section III, stating that this Court has found that the product infringes European Patent EP 3 215 288 B1, and with a binding undertaking to reimburse the costs incurred, to bear the packaging and transport costs incurred, to reimburse the customs and storage costs associated with the return of the products, and to take the products back;

5. to permanently remove the products referred to in Section III from the distribution channels by the defendant taking these items back into its possession, if necessary enforcing their surrender by means of its claims for restitution, or, at the Claimant's discretion, arranging for the destruction of these items at the respective owner's premises at the defendant's expense.

V. The defendant is further ordered to pay the claimant EUR 250,000.00 as provisional damages.

VI. It is hereby declared that the defendant

1. is obliged to compensate the Claimant for any further loss incurred by Heraeus Precious Metals GmbH & Co. KG, Herausstraße 12–14, 63450 Hanau, has incurred as a result of all past acts referred to in Section III from 29 August 2018 until 31 July 2023, as well as to compensate the Claimant for all past acts committed since 1 August 2023 and all future acts referred to in Section III that have been or will be incurred;

2. is obliged to pay the Claimant reasonable compensation for all acts referred to in Section III in the Federal Republic of Germany for which damages are not already payable under Section VI.1.

VII. The defendant shall bear the costs of the proceedings.

16. The defendant submits:

I. The appeal is dismissed.

II. The claimant shall bear the costs of the appeal proceedings.

Appeal against the counterclaim for annulment

17. The defendant requests:

I. That paragraphs 1 and 3 of the judgment of the Munich local division of 10 October 2025, ref. UPC_CFI_448/2024, be set aside.

II. European Patent EP 3 215 288 is declared invalid in its entirety in the territories of the Federal Republic of Germany (DE), the French Republic (FR), the Italian Republic (IT) and Romania (RO).

III. The respondent shall bear the costs of the proceedings.

18. The claimant requests:

I. The defendant's (counter-claimant's) appeal is dismissed.

II. The defendant shall bear the costs of the proceedings.

OVERVIEW OF THE MAIN POINTS OF DISPUTE BETWEEN THE PARTIES

19. In the context of the appeal against the infringement action, the parties are in dispute, in particular, regarding the meaning of the feature 'for permanent fastening' in claim 1 of the patent at issue, the existence and scope of a right of prior use in Germany, and the existence of a risk of infringement with regard to acts of use in France, Italy and/or Romania, in respect of which the defendant also asserts a right of prior use in each case. The parties further dispute whether the supplementary submission put forward by the Claimant in its document of 16 June 2026 pursuant to Rule 36 of the RoP regarding the defendant's participation in a trade fair in Nuremberg is admissible and well-founded.
20. In the context of the appeal against the counterclaim for revocation, the parties hold differing views on the admissibility of the claim in so far as it is directed against the German part of the patent at issue. They also dispute the objective purpose of the patent at issue and any improvements over the prior art, including the technical effect of the patent at issue. Furthermore, the defendant disputes the feasibility, clarity, novelty and inventive step of the patent at issue.
21. The claimant further objects to the order for costs in the contested decision. In its view, even on the basis of the decision of the local division, a reversal of the costs is appropriate.

REASONS FOR THE DECISION

22. The appeals are admissible but unfounded on the merits.
23. In the following, the patent at issue is taken as the basis in the version of the German part upheld by the Federal Patent Court in its judgment of 7 November 2023 (Annex CBH 8), as the Claimant asserts the patent at issue solely in this version in the infringement proceedings and defends it only to that extent in the nullity proceedings.

A. Subject-matter of the patent at issue

I. Technical background to the patent

24. The patent at issue explains at the outset that, in the field of power and consumer electronics, the connection of components such as LEDs or very thin silicon chips, which are highly sensitive to pressure and temperature, presents a particular challenge (paragraph [0002]). For this reason, according to the patent at issue, such pressure- and temperature-sensitive components are frequently joined together by bonding. However, from the perspective of the patent at issue, the bonding technique has the disadvantage that it creates contact points between the components which exhibit insufficient thermal conductivity or electrical conductivity (para. [0003]). To solve this problem, the components to be joined are often sintered. Sintering is a very simple method for the stable joining of components (para. [0004]).
25. According to the patent at issue, the use of metal sintering compositions in a sintering process for joining components in the field of power electronics is known. For example, WO2011/026623 A1 (Annex JD 24, hereinafter 'JD 24') discloses a metal sintering paste containing 75 to 90 wt% (weight per cent) of at least one metal, present in the form of particles having a coating comprising at least one organic compound, 0 to 12 wt% of at least one metal precursor, 6 to 20 wt% of at least one solvent and 0.1 to 15 wt% of at least one sintering aid, as well as the use of the metal sintering composition for joining components by means of a sintering process (paragraph [0005]).
26. The patent at issue then states that the object of the invention is to provide a sintering process for the stable joining of components. The process is intended to form contact points between the components to be joined which exhibit low porosity and high electrical and thermal conductivity (para. [0006]). According to the description in the patent at issue, a further objective of the present invention is to provide a metal sintering preparation suitable for carrying out such a sintering process (paragraph [0007]).
27. On this basis, the patent at issue proposes in claim 1 the use of a metal sintering preparation in accordance with the following features:
 1. Use of a metal sintering preparation for firmly bonding of structural components.
 2. The metal sintering composition comprises

2.1 (A) 50 to 90 per cent by weight of silver,

2.1.1 which is present in the form of particles, wherein the metal particles are in the form of flakes or have an irregular shape,

2.1.2 wherein the metal particles have a coating containing at least one organic compound selected from the group consisting of free fatty acids, fatty acid salts and fatty acid esters, and

2.2 (B) 6 to 50 % by weight of one or more organic solvents selected from the group consisting of

- terpineol,
- N-methyl-2-pyrrolidone,
- ethylene glycol,
- dimethylacetamide,
- 1-tridecanol,
- 2-tridecanol,
- 3-tridecanol,
- 4-tridecanol,
- 5-tridecanol,
- 6-tridecanol,
- isotridecanol,
- 1-hydroxy-C16-C20-alkanes, which are unsubstituted except for a methyl group on the penultimate carbon atom,
- dibasic esters,
- glycerol,
- diethylene glycol,
- triethylene glycol and
- aliphatic hydrocarbons having 5 to 32 carbon atoms, wherein

2.3 the mathematical product of

2.3.1 the bulk density of the metal particles of component (A), determined in accordance with DIN EN ISO 787-11 : 1995-10, and

2.3.2 the specific surface area of the metal particles of component (A), determined in accordance with DIN ISO 9277 : 2014-01,

2.3.3 lies in the range from 50,000 to 80,000 cm⁻¹.

28. In claim 5, the patent at issue proposes a method having the following features:

1. A method for joining structural elements, comprising

(a) providing a sandwich assembly comprising at least

(a1) a component 1,

(a2) a structural element 2, and

(a3) a metal sintering preparation according to one of the preceding claims, which is situated between component 1 and component 2, and

(b) sintering the sandwich assembly.

II. Interpretation of the patent claims

1) Principles

29. Pursuant to Article 69 of the EPC, read in conjunction with the Protocol on its interpretation, the patent claim is not merely the starting point but the decisive basis for determining the scope of protection of a European patent. The interpretation of a patent claim does not depend solely on its exact wording in the linguistic sense. Rather, the description and the drawings must always be taken into account as aids to the interpretation of the patent claim and should not be used merely to resolve any ambiguities in the patent claim. However, this does not mean that the patent claim serves merely as a guideline and that its subject-matter also extends to what, following an examination of the description and the drawings, appears to be the patent proprietor's claim for protection. In applying these principles, appropriate protection for the patent proprietor should be combined with sufficient legal certainty for third parties (Court of Appeal, UPC-CoA-335/2023, Order of 26 February 2024 – Nanostring v 10xGenomics; UPC-CoA-182/2024, Order of 25 September 2024 – Mammut v Ortovox; UPC-CoA-898/2025, Order of 27 March 2026 – ONWARD v Niche; UPC-CoA-901/2025, order of 17 April 2026 – Abbott v Sinocare; UPC-CoA-36/2026, order of 8 July 2026 – Angelalign v Align).
30. The patent claim must be interpreted from the perspective of a person skilled in the art. Such a person always interprets a feature in the light of the claim as a whole (Court of Appeal, UPC-CoA-335/2023, Order of 26 February 2024 – Nanostring v 10xGenomics; UPC-CoA-297/2024, Order of 3 December 2024 – SharkNinja v Dyson; UPC-CoA-768/2024, Order of 30 April 2025 – Insulet v EOFlow; UPC-CoA-898/2025, Order of 27 March 2026 – ONWARD v Niche; UPC-CoA-901/2025, Order of 17 April 2026 – Abbott v Sinocare; UPC-CoA-36/2026, Order of 8 July 2026 – Angelalign v Align).
31. These principles for the interpretation of a patent claim apply equally to the assessment of infringement and the validity of a European patent (Court of Appeal, UPC-CoA-335/2023, Order of 26 February 2024 – Nanostring v 10xGenomics).

2) Person skilled in the art

32. The local division was correct, in agreement with the parties, to assume that, in the present case, a materials scientist – in particular a metallurgist holding a diploma and a master's degree with many years' experience in the field of material-bonded joining technology in the electronics sector – is to be regarded as a person skilled in the art.

3) Claim 1

33. The following features of claim 1 require closer examination.

a) Feature 1

34. Feature 1 of Claim 1 requires the use of a sintered metal composition for the permanent joining of components.
35. Consequently, it is not the metal sintering preparation as such that is protected, but rather (only) the use of the metal sintering preparation as defined in the claim for a specific purpose. Claim 1 is therefore a purpose-bound product claim. The product is tied to a specific intended use; the specification of purpose limits the scope of protection of the claim.
36. The sintered metal composition must be used in a sintering process, as indicated by the product's designation.
37. According to general technical understanding, sintering is a technical process for the manufacture or joining of materials by means of heat treatment, whereby the fine- or coarse-grained starting material(s) are compacted, with voids (pores) in the starting material being filled or reduced in size. As a result of sintering, the starting material is also transformed into a more stable state; materials to be joined are bonded together by material interlocking. This understanding also forms the basis of the patent at issue, as shown in paragraph [0046]. This states: 'Sintering is understood to mean the joining of two or more components by heating, whilst preventing the metal particles (A) from reaching the liquid phase.'
38. As is expressly stated in feature 1, the use of the metal sintering composition in a sintering process inherently serves the purpose of firmly joining structural elements.
39. By 'firmly joining' structural elements within the meaning of feature 1, a person skilled in the art understands the joining of at least one (first) structural element to another (second) structural element by means of a metal sintering composition as defined in the claims. The connection is considered firm if the components, which are stably joined to one another, are not movable relative to one another and do not separate or come loose from one another during intended or proper use. Rather, the components, which are firmly joined to one another by material bonding through sintering, should only be separable from one another by the application of force. This understanding follows for the person skilled in the art from the following considerations.
40. Paragraph [0048] of the patent at issue contains a definition of the joining of components. It states: 'The joining of at least two components is understood to mean the fastening of a first component to a second component. In this context, "to" simply means that the surface of the first component is joined to a surface of the second component, whereby the relative position of the two components or the order comprising at least two components is irrelevant.'
41. Paragraph [0004] teaches the person skilled in the art that sintering is a very simple method for the stable joining of components. Subsequently, in paragraph [0006], the patent at issue states that its objective is to provide a sintering method for the stable joining of components. Furthermore, paragraph [0047] explains, with regard to a pressureless sintering process, that this achieves a sufficiently strong bond. Consequently, the aim is to use sintering to create a stable bond between the components that allows for the proper application or use of the sintered materials. This, in turn, presupposes that the bonded components do not (easily) detach from one another or move relative to one another. Rather, they are fixed in relation to one another. All of this, in turn, is consistent with the general meaning of the terms

terms 'firm' and 'join'.

42. The patent at issue does not specify a specific measure of strength or a (specific) threshold value for the force required to separate the components. Neither claim 1 nor the description of the patent at issue specifies a (specific) measure of strength or a (specific) threshold value for the required force.
43. The person skilled in the art will not infer the requirement for a (specific) threshold value or a (particular) measure of strength from paragraph [0017] of the patent at issue. Admittedly, this paragraph states that the strength of sintered assemblies produced using the metal sintering composition according to the invention is 'particularly high', or that the adhesion between components sintered together using the metal sintering composition according to the invention is 'particularly pronounced'. However, these terms must be viewed in the overall context of the paragraph. Paragraph [0017] states, following mention of the "particularly high" bond and the "particularly pronounced" adhesion, that "it is therefore an essential feature of the invention that the mathematical product of the bulk density and the specific surface area of the metal particles of component (A) lies in the range from 40,000 to 80,000 cm^{-1} , preferably 50,000 to 70,000 cm^{-1} ". This echoes paragraph [0018], which states: 'In other words, the metal particles of component (A) must be selected on the basis of their bulk density and/or their specific surface area in such a way that the mathematical product of bulk density and specific surface area yields a value in the range of 40,000 to 80,000 cm^{-1} . The essential feature of the invention, namely that the product of tap density and specific surface area lies within the range of 40,000 to 80,000 cm^{-1} , relates to ...".
44. Paragraphs [0017] and [0018] therefore explicitly describe the core of the invention and identify the mathematical product of the silver component (A), as defined in the claims, as the means which ensures the achievement of the intended solid bond between the structural elements. The person skilled in the art therefore deduces from these paragraphs that the intended strong bond is achieved when a silver component is contained in the metal sintering preparation which has the mathematical product of bulk density and specific surface area as claimed. It is therefore explained that the bond is 'particularly strong' or that the adhesion of the components is 'particularly pronounced'. Paragraphs [0017] and [0018] therefore (merely) clarify the relationship between the purpose of the patent at issue – the use of a sintered metal composition for firmly joining components – and the configuration of the silver component in the sintered metal composition to be used, as required by the teaching of the patent at issue. The cited paragraphs therefore explicitly describe the suitability of the metal sintered preparation as claimed for achieving the intended purpose. But nothing more than that.
45. Nor does the person skilled in the art, on the basis of the distinction drawn by the patent at issue from the prior art as assessed, come to the conclusion that the term 'for firmly joining' requires a (higher) degree of strength or a (specific) limit value for the force applied. The patent at issue does not criticise the generally cited prior art with regard to the strength of the bond between sintered components. Rather, it regards bonding by means of adhesive as disadvantageous because this creates contact points between the components which exhibit insufficient thermal conductivity or electrical conductivity (paragraph [0003]). However, the patent at issue regards this criticised problem as being solved by sintering the components (paragraph [0003]). The specification of the patent at issue does not criticise the prior art cited, namely JD 24 (paragraph [0005]), and consequently does not criticise the strength of the joints formed after sintering either. Consequently, it cannot be inferred from the patent at issue that the connection of components achieved in the prior art by sintering using metal sintering compositions is regarded as not sufficiently strong and therefore in need of improvement.

46. It has neither been argued nor is it otherwise apparent that, for technical reasons, it would be absolutely necessary to provide for a specific level of strength or a specific limit value for the applied force.
47. Incidentally, the examples set out in the patent at issue demonstrate that the degree of strength or the force to be applied may vary. According to these examples, silver sintered compositions produced in accordance with the invention as described in paragraph [0081] were used in a sintering process as described in paragraphs [0082] and [0085]. After sintering, adhesion was determined by measuring the shear strength. In this process, the components were sheared using a shear chisel at a speed of 0.3 mm/s at 260 °C. The force was recorded using a load cell (DAGE 2000 device from DAGE, Germany) (para. [0083]). The sintering compositions 1, 3 and 4 used, as well as sintering compositions 6 and 7, containing various mathematical products in accordance with feature group 2.3, exhibited different degrees of adhesion according to the tables contained in paragraphs [0084] and [0086]. The specification of the contested patent therefore expressly describes the use of metal sintered compositions, which can result in joints of varying strength in the structural elements, as falling within the scope of the invention, and thus also regards the varying suitability for achieving joints of varying strength as falling within the scope of the claims.
48. Contrary to the defendant's view, feature 1 must also be accorded independent significance under the aforementioned interpretation. The feature limits the protection to a specific use of the sintered metal composition for a specific purpose, namely the strong bonding of components. It is therefore no longer merely the article itself, i.e. the sintered metal preparation, that is protected as such. Feature group 2.3, by contrast, contains (only) specifications regarding the configuration of the sintered metal preparation. The fact that it is precisely this configuration which enables the purpose specified in feature 1 to be achieved does not render the features redundant.
49. For the sake of completeness, it should be noted that the interpretation set out here is consistent with the judgment of the Federal Patent Court of 7 November 2023 (Annex CBH 8, p. 13).

b) Claims 2 to 2.2

50. According to features 2, 2.1 and 2.2 of claim 1, the metal sinter preparation to be used comprises two components, namely (A) silver and (B) one or more organic solvents.
51. With regard to the weight percentages of these components in the preparation, 50 to 90% by weight are specified for (A) silver and 6 to 50% by weight for (B) the organic solvent(s). These ranges indicate that, within the scope of the technical teaching of the patent at issue, metal sinter preparations with a metal content of at least 50% by weight up to a maximum of 90% by weight are possible, and that metal sinter preparations with a solvent content of at least 6% by weight and up to a maximum of 50% by weight are possible. The proportion of components (A) and (B) is therefore, in principle, at the discretion of a person skilled in the art, within the aforementioned weight percentage ranges and up to a total upper limit of 100% by weight.
52. In the absence of any evidence to the contrary, the person skilled in the art would also consider it to fall within the scope of the claim to provide components (A) and (B) only in the respective minimum quantities specified, namely (A) silver = 50% by weight plus (B) organic solvents = 6% by weight. In so far as higher weight percentages or weight percentage ranges are specified for the components in paragraphs [0012] and [0031], these are merely examples of implementation which do not limit the scope of protection.

53. No correlation to the effect that a higher weight percentage of component (A) necessarily entails a lower proportion of component (B) can be inferred from the patent at issue. On the contrary, the table contained in paragraph [0081] suggests that both the weight percentage of component (A) and the weight percentage of component (B) can be increased. A comparison of Examples 1, 2, 3, 4, V1 (with a total of 82 % by weight of silver flakes) with Examples 5, 6, 7, 8, V2 and V3 (with a total of 85% by weight of silver flakes) shows that an increase in component (A) can occur simultaneously with an increase in component B (alpha-trepinol plus 1-tridecanol) – from a total of – 14% by weight to 15% by weight, but only by omitting the optional metal precursor in the form of silver carbonate, which is present in Examples 1, 2, 3, 4 and V1, but was omitted in Examples 5, 6, 7, 8, V2 and V3.
54. The claim does not preclude the presence of further substances or constituents in the metal sintering preparation. Feature 2 refers to ‘comprising’, not to ‘consisting of’ or similar terms. Furthermore, the arithmetic result of the stated minimum values for the constituents (A) silver and (B) organic solvents, which are the only ones mentioned in the claim, is not 100 %, but 56 % by weight. Similarly, adding further possible values for (A) and (B) from the respective ranges also results in percentages by weight that do not total 100 % by weight. Consequently, the claim leaves room for the presence of further substances or components. Accordingly, the patent at issue also explicitly describes it as falling within the scope of the invention if the metal sintering composition contains, for example, metal precursors (C) (paragraph [0032] et seq.), sintering aids (D) (paragraph [0042]) and/or further constituents (E) (paragraph [0043] et seq.). Sub-claim 4 separately claims protection for a metal sintering composition which, in addition to the components (A) and (B), comprises 0 to 12% by weight of at least one metal precursor (C), 0 to 10% by weight of at least one sintering aid (D) and 0 to 15% by weight of one or more constituents (E) selected from the agents specifically mentioned.
55. In accordance with feature 2.1.1, the silver is present in the form of particles which are either flakes or have an irregular shape. In accordance with feature 2.1.2, the silver particles have a coating containing at least one organic compound selected from the group consisting of free fatty acids, fatty acid salts and fatty acid esters. The person skilled in the art is free to select suitable silver flakes. The claim contains no limiting requirements in this respect. In the examples described in the patent at issue, the silver flakes include, amongst others, ‘Ferro SF30 from Ferro’ or ‘SF30’ (paragraphs [0080], [0081]).
56. In accordance with feature 2.2, the following may be considered as one or more organic solvents: terpeneol, N-methyl-2-pyrrolidone, ethylene glycol, dimethylacetamide, 1-tridecanol, 2-tridecanol, 3-tridecanol, 4-tridecanol, 5-tridecanol, 6-tridecanol, isotridecanol, 1-hydroxy-C16-C20-alkanes unsubstituted with the exception of a methyl substitution on the penultimate C atom, dibasic esters, glycerol, diethylene glycol, triethylene glycol and aliphatic hydrocarbons having 5 to 32 C atoms.

c) Feature group 2.3

57. Feature group 2.3 requires a mathematical product of two parameters of the metal particle of component (A), i.e. the silver flake, in accordance with features 2, 2.1, 2.1.1. These are the parameters of tapped density and specific surface area. These two parameters are placed in a functional relationship.
58. The parameter ‘tapped density’ refers to the density achieved by further compacting a solid, through tamping or vibrating, compared to its bulk density (para. [0010]). The tamped density in g/cm^3 is to be determined in accordance with characteristic 2.3.1. as per DIN EN ISO 787-11 : 1995-10 (Annex CRH 14)

59. The parameter 'specific surface area' is expressed in m^2/g (para. [0011]) and is determined in accordance with characteristic 2.3.2 in accordance with DIN ISO 9277 : 2014-01 (Appendix CBH 15).
60. By citing the aforementioned DIN standards in the claim, the patent at issue prescribes how each of the two parameters must be measured. Only if the bulk density and the specific surface area have been measured in accordance with the respective DIN standards can the product of these parameters be determined as required by the claim. Other measurement methods known in the prior art are therefore ruled out.
61. According to feature 2.3.3, the mathematical product of the two parameters (tapped density $S \text{ g/cm}^3 \times \text{specific surface area } O \text{ m}^2/\text{g} = \text{product } S \times O [\text{cm}^{-1}]$) must lie within the range from 50,000 to 80,000 cm^{-1} . The patent at issue consequently makes a (range) selection and claims only the use of such sintered metal preparations in which the calculated mathematical product is 50,000 cm^{-1} or 80,000 cm^{-1} or lies within these values.
62. The technical significance of using a metal sintering composition whose mathematical product corresponds to feature group 2.3 lies in achieving the firm bonding intended by the claims. As explained in paragraph [0017], which has already been referred to, the strength of sintered joints produced using the metal sinter preparation according to the invention is 'particularly high', and the adhesion between the components is 'particularly pronounced'. From the subsequent paragraph [0018], the person skilled in the art then learns that the metal particles of component (A) are to be selected according to their bulk density and/or their specific surface area in such a way that the mathematical product of bulk density and specific surface area yields a value within the range specified in the claims. The patent at issue thus teaches, on the one hand, that there is a technical relationship between the mathematical product and the suitability for the permanent joining of structural elements by means of sintering. And, on the other hand, that a mathematical product greater than or equal to 50,000 cm^{-1} but less than or equal to 80,000 cm^{-1} is required for the permanent joining intended by claim 1.
63. The relationship between the mathematical product of the silver component of the metal sintering preparation and the adhesion of the structural elements joined together is also evident from the tables contained in the examples of the patent at issue (paragraphs [0084], [0086]). The examples in the table contained in paragraph [0084] (unpressurised sintering) show metal sintering compositions which have different mathematical products and result in varying bond strengths. The same is evident in the table contained in paragraph [0086] (pressurised sintering). There, too, the metal sintering compositions exhibit different mathematical products and result in varying degrees of strength.
64. However, it cannot be inferred from the patent at issue that, within the claimed range of the mathematical product, there is or must be a strictly linear relationship with regard to adhesion, such that the higher the mathematical product, the greater the adhesion of the sintered components to the Cu surface and to the Ag surface. The claim merely defines a specific range of parameters, thereby distinguishing it from values outside the claimed range. However, it does not impose any requirements or make any statements regarding the values within the claimed range and, in connection with this, the strength of the adhesion.
65. Nor do the examples of implementation support the notion of a strictly linear relationship or the correlation that a higher mathematical product of the silver flakes in the metal sintering preparation automatically or invariably leads to a more pronounced adhesion of the components bonded by sintering. The table contained in paragraph [0086] does indeed show that adhesion increases as the mathematical product increases. The same applies to the table contained in paragraph [0084].

regarding adhesion to the Ag surface. From this, one might infer that, in principle, adhesion increases as the mathematical product increases. A trend can therefore be observed. However, it can be deduced from the examples in the table contained in paragraph [0084] that there is no strictly linear relationship. The silver preparation 3 claimed in the patent, as listed in the table, has a mathematical product of $59,400 \text{ cm}^{-1}$; for adhesion to the Cu surface [N/mm^2], the value given is 22. By contrast, the claimed silver preparation 2 has a lower mathematical product of $55,800 \text{ cm}^{-1}$, whilst a higher value, 23, is given for the adhesion to the Cu surface [N/mm^2]. The patent at issue does not elaborate on this further, which makes it clear that, according to the technical teaching of the patent at issue, it is irrelevant whether a strictly linear trend is observed within the claimed range. What is decisive, rather, is the distinction from the non-claimed range.

66. Nor can it be inferred from the patent at issue that a high tamping density of the silver flakes necessarily requires a low specific surface area (and vice versa). Claim 1 makes no mention of this; the two parameters are merely placed in a functional relationship with one another, and the focus is on the result or the range of results. Nor does the description provide any basis for a mandatory correlation in the sense of an increase in one parameter leading to a reduction in the other. On the contrary, the examples cited in paragraph [0080] tend to support the assumption that such a correlation does not exist. The 'Silberflake 406-3' and 'Silberflake SF30' listed in the table have different bulk densities (3.1 and 3.3 g/cm^3 respectively), but the same specific surface areas ($1.8 \text{ m}^2/\text{g}$). The Silberflake 690-3 from Metalor listed in the table has the same bulk density as the Silberflake SF30 (3.3 g/cm^3), whilst both have different specific surface areas (1.8 and $2.08 \text{ m}^2/\text{g}$, respectively).

67. Claim 5

68. Claim 5 describes a method for joining structural elements under protective conditions (feature 1).
69. In accordance with feature 1(a), this method provides a sandwich arrangement comprising at least one component 1 (feature 1(a)(a1)), one component 2 (feature 1(a)(a2)) and a sintered metal preparation (feature 1(a)(a3)).
70. The patent at issue defines a sandwich order as an order in which two components are superimposed on one another and the components are arranged substantially parallel to one another (paragraph [0063]). According to feature 1(a)(a3), the sintered metal preparation is situated between (at least) structural elements 1 and 2 (see also paragraph [0064]).
71. In accordance with feature 1(a)(a3)) of claim 5, the sintered metal preparation is a sintered metal preparation 'according to one of the preceding claims'. The reference therefore also encompasses claim 1. In the sandwich assembly provided, a sintered metal preparation having the features set out in feature group 2 of claim 1 may thus be situated between the components.
72. Feature 1(b) of claim 5 provides for the sintering of the sandwich assembly as a step in the method.

B. Appeal against the counterclaim for nullity

73. The appeal against the counterclaim for revocation is unsuccessful. The local division was correct

assumed that the counterclaim for nullity was partially inadmissible in so far as it was directed against the German part of the patent at issue. The local division also correctly found that the patent at issue, in the version upheld by the Federal Patent Court in its judgment of 7 November 2023, is valid in the aforementioned contracting member states.

I. Admissibility of the counterclaim for nullity concerning the German part of the patent at issue

1) Submissions of the parties (summarised)

74. In the defendant's view, the local division erred in law from the outset with regard to the action for nullity in Germany by assuming that, in the absence of specific provisions in the UPC Agreement addressing the question of the binding effect of the Federal Patent Court's judgment, recourse must be had to national law pursuant to Article 24(1)(e) of the UPC Agreement. Article 24(1)(e) of the UPC Agreement primarily concerns substantive law, but not questions of admissibility and res judicata from a procedural perspective. The questions of admissibility and res judicata are governed by the UPC Agreement and the Rules of Procedure. In Rule 362 of the RoP, the Rules of Procedure expressly refer to the principle of res judicata. This principle is to be determined autonomously and independently of national law.
75. In the defendant's view, Rule 362 of the RoP provides for a bar to res judicata only if the latter is 'absolute', i.e. binding on everyone. This does not refer to cases of relative res judicata, as they arise under German law in relation to the parties, but solely to cases in which the decision has an erga omnes effect; that is to say, cases in which the patent has already been invalidated with final and binding effect for everyone by the UPC, the European Patent Office or the courts of the Member States. Consequently, this does not cover decisions of the courts of the Member States which, whilst having the force of res judicata under the respective lex fori, have not invalidated the patent in its entirety and are therefore still subject to a further decision by the UPC. This is further justified by the fact that the UPC Agreement also applies retroactively to European patents and that jurisdiction of the UPC and the applicability of the UPC Agreement can be withdrawn solely by means of an opt-out.
76. Furthermore, in the defendant's view, the contested decision is in any event based on an erroneous application of Article 24 of the UPC Agreement. If no autonomous concept of res judicata were to be inferred from the UPC Agreement, it would not be the respective national rules that would apply, but primarily the concept of res judicata under the Brussels Ia Regulation, Article 24(1)(a) of the UPC Agreement. The local division should therefore have examined the conditions for conflicting res judicata developed by the ECJ and, on that basis, concluded that the res judicata of the German decision does not preclude a decision by the UPC.
77. The concept of the local division on the basis of German procedural law 'partial res judicata' is, in the defendant's view, systematically incorrect and incompatible with the principles of the UPC Agreement. In particular, it contradicts the principle of a uniform examination of the legal position by the UPC and creates an artificial and impracticable division of the invalidity examination. This could lead to diametrically opposed outcomes and contradictory decisions, the avoidance of which is, however, the aim of any legal system. Furthermore, this could, where applicable, result in the court being compelled to enforce a national part of a patent, even though it is not convinced of its validity on the basis of the examination of other national parts.
78. In the defendant's view, the assumption of a binding effect of national law also infringes its right to an effective remedy under Article 47 of the Charter of Fundamental Rights of the European Union and

Article 6(1) of the ECHR. It is deprived of the opportunity to comprehensively challenge the validity of the patent at issue in a unitary European procedure, even though the UPC was created precisely to guarantee such unitary legal protection, is intended to ensure it, and at the same time permits the enforcement of the relevant patent right in all Member States.

79. In the claimant's view, the counterclaim for revocation against the German part of the patent at issue is inadmissible. The local division had convincingly held that the UPC is to be regarded as a court of a Member State within the meaning of the Brussels Ia Regulation and, in so far as it operates alongside the Federal Patent Court within the framework of the concurrent jurisdiction of the transitional provision in relation to the German part of the patent at issue, is to be treated as a German court and must therefore apply German law.
80. However, even if recourse to national law were not required, the counterclaim for nullity is, in the Claimant's view, inadmissible in this respect. This would merely result in the restrictions laid down in German case-law regarding the scope of res judicata in nullity proceedings not applying to the individual grounds for nullity; specifically, the counterclaim for nullity would be inadmissible in its entirety with regard to the German part of the patent. In this respect, the conflicting res judicata under Rule 362 of the RoP as such remains unaffected.
81. In the claimant's view, an interpretation of the principle of res judicata under Rule 362 of the RoP based on EU law, in line with the case-law of the Court of Justice of the European Union (CJEU), is not relevant. There is no relevant provision under EU law within the meaning of Article 24(1)(a) of the UPC Agreement. Rather, the present case concerns how the jurisdiction of a German court (the Federal Patent Court) relates to that of 'a court which is also a German court' (the UPC). In the Claimant's view, this is not a matter of EU law.
82. In the claimant's view, res judicata pursuant to Rule 362 of the RoP constitutes an absolute bar to proceedings. However, this does not mean that res judicata must, in itself, be 'absolute' and binding on everyone. The RoP do not make such a distinction.
83. The claimant further submits that neither the UPC Agreement nor the Rules of Procedure contain a provision setting out the objective of the UPC to reach an 'all-encompassing decision'. During the transitional period, it must be assumed that the legal systems co-exist. Even if one were to assume (partial) inadmissibility of the counterclaim for revocation, there is no apparent breach of the principle of the right to a fair hearing or a violation of the Charter of Fundamental Rights of the European Union or the ECHR. The defendant had already been afforded a fair hearing before the Federal Patent Court and had received effective legal protection. There is no right to a further review of a patent in a 'unified European procedure'.

2) Absolute procedural bar

84. The local division correctly held that, to the extent that the judgment of the Federal Patent Court of 7 November 2023 (Annex CBH 8) has become res judicata, there is an absolute procedural bar within the meaning of Rule 362 of the RoP.
85. Under Rule 362 of the RoP, the Court may at any time rule that an absolute procedural bar precludes the continuation of proceedings, for example due to the application of the principle of res judicata. Consequently, the principle of res judicata, which applies in all Member States of the Convention, is also expressly recognised by the Court, and a final

judgement is classified as an absolute procedural bar. The procedural bar is therefore 'absolute'. The term does not, however, refer to *res judicata*.

86. An absolute procedural bar is a circumstance which, on legal grounds, precludes the conduct or continuation of proceedings (before the court) once and for all. An absolute procedural bar is not subject to the parties' discretion and cannot be subsequently removed or remedied by the submission of a further document or by taking remedial action.
87. Where Rule 362 of the RoP states 'may', this expresses the court's power to make a corresponding decision at any stage of the proceedings. The wording does not, however, mean that it is at the court's discretion whether or not to continue the proceedings in the event of an absolute procedural bar. This would contradict the legal nature of the absolute procedural bar at issue here and the legal consequences associated with it. Rather, the (conflicting) *res judicata* effect of a decision necessarily leads to the presumption of an absolute procedural bar, with the consequence that the court cannot continue the proceedings (in this respect).

3) *Res judicata – Applicable law*

88. Pursuant to Article 24(1) of the UPC Agreement, the court shall base its decisions – in the following order – on
 - (a) Union law, including Regulation (EU) No 1257/2012 and Regulation (EU) No 1260/2012;
 - (b) the UPC Agreement;
 - (c) the EPC;
 - (d) other international agreements applicable to all patents and binding on all contracting member states; and
 - (e) national law.
89. Under Article 36(1) of Regulation (EU) No 1215/2012 (the Brussels Ia Regulation), a judgment given in one Member State is recognised in another Member State without the need for any special procedure. Mutual trust in the administration of justice within the Union justifies automatic recognition without the need for any special procedure (ECJ judgment of 8 June 2023, C-567/21 – BNP Paribas v TR, ECLI:EU:C:2023:452). The purpose of recognition is to confer on a judgment the same effect as it has in the Member State in whose territory it was delivered (Judgment of the Court of Justice of 4 February 1988, C-145/86; ECJ judgment of 8 June 2023, C-567/21 – BNP Paribas v TR, ECLI:EU:C:2023:452I).
90. The judgment of the ECJ in the case 'Gothaer Allgemeine Versicherung v Samskip' (ECJ, judgment of 15 November 2012, C-456/11, CELEX 62011CJ0456), to which the defendant referred, among other things, has not altered this principle. Those proceedings concerned a decision which had been adopted in accordance with the common rules on jurisdiction under EU law. Separate rules apply to such decisions (ECJ, judgment of 15 November 2012, C-456/11, CELEX 62011CJ0456; Court of Appeal, decision of 3 October 2025, UPC-CoA-683/2024, UPC-CoA-19/2025, UPC-CoA-534/2024 – Belkin v Philips).
91. For the purposes of the Brussels Ia Regulation, the Court is deemed to be a common court within the meaning of Article 71a of the Brussels Ia Regulation and is, in that respect, regarded as a court of a Member State (Court of Appeal, Order of 16 January 2025, UPC-CoA-30/2024 – Fives v REEL; see also Article 1(2) of the UPC Agreement).
92. On this basis, the question of when and to what extent a decision becomes final must be answered in accordance with the law of the Member State in which the decision was given. In the present case, this leads to the application of German law (regarding the infringement action: Court of Appeal, decision of 3 October 2025, UPC-CoA-683/2024, UPC-CoA-19/2025, UPC-CoA-534/2024 – Belkin v Philips).

93. However, even if Article 36(1) of the Brussels Ia Regulation were not considered applicable because the court, within the scope of its jurisdiction, functions as a national court or as part of the national legal system (see, for example, UPC Agreement Preamble, Recital 7), and thus the decision at issue is not that of a court of another Member State but a decision of its 'own' Member State, German law would apply in the present case pursuant to Article 24(1)(e) of the UPC Agreement.
94. Rule 362 of the RoP presupposes the existence of the principle of *res judicata*, expresses its recognition before the Court and sets out the consequences arising therefrom for proceedings before the Court. Rule 362 of the RoP makes it clear that the Court should not be called upon to deal again with proceedings that have been finally concluded.
However, Rule 362 of the RoP does not specify either the conditions for or the scope of *res judicata*.
95. The UPC Agreement likewise lacks an explicit rule on the *res judicata* effect of decisions and, consequently, on its conditions and scope. The UPC Agreement merely implies, by way of inference from the time limits applicable to appeals and the envisaged two-tier system of jurisdiction, that decisions acquire formal *res judicata* effect and that final decisions may be issued, whereby Article 81 of the UPC Agreement (in conjunction with Rule 245 et seq. RoP) clarifies that final decisions may be subject to review only in exceptional cases and under strict conditions. However, all this relates only to (final) decisions of the Court, and not to decisions of a (national) court of a Contracting Member State. Consequently, even if Article 24(1)(a) of the UPC Agreement were not applicable, national law would apply in accordance with Article 24(1)(e) of the UPC Agreement, in this case German law.
96. The assumption that a decision is *res judicata* in accordance with national law does not constitute a breach of the defendant's rights to a fair hearing and effective legal protection under Article 47 of the Charter of Fundamental Rights of the European Union and Article 6(1) of the ECHR. These rights are safeguarded by the proceedings before the national court. This is not precluded by the fact that the Court was established to ensure uniform legal protection, which is also intended to eliminate the fragmentation of the patent market (see, for example, the UPC Agreement Preamble, Recital 2). This is demonstrated, on the one hand, by Article 83 of the UPC Agreement, according to which, during the transitional period – for European patents without unitary effect – there is concurrent jurisdiction between the Court and the national courts. On the other hand, even where the Court has jurisdiction, different decisions may, where applicable, be reached in respect of different Contracting Member States within the scope of Article 24(1)(e) of the UPC Agreement.
97. Furthermore, Article 83 of the UPC Agreement makes it clear that the principle of uniform examination of the legal situation by the Court, as claimed by the defendant, does not exist during the transitional period for European patents without unitary effect. Owing to the coexistence of the legal systems, there is no 'sovereignty over the examination of the legal situation' in favour of the Court vis-à-vis the national courts. The Court is not a 'super-appeal body' for the national courts, even though the UPC Agreement is underpinned by the idea of avoiding divergent decisions.
98. It should be noted that the consideration of avoiding divergent decisions would tend to argue against, rather than in favour of, setting aside the *res judicata* effect of a national decision. Re-examining the same facts would create, or at any rate increase, the risk of divergent decisions.
99. It is also important to recall the significance of the principle of *res judicata*. It serves – at both national and Union level – to ensure legal certainty and the stability of legal relationships, as well as the orderly administration of justice. Once

legal remedies or following the expiry of the relevant time limits for appeal, it should no longer be possible to challenge court decisions that have become final (ECJ, judgment of 30 September 2003, C-224/01 – Köbber; ECJ, judgment of 29 June 2010, C-526/08 – Commission v Luxembourg; ECJ, judgment of 29 March 2011, C-352/09 – Thyssenkrupp Nirosta v Commission; ECJ, judgment of 19 April 2012, C-221/10 P (Artegoda GmbH [Lüchow, Germany] v Commission)). This ensures legal certainty.

100. Finally, there is no indication that, were the court to recognise the res judicata effect of a decision under national law, it would be ‘compelled’ to enforce patents which it itself does not consider to be valid. Where res judicata applies, the court does not carry out a (further) examination of the validity of a patent or of the national part of the patent (which has been examined in the national proceedings); consequently, the court neither forms a (different) opinion on the validity of the national part of the patent nor issues a decision on the matter. In the absence of its own examination of the validity of the national part of the patent and given that the national part of the patent was upheld in the national proceedings, there can be no question of the court’s decision on the infringement of the national part of the patent being based on a part of the patent that is not valid.
101. In the present case, the Court of Appeal sees no reason to follow the suggestion put forward by the defendant at the oral hearing to refer the question to the ECJ, pursuant to Rule 21 of the RoP in conjunction with Rule 266 of the RoP, as to whether the Brussels Ia Regulation contains an independent interpretation of the principle of res judicata. The Court of Appeal applies the established case-law of the CJEU on Article 36(1) of the Brussels Ia Regulation.

4) Res judicata of the Federal Patent Court’s judgment

102. The scope of the res judicata effect of the judgment of the Federal Patent Court of 7 November 2023 is therefore determined in accordance with Sections 322 and 325 of the German Code of Civil Procedure (ZPO).
103. The local division has held that, pursuant to Section 325(1) of the ZPO, a judgment has effect in favour of and against the parties and those persons who have become their legal successors after the commencement of the proceedings. The judgment of the Federal Patent Court of 7 November 2023 is therefore also binding on the defendant in the present proceedings, who had become the legal successor to the Claimant in the Federal Patent Court proceedings whilst those proceedings were still ongoing. An objection under Section 325(2) of the Code of Civil Procedure (ZPO) was not invoked. These findings were not challenged by the defendant in the appeal proceedings – and rightly so.
104. The local division further stated that, under German law, where an action for patent nullity is dismissed, res judicata applies only to the ground of action (unsuccessfully) asserted by the claimant. Each of the grounds for nullity listed in Article 138 EPC constitutes a single ground of action in this respect. According to these specific principles, which are recognised for the particular nature of the invalidity action as a popular action, the subject-matter of the dispute is limited by the grounds for invalidity asserted. The consequence of this is that a claimant whose action has been dismissed with res judicata effect and who subsequently challenges the validity of a patent again cannot appeal to the grounds for invalidity from the previous proceedings. In this context, the grounds set out in Sections 22(1) and 21(1)(1) of the German Patent Act (PatG) and Article 138(1) of the European Patent Convention (EPC), and Article II, Section 6(1) of the Act on the Implementation of the International Patent Convention (IntPatÜbkG), constitute a single ground for invalidity. According to these standards, the final and binding nature of the Federal Patent Court’s decision of 7 November 2023 precludes the court from ruling on the ground for invalidity relating to lack of patentability under Article 138(1) of the UPC Agreement and Article II § 6(1) of the IntPatÜbkG. Since the ground for invalidity based on lack of workability was not raised in the invalidity proceedings before the Federal Patent Court

objective extension of *res judicata* cannot be considered in this respect. Nor were these findings challenged by the defendant in the appeal proceedings – and rightly so. Pursuant to Section 322 of the Code of Civil Procedure (ZPO), in patent nullity proceedings, the decision as to whether the contested patent is invalid on the grounds asserted by the plaintiff in the nullity proceedings becomes final (Federal Court of Justice, judgment of 10 March 2026, X ZR 59/25 – Palette). The grounds set out in Article 138(1)(a)–(e) of the EPC are understood as separate grounds of action or matters in dispute, whilst the grounds for non-patentability listed individually in Article 138(1)(a) of the EPC (Articles 52 to 57 of the EPC) are regarded as a single ground of action (Federal Court of Justice, judgment of 19 February 1963, Ia ZR 64/63 – Conditioning device; Federal Court of Justice, judgment of 11 May 2010, X ZR 51/06 – Polymerisable cement mixture).

105. Under German law, a final decision of the Federal Patent Court declaring the patent (partially) invalid has, moreover, *erga omnes* effect. Pursuant to Section 22 of the Patents Act (PatG), where a patent is declared invalid by a judgment of the Federal Patent Court, the effects of the patent are deemed never to have arisen from the outset in relation to any person.
106. The finality of the Federal Patent Court's judgment of 7 November 2023 therefore precludes the continuation of the counterclaim for nullity concerning the German part of the patent at issue, in so far as it is based on the ground of lack of patentability pursuant to Article 138(1)(a) of the EPC.

II. Admissibility of the counterclaim for revocation in other respects

107. The counterclaim for revocation against the German part of the patent at issue is admissible in so far as it is based on the ground of lack of workability and the defendant raises the objection of lack of clarity. The finality of the judgment of the Federal Patent Court of 7 November 2023 does not preclude this. No grounds have been put forward, nor are any otherwise apparent, which would militate against the admissibility of the counterclaim for revocation concerning the French, Italian and Romanian parts of the patent at issue.

III. Merits of the counterclaim for nullity concerning claim 1

108. The claimant defends claim 1 of the patent at issue in respect of all the national parts at issue, including in the appeal proceedings, only in the version in which the claim (of the German part of the patent at issue) was upheld by the Federal Patent Court in its judgment of 7 November 2023. Consequently, in the granted version which the Claimant no longer defends, claim 1 of the patent at issue is to be declared invalid without substantive examination.
109. For the sake of clarity, the grounds for invalidity asserted are set out below without distinguishing between the national parts. In view of the above, however, it should be noted that the arguments under 3) and 4) relate only to the French, Italian and Romanian parts of the patent at issue.

1) Enforceability

a) *Submissions of the parties (summarised)*

110. In the defendant's view, based on its interpretation of the feature 'for firmly joining', have had to conclude that the patent at issue was not workable. as the

The patent at issue contains no teaching, either in the claims or in the description, as to how the nature and extent of the strength required by the patent is to be determined or what level must be achieved. The feature 'for permanent joining' is indefinite, as the patent at issue is not limited to any specific field of application. A threshold value for the force applied to achieve the required strength cannot be derived from the patent at issue. If a person skilled in the art were to produce a sintering paste in accordance with the structural features of claim 1, they would be unable to determine whether the bond strength achieved was sufficient and whether the feature 'for firm bonding' was satisfied. The person skilled in the art could therefore not deduce from the patent at issue that the use of the metal sintering composition as claimed would produce a firm bond in accordance with the patent.

111. According to the defendant, the lack of workability due to the absence of a threshold value for strength is further exacerbated by the broad wording of the claims. Claim 1 leaves a significant proportion of the possible constituents of the preparation undefined. Even when interpreted most broadly, Claim 1 defines only 56% by weight of the constituents, whilst the remaining 44% by weight remain entirely undefined. Any further constituents are represented by a maximum proportion of 37% by weight.
112. In the defendant's view, the shear test results cited in the patent at issue are of no assistance, as the test setup is not sufficiently described, meaning that the tests and their results are neither reproducible nor evaluable. The shear tests provided no indication of the missing limit value for the applied force. Furthermore, the examples in the patent at issue experimentally covered only a negligible fraction of the virtually unlimited number of claimed embodiments.
113. The claimant takes the view that the patent at issue is workable with regard to the feature 'for firmly connecting'. Apart from the fact that there is no principle of patent law stipulating that functional features must be quantifiably or mathematically definable, the only decisive factor for the question of feasibility is that the person skilled in the art is enabled by the patent as a whole to produce a sintering paste 'for firmly joining components'. This is, however, undoubtedly the case. The person skilled in the art could derive from the description of the patent at issue several specific compositions with which permanent bonds could be achieved in accordance with the patent, even with specific values of shear strength as claimed.
114. According to the claimant, the fact that the claim is formulated in open-ended terms – or, in the defendant's words, leaves 'up to 44% by weight' undefined – does not preclude its feasibility. The question of feasibility must be assessed on the basis of the disclosure as a whole. The patent at issue discloses the existence of further paste components. In so far as the defendant theorises that their maximum quantity still leaves 7% by weight 'undefined', it should be noted that the defendant's hypothetical calculation examples are justified solely by the fact that they set both the proportion of silver flakes and the proportion of solvent cumulatively at the respective minimum quantity. However, apart from a 'mind desirous of misunderstanding', there is no basis for this whatsoever.
115. In the claimant's view, the defendant's argument regarding the allegedly insufficient description of examples in the patent at issue is fundamentally flawed from the outset, as the defendant ultimately assumes that the person skilled in the art, when carrying out the teachings of the patent, must be able – effectively on the basis of an identical experimental setup – to compare the adhesive strength of a reproduced metal sinter preparation conforming to the claims directly and quantitatively with the comparative examples of the patent. However, this is not necessary for the question of practicability. Furthermore, the defendant fails to indicate what specific difficulties the person skilled in the art is supposed to encounter when reproducing the tests. Similarly, the argument that the values determined by the shear tests are of no

be of any significance. Finally, it should be noted that the patent at issue provides the person skilled in the art with no fewer than eleven examples of different compositions, which clearly demonstrate the increase in adhesive strength of the compositions claimed in the patent compared with non-claimed compositions.

b) Legal standard

116. A sufficient disclosure for the purposes of workability within the meaning of Article 138(1)(b) of the EPC is deemed to exist if the person skilled in the art is able, without inventive effort and without unreasonable difficulty, to put the teaching of the patent claim into practice on the basis of the entire disclosure of the patent specification, in conjunction with general technical knowledge as at the filing date or priority date, in such a way that the intended result is achieved. Accordingly, an invention is sufficiently disclosed if the patent specification discloses to the person skilled in the art at least one method – and, in the case of functional features, a technical concept – for carrying out the claimed invention (Court of Appeal, UPC-CoA-528/2024 UPC-CoA-529/2024, decision of 25 November 2025 – Amgen v Sanofi v Regeneron; UPC-CoA-899/2025, order of 30 March 2026 – Sinocare v Abbott; UPC-CoA-365/2025 and UPC-CoA-367/2025, decision of 17 August 2026 – Knaus Tabbert v Yellow Sphere).

c) Application to the present case

117. The technical teaching of claim 1 is workable. The fact that the claim does not quantify the feature ‘for firmly connecting’ or specify a threshold value for the force required to separate the firmly connected components does not preclude its workability.

118. As set out in paragraphs 39 et seq., according to the technical teaching of the patent at issue, it is not necessary to achieve a (specific) degree of strength in the connection of the components and/or a (specific) threshold value for the force required to separate the connected components from one another. According to the technical teaching of the patent at issue, the use of a sintered metal composition in accordance with feature group 2, containing a silver component, together with a mathematical product corresponding to feature group 2.3, results in a ‘firm connection’ of the sintered components. Consequently, the person skilled in the art need ‘only’ use a sintered metal composition in accordance with feature group 2.3 in the sintering process, and the desired result is thereby achieved. The claim itself thus discloses the means for carrying out the technical teaching and for producing the intended firm connection. The person skilled in the art is not compelled to discover, by ‘trial and error’, which metal sintering composition fulfils the functional feature ‘for firmly joining’.

119. Consequently – even if this were at all relevant in this context – a practicable method is demonstrated for essentially all embodiments falling within the scope of the claim.

120. Furthermore, in paragraphs [0081] et seq., the patent at issue provides the person skilled in the art with examples of the production of metal sintered compositions as claimed, as well as of their application by means of pressureless sintering (paras. [0082] et seq.) or pressure sintering (paras. [0085] et seq.). Examples 1, 3 and 4 of the table contained in paragraph [0084] describe a metal sintering composition comprising a mathematical product as claimed and, when sintered without pressure, demonstrate a strength of the bond which the patent at issue aims to achieve when using the metal sintering composition and which it considers to be high. Examples 6 and 7 of the table contained in paragraph [0086] feature a metal sintering preparation comprising a mathematical product as claimed

and, when sintered under pressure, exhibit a bond strength which the patent at issue aims to achieve and regards as strong when the metal sintering composition is used.

121. The open wording of the claim with regard to the constituents of the metal sintering composition as claimed does not preclude the feasibility of claim 1.
122. It is true that the sum of the stated minimum values of the weight percentages of the constituents (A) silver and (B) organic solvents amounts to only 56 % by weight. It is also true that, as a result of the specification of these minimum values and in the absence of any further limitation, the patent at issue is to be understood as also claiming a metal sintering composition containing (A) 50% by weight of silver and (B) 6% by weight of organic solvents. However, this does not mean that the person skilled in the art cannot deduce from the disclosure as a whole how the intended solid compound can be achieved.
123. According to the technical teaching of the patent at issue, the mathematical product of the silver component as defined in feature group 2.3 is the decisive means leading to the solid compound intended as claimed. If a metal sintering preparation in accordance with feature group 2 is used, the mathematical product of which corresponds to feature group 2.3, this results in a solid compound corresponding to feature 1. According to the patent at issue, this applies to the entire range of weight percentages of the silver component specified in feature 2.1. It is neither apparent nor has it been argued that, at a specific weight percentage falling within the stated range, the objective of a firm bond within the meaning of the feature cannot be achieved.
124. The claim does not preclude the presence of further constituents in the metal sintering composition; see paragraph 54. In particular, the patent at issue discloses metal precursors (C) (paragraphs [0032] et seq.), sintering aids (D) (paragraph [0042]) and further constituents (E) (paragraph [0043] et seq.) as possible components of the metal sintering preparation claimed. The fact that these described embodiments, when added together, amount to a maximum of 37% by weight is irrelevant. A person skilled in the art is readily able to increase the quantity of any of the aforementioned constituents or to provide further (relevant) substances or constituents to account for a further 7% by weight of the metal sintering composition (provided that the minimum percentage by weight of components (A) and (B) is maintained).
125. In so far as the defendant claims that it is obvious that the addition of other components up to a total of 44% by weight would significantly alter the properties of the metal sintering composition, this argument fails. It may be that the properties of the metal sintering composition are influenced by further components. However, in the present context, such an influence or alteration is not sufficient in itself. Feasibility would only be lacking if the addition of further components were to prevent a firm bond between the structural elements, as defined in feature 1, from being achieved when a metal sintering composition containing a silver component and having the mathematical product as defined in feature group 2.3 is used. However, this cannot be inferred from the defendant's submissions. It has not been specifically demonstrated that – and, if so, when – the effect which, according to the patent at issue, arises from the mathematical product in accordance with feature group 2.3, is eliminated or weakened by further components, and that, as a result, a firm bond in the sense described above cannot (any longer) be achieved.
126. Nor does the defendant's objection regarding the (allegedly inconclusive) shear tests justify the assumption that claim 1 lacks feasibility. No threshold value is required for the intended strength of the connection between the structural elements. Consequently, such a value need not be (unequivocally) established by means of shear tests. The person skilled in the art will deduce from the patent at issue that, when using a sintered metal preparation in accordance with

group of features 2, a strong connection in accordance with feature 1 is achieved. The patent at issue therefore teaches how the intended result can be reliably achieved.

127. Apart from that, as the local division correctly pointed out, the patent at issue explains how the shear strength was tested. Paragraph [0083] states that the components were sheared using a shear chisel at a speed of 0.3 mm/s at 260 °C. The force was recorded using a load cell (DAGE 2000 device manufactured by DAGE, Germany). The values determined from this are set out in the subsequent tables of the patent at issue. The description of the shear test is sufficient. A person skilled in the art can readily repeat it. In this respect, it is not necessary to cite a standardised test. As already stated, the (alleged) unresolved questions or problems raised by the defendant regarding the evaluation of the shear test are irrelevant.
128. Finally, the (allegedly) limited examples in the patent at issue do not preclude practicability. The claim teaches how the intended permanent bond between the structural elements is achieved. The use of a metal sinter preparation as defined in the claim in a sintering process results in such a bond. This is illustrated by way of example and confirmed in the description of the patent at issue. There is therefore no need for any (further) examples indicating a threshold value for the force required to separate the sintered structural elements.

2) Clarity

a) *Submissions of the parties (summarised)*

129. The defendant objects that claim 1 is not clearly and unambiguously worded with regard to the feature 'for firmly joining', which was introduced during the proceedings at first instance. On the basis of the local division's interpretation, it is not apparent from any part of the patent at issue what constitutes a firm connection or how this can be determined. Even less clear, it argues, is the local division's vague description, which refers to the application of greater force or sufficient strength. The feature 'for firmly connecting' is the very epitome of an unclear formulation that fails to reveal the scope of protection covered. It is not objectively possible to determine what constitutes 'firm' within the meaning of the claim.
130. The claimant takes the view that the defendant did not raise the objection of lack of clarity at first instance. The defendant merely asserted, in passing and as part of its interpretation of the patent at issue and in the context of the alleged lack of workability, that it was unclear what the feature 'for secure connection' was intended to mean. This did not constitute an explicit challenge to clarity, a point which the Claimant had also highlighted at first instance. It is therefore unclear to which submission the local division referred in its examination of clarity. Rather, there appears to be a breach of the principle of party disposition. Consequently, this does not constitute a matter of the proceedings before the Court of Appeal. Instead, the challenge is precluded pursuant to Rule 222.2 of the RoP.
131. As a precautionary measure, the claimant submits that the local division correctly interpreted the functional feature to mean that 'fixed' implies that the components to be joined can only be separated from one another by the application of increased force, having referred to the explicit comparative examples and the description as a whole. A quantitative definition of a fixed connection is not required. In view of the comparative examples, it is immediately clear to a person skilled in the art how much force is required to break a fixed connection.

b) Legal standard

132. Under Article 65(2) of the UPC Agreement, the court may declare a patent invalid, in whole or in part, only on the grounds set out in Article 138(1) and Article 139(2) of the EPC; consequently, a lack of clarity is not a ground for invalidity. Consequently, no examination under Article 84 EPC is required in respect of the features of a patent claim as contained in the granted version. Such an examination has already taken place during the grant procedure (Court of Appeal, UPC-CoA-473/2025 UPC-CoA-474/2023 UPC-CoA-873/2025 UPC-CoA-881/2026, decision of 13 July 2026 – Fujifilm v Kodak). The situation is different, however, where an amendment is made to a patent claim, as is also clarified, inter alia, in Rule 30(1)(b) of the RoP. According to this provision, an application to amend the patent must, amongst other things, include an explanation of why the amendment satisfies the requirements of Article 84 EPC. Consequently, where a patent claim is amended, it must be examined whether the amendment introduces a lack of clarity.

133. Under Article 84 EPC, the patent claims must specify the subject-matter for which protection is sought. They must be clear and concise and be supported by the description.

c) Application to the present case

134. Since the feature ‘for the permanent joining of structural elements’ was not contained in the granted version of claim 1, but was instead incorporated into the claim only as a result of the limitations imposed in the German nullity proceedings, the requirements of Article 84 EPC must be examined with regard to this amendment.

135. It can be left open whether the objection of lack of clarity was already raised by the defendant at first instance and, if not, whether the raising of the objection now in the appeal proceedings satisfies the requirements of Rule 222(2) of the RoP. Even if the objection is regarded as admissible, it remains unsuccessful. In any event, it is unfounded on the merits. The inclusion of the requirement ‘for the secure joining of components’ does not render the claim unclear.

136. There is no doubt as to what the requirement ‘for the secure joining of structural elements’ refers to; the claim remains clear and unambiguous. In so far as the defendant again argues, with regard to the term ‘secure’, that a threshold value for the force applied is required, this does not hold water in the present context either. How the intended secure connection of the structural elements is achieved is clearly apparent from the claim. Reference is made to the above considerations.

3) Novelty

a) Submissions of the parties (summarised)

137. The defendant bases its challenge to novelty on appeal solely on the presentation ‘FERRO Metal Powder products’ from June 2011 (Annex JD 15, hereinafter: ‘JD 15’), which, in its view, anticipates all the features of claim 1, either directly or implicitly, to the detriment of novelty.

138. The defendant submits that JD 15 describes, on page 18, various fields of application for the powders disclosed therein. The disclosed fields of application also include

thick-film technology, which – of the fields of application mentioned – is relevant to the joining of components. JD 15 also discloses that the silver flakes SF30 and SF70A are used as ‘thick film’. Feature 1 is therefore disclosed to the person skilled in the art.

139. In the defendant’s view, features 2.1 and 2.2 are also disclosed in a manner prejudicial to novelty. Although JD 15 does not expressly contain any quantitative specifications regarding the silver flakes and the solvent to be used, this information follows from general technical knowledge, as it concerns a composition of a sintering paste that is standard in the industry. The information regarding the quantity of the silver flakes is therefore necessarily apparent to and disclosed to the person skilled in the art from the described use as a sintering paste. The same applies to the solvent, as any use as a thick-film paste necessarily requires that the relevant powder be slurried in a common solvent in a known quantity in order to obtain a processable paste at all. The claimed quantities correspond to those required for a practical application of sintering compositions.
140. In the defendant’s view, the disclosure of feature 2.1.1 can be found on page 20 of JD 15, where silver flakes SF30 and SF70A are highlighted as representative. In view of this highlighting, contrary to the assumption made by the local division, the person skilled in the art would not first have to select the flakes. Rather, the person skilled in the art would take their cue from these highlighted flakes.
141. In the defendant’s view, it is also part of general technical knowledge that, in the manufacture of such silver flakes, silver powder is necessarily ground with the addition of a ‘lubricant’ to prevent the resulting flakes from cold-welding during grinding. Ground or mechanically post-treated silver powders therefore generally exhibit a coating in accordance with the patent, within the meaning of feature 2.1.2.
142. The defendant also takes the view that the mathematical product corresponding to feature group 2.3 is disclosed on page 20 of JD 15. According to the information in JD 15, SF30 has a mathematical product of 42,000–99,000 cm^{-1} (tapped density: 3.0–4.5 g/ml; specific surface area: 1.4–2.2 m^2/g) and SF70A has a mathematical product of 29,900–66,500 cm^{-1} (tapped density: 2.6–3.8 g/ml; specific surface area: 1.15–1.75 m^2/g).
143. According to the defendant’s submission, in the absence of any indication of a specific measurement method, the measurement results are based on the measurement standard customary in the art. The measurement standard customary in the art is generally the relevant ISO standard. Differences from other standards are known to a person skilled in the art, both in terms of how the measurement is carried out and the magnitude of any differences.
144. In the claimant’s view, claim 1 is novel. JD 15 merely discloses the existence of silver flakes.
145. The claimant argues that ‘thick-film technology’ is a generic term for a technology used for the assembly – rather than the bonding – of components, in which mechanical strength is typically provided by other constituents. Furthermore, JD 15 discloses a wide variety of different powders, each with a wide range of different fields of application. There is a complete lack of any specification as to which powder and which field of application should be selected. Feature 1 is therefore not disclosed.
146. The claimant further takes the view that there is no direct and unambiguous disclosure of the quantitative ratios claimed in accordance with features 2.1 and 2.2. Even according to the defendant’s own submissions, these features are not ‘inevitable’; for a

paste with different proportions is readily conceivable. Furthermore, even assuming a composition customary in the art, this is not one that would immediately spring to mind for a person skilled in the art precisely in this proportion, but at most one of several alternatives. The same applies to the type of solvent used.

147. In the claimant's view, a coating as claimed in feature 2.1.2 is likewise not disclosed. It is undisputed that amines or surfactants not as claimed are also used as grinding waxes.

148. With regard to feature group 2.3, the claimant states that the metal particles listed in JD 15 originated from the US production site. This was common knowledge to the person skilled in the art. However, the person skilled in the art would not assume that ISO methods were used for products from an American manufacturer. Even if they were, these would not be unambiguous. The person skilled in the art would certainly not be aware of the extent of the discrepancies between the results of different measurement methods.

b) Legal standard

149. Under Article 54(1) EPC, an invention is considered novel if it does not form part of the state of the art. A technical teaching does not form part of the state of the art if it differs in at least one of the known features from what is disclosed in the state of the art. The state of the art only encompasses what is immediately and unambiguously apparent to a person skilled in the art from the publication or prior use. Findings which a person skilled in the art only arrives at on the basis of further consideration or by consulting additional documents or instances of prior use do not form part of the state of the art (Court of Appeal, UPC-CoA-182/2024, 25 September 2024 – Mammüt/Ortovox; UPC-CoA-382/2024, Order of 14 February 2025 – Abbott/Sibio; UPC-CoA-899/2025, Order of 30 March 2026 – Abbott/Sinocare; UPC-CoA-36/2026, order of 8 July 2026 – Angelalign/Align).

150. Whether the subject-matter of a patent is rendered non-novel by a prior publication depends on the overall content of that prior publication. The decisive factor is what technical information is disclosed to a person skilled in the art, taking into account general technical knowledge.

151. However, the content of a publication must not be regarded merely as a reservoir from which individual features can be drawn to create specific embodiments. Different passages of a publication may only be combined if there is a clear and unambiguous teaching that provides for this (Court of Appeal, UPC-CoA-473/2025, UPC-CoA-474/2023, UPC-CoA-873/2025, UPC-CoA-881/2026, Decision of 13 July 2026 – Fujifilm v Kodak).

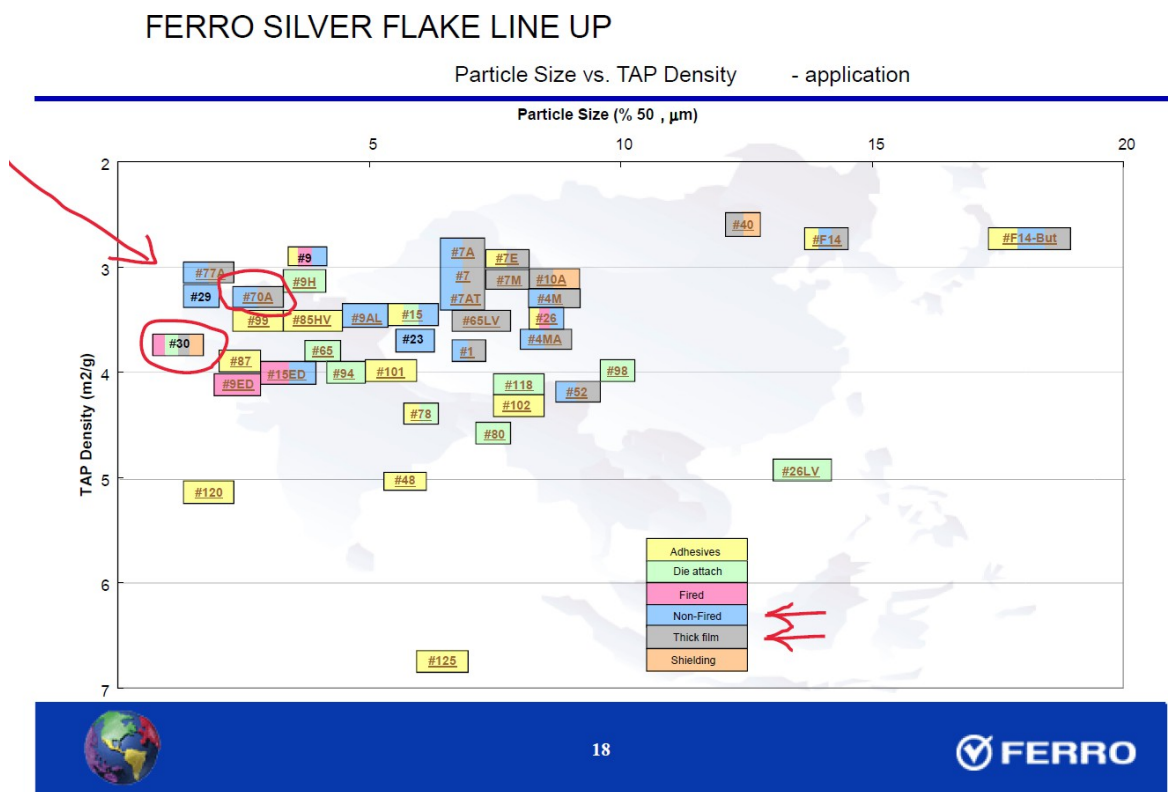
152. An explicit disclosure is not strictly necessary. That which is not expressly mentioned in the prior publication but which, from the perspective of a person skilled in the art, is objectively derived as necessary from the explicitly disclosed content may also be deemed to have been disclosed. Clear and unambiguous consequences of what is explicitly mentioned do not require explicit disclosure, but are 'read into' by the person skilled in the art. A feature may therefore also be implicitly disclosed if it is clear beyond doubt to a person skilled in the art, from the overall context of the prior publication, that it forms part of what has been disclosed. By contrast, knowledge which a person skilled in the art only acquires through further, additional consideration cannot be regarded as a direct and unambiguous disclosure (Court of Appeal, UPC-CoA-473/2025, UPC-CoA-474/2023, UPC-CoA-873/2025, UPC-CoA-881/2026, decision of 13 July 2026 – Fujifilm v Kodak).

c) *Application to the present case*

153. The local division was correct in concluding that JD 15 does not anticipate claim 1 of the patent at issue in a manner that would render it lacking in novelty.

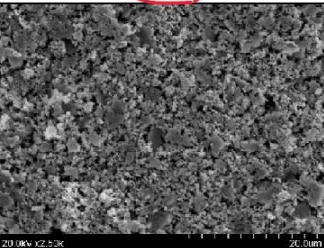
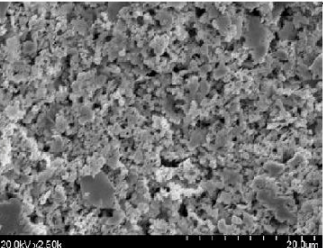
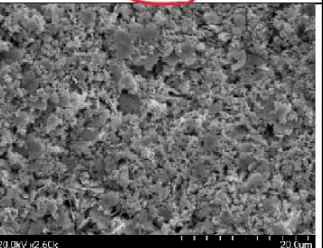
154. JD 15 is a presentation depicting the metal powder products offered by Ferro GmbH in Germany. The presentation is an advertising material of the defendant. The metal powder products on offer are divided into three categories in JD 15 (page 2): silver powder, silver flakes and silver-coated copper flakes.

155. Pages 18 and 20 of JD 15, shown below, appear as follows (red markings and arrows added):



FERRO Metal Products - Silver Flake (1)

Representative Flake

Product Code	SF30	SF15	SF70A
SEM Pictures			
Particle Size Distribution	95%: < 4.5 µm 50%: < 1.3 µm	95%: < 18.0 µm 90%: < 13.0 µm 50%: < 5.0 µm 10%: < 1.5 µm	95%: < 12.0 µm 90%: < 8.5 µm 50%: < 3.0 µm 10%: < 1.5 µm
TAP Density	3.0 – 4.5 gms/ml	3.0 – 3.9 gms/ml	2.6 – 3.8 gms/ml
Surface Area	1.4 – 2.2 m2/gm	0.6 – 1.2 m2/gm	1.15 – 1.75 m2/gm
Application	Fired and non-fired pastes Shielding	Non-fired pastes Die attach Adhesives	Non-fired thick film inks Via fill pastes Membrane switch
Key Features	1 micron D50 High purity	Fine silver flake with mid-range density General purpose Good rheological properties	Very fine silver flake with high surface area Good electrical and flex properties Consistent viscosity
SF series : Wide product line up by particle size, surface area, density and shape for wide application and the purpose.			

156. The JD 15 therefore discloses silver flakes SF30 and SF70A and, consequently, (silver) particles within the meaning of feature 2.1.1.

157. It can be left open whether the term 'thick film' is equivalent to 'sintering' and whether the silver flakes SF30 and SF70A, on the basis of the mention of the term 'thick film' on page 18, be deemed to be disclosed as necessarily intended for use in a sintering process for the permanent joining of components. It can also be left open whether the term 'thick-film technology' is merely the generic term for a technology serving the assembly rather than the joining of components, in which the mechanical strength is typically provided by other constituents. Finally, it is also not necessary to decide whether JD15 discloses a metal sintering preparation at all, rather than merely the silver flakes. Even if, for the defendant's sake, it is assumed that the disclosure of thick-film technology demonstrates its use in a sintering process in accordance with feature 1, and that the person skilled in the art would know, on the basis of general technical knowledge, that metal sintering compositions conventionally comprise the components silver and organic solvents, it cannot be established that this simultaneously discloses the weight percentages specified in accordance with features 2.1 and 2.2 (implicitly) are disclosed. It is not apparent, nor has it been argued, that in sintering pastes (containing silver flakes SF30 and/or SF70A) the quantities of silver and organic solvents specified in claim 1 were exclusively present in accordance with industry practice. On the contrary, it is undisputed that sintering pastes with different compositional ratios existed.

158. In so far as the defendant refers in this context to 'Menz/Mohr/Paul, Microsystems Technology for Engineers', page 487 (Exhibit JD 18, hereinafter JD 18), this does not imply anything to the contrary. The passage referred to mentions 'conductive paste'. These are different pastes from thick-film pastes (page 486). Furthermore, the text describes conductor paste as comprising metal particles (50–70 per cent) with a particle size of 0.5–10 µm, solvents (12–25 per cent), preferably alcohols and terpeneol, and glass frit (10–20 per cent). Consequently, (also) in this

The disclosure does not specify the weight percentages required by the claims.

159. Nor is there any indication whatsoever that, according to the disclosure in JD 15, it would be objectively (technically) necessary to include the disclosed silver flakes in a sintering paste only in the quantity specified in feature 2.1. The same applies to the required organic solvent. Even the defendant does not make such a claim. It confines itself to referring to industry practice and common or reasonable use. In view of this, it cannot be assumed that a person skilled in the art would necessarily 'read between the lines' to deduce the proportions set out in features 2.1 and 2.2 of JD 15.
160. Furthermore, on the basis of the defendant's submissions, the Court cannot identify any disclosure of feature 2.1.2. Even according to the defendant's submissions, there is no explicit disclosure of the coating as claimed. In so far as the defendant argues that there is an implicit disclosure, the Court cannot agree with this. Even if it is undisputed that, in the manufacture of silver flakes, silver powder is necessarily ground with the addition of a 'lubricant' and that ground or mechanically post-treated silver powder generally has a coating, it is not apparent or argued that the coating must necessarily consist of free fatty acids, fatty acid salts and fatty acid esters. It is undisputed that amines or surfactants are also used as grinding aids. Consequently, the coating may also consist of these substances. If this is the case, however, it cannot be assumed that the person skilled in the art would nevertheless unambiguously and clearly, and thus implicitly, infer the coating claimed in JD 15, which has not been explicitly disclosed.
161. Finally, no disclosure of feature group 2.3 can be identified. Although the parameters 'TAP density' and 'surface area' are mentioned on page 20 of JD 15, and values are given for these which, when multiplied, result in a mathematical product ranging from 42,000 to 99,000 cm^{-1} (SF30) and 29,000 to 66,500 cm^{-1} (SF70A) respectively. In numerical terms, therefore, mathematical products are disclosed which, at least in part, overlap with the range specified in feature 2.3.3. However, there is no direct and unambiguous disclosure of the measurement method relevant to the tapping density and the specific surface area in accordance with features 2.3.1 and 2.3.2. It is undisputed that neither DIN EN ISO 787-11 : 1995-10 nor DIN ISO 9277 : 2014-01 are mentioned in JD 15. Nor can an implicit disclosure by 'implicit reference' be assumed. It cannot be established that it formed part of general technical knowledge that the parameters of tap density and specific surface area are to be measured in accordance with these measurement standards. The defendant has not provided any evidence to support this disputed claim. Furthermore, it is undisputed that the products advertised in JD 15 were manufactured in the USA and that the person skilled in the art is also aware of this. Furthermore, there are a multitude of possible ISO methods. It is not clear why, in view of this, the person skilled in the art could unequivocally and clearly deduce from JD 15 that the bulk density and surface area of the US products were to be determined in accordance with the aforementioned DIN standards, nor has the defendant provided any evidence to this effect. Furthermore, in the absence of evidence to that effect, it cannot be established that the person skilled in the art is aware of differences from other standards, either with regard to the measurement procedure or to the magnitude of any differences.

4) Inventive step

a) *Submissions of the parties (summarised)*

162. The defendant is of the view that the patent at issue is not based on an inventive step.

163. According to the defendant, the prior art already discloses a stable connection and a firm

connection between the components to be joined. The latter was demonstrated in particular by the comparative tests carried out by the defendant (Annex JD 35) on the basis of JD 24. The comparative tests showed that the solution of the patent at issue did not lead to any improvement in the strength of the materials compared with the prior art. It therefore did not constitute a technical advancement.

164. In the defendant's view, the examples disclosed in the patent at issue are wholly insufficient to demonstrate, even in the slightest, the alleged technical effect of an 'improved connection' for the multitude of embodiments falling within the scope of claim 1. The claimant has neither demonstrated nor proved that the alleged inventive effect of strength of any kind is in fact achieved across the entire claimed scope.
165. The defendant further submits that the subject-matter of the patent at issue amounts – particularly in light of the comparative tests it has carried out – to merely providing an alternative use for a sintered metal composition for joining structural elements. Ultimately, it is an arbitrary solution which makes no actual contribution to the state of the art in the sense of an additional technical effect. Correctly, the assumption of inventive step is ruled out for this reason alone.
166. In the defendant's view, Claim 1 lacks inventive step in the light of JD 24, taking into account general technical knowledge.
167. In the defendant's view, JD 24 is a realistic starting point. JD 24 discloses features 1 to 2.2 of claim 1. The difference between JD 24 and the subject-matter claimed in the patent at issue lies solely in the fact that JD 24 does not disclose any explicit information regarding the tap density and specific surface area of the metal particles and their mathematical product in connection with the strength of the sintered compounds produced. The patent at issue therefore does not go beyond the formulation already disclosed in JD 24, but is rather limited to a mere description of that very formulation by means of the mathematical product mentioned in the claim. The patent at issue gives the impression of making a selection because it specifies the aforementioned parameters and the – artificially created – mathematical product. In fact, however, this does not constitute a selection at all. Rather, the sintering aid required according to the teaching of JD 24 is omitted, with the result that the patent at issue is broadened in comparison with the prior art, namely JD 24. The EPO examiner overlooked this, which is why, erroneously, no evidence was required to show that the alleged invention actually brought about any improvement compared with JD 24.
168. According to the defendant's submission, the person skilled in the art can arrive at the solution claimed in the patent on the basis of JD 24, using only general technical knowledge.
169. General technical knowledge in the field of sintering technology includes the properties of the parameters of porosity and specific surface area as they relate to the sintering result. Porosity describes the ratio of void volume to total volume of a substance or mixture of substances. Porosity, in turn, is inversely proportional to density. A high density makes it easier to achieve low porosity in the sintered body, which leads to low shrinkage and thus more stable systems, as well as improved conductivity and adhesive strength. A high specific surface area (of the system prior to sintering) is synonymous with high free energy, the release of which is the driving force behind the sintering process.
170. According to the defendant, the aim of the sintering process is to minimise porosity as much as possible, so that the density of the sintered product matches that of the metal, whereby a high

initial density – that is, the density of the silver powder after the sintering paste, produced by mixing the powder and the solvents, has been shaped – (low porosity) leads to a high final density, better bonding strength, better mechanical properties and lower shrinkage. According to general technical knowledge, the defendant argues that it is therefore desirable to achieve the lowest possible porosity (= high density) at every stage of the sintering process (i.e. in the selection of the metal flakes, the desired ramming density and initial density, and the final density of the sintered material). A high density of the metal flakes is said to be proportional to the high density in the sintered product. A high density results in more silver particles coming into contact with one another and more particles coming into contact with the surface of the elements to be joined, which in turn leads to more sintered necks, which ensure the strength of the joint.

171. The person skilled in the art, who would always strive to improve the sintered joint, would therefore, in the defendant's view, have been led to preferentially use metal flakes with a high ramming density and a high specific surface area during sintering, and would endeavour to substitute metal powders in known systems with such advantageous metal flakes.
172. The defendant is of the view that porosity is also the decisive factor in JD 24. This follows from the last paragraph on page 4 of the document. The person skilled in the art learns from JD 24 that the reduction in porosity brings about the effect described in JD 24 of producing an 'extremely stable' compound. The exact chemical processes taking place in JD 24 are irrelevant. What is decisive, rather, is that the effect of JD 24 is brought about by the reduction in porosity.
173. The defendant further takes the view that the subject-matter of claim 1 is suggested by the combination of JD 24 with JD 15.
174. Based on the teaching of JD 24, the person skilled in the art would be motivated and prompted to seek variants of the formulation that would enable a (further) reduction in porosity whilst maintaining good sintering activity. It forms part of the skilled person's routine practice to examine commercially available silver flakes, such as those offered in JD 15, for the purpose of further improving the composition of JD 24. To this end, the person skilled in the art, drawing on their specialist knowledge, would in particular consider flakes with a high bulk density and a high specific surface area, as these are the parameters known to have a positive influence on porosity and sintering activity.
175. The selection of suitable flakes from JD 15 would be kept to a minimum, as the person skilled in the art would focus in particular on the 'representative' flakes that are specifically highlighted and would select them on the basis of the parameters for bulk density and specific surface area stated in the catalogue. Since the person skilled in the art would proceed here in accordance with their usual technical knowledge to achieve suitable sintered compounds with low porosity – as is also explicitly mentioned again in JD 24 – there was sufficient and reasonable grounds for the person skilled in the art to expect success in testing such commercially available silver flakes in the composition JD 24. The person skilled in the art could realistically have expected to succeed in producing solid compounds using the silver flakes advertised as suitable for this purpose, as these would, as expected, exhibit low porosity. Neither the implementation nor the testing of the highlighted flakes would entail any particular technical difficulties.
176. In particular, the Silberflake SF30, which is highlighted as representative in JD 15 and which has a mathematical product ranging from 42,000 to 99,000 cm^{-1} , leads the person skilled in the art directly to the subject-matter of the alleged invention, as it .

177. In the defendant's view, the limits of the mathematical product in the patent at issue have no technical relevance whatsoever, as the same strength claimed by the invention can also be demonstrated both above and below the claimed limits. The setting of the limits was arbitrary and cannot contribute to inventive step.
178. Finally, the defendant takes the view that the subject-matter of claim 1 is suggested by the combination of JD 24 with 'Mertens, VDI Progress Reports, Low-Temperature Joining Technology in Power Electronics' (Annex JD 17, hereinafter: 'JD 17').
179. The defendant submits that, taking JD 24 as a starting point, the person skilled in the art would also seek solutions leading to permanent joints, particularly in the field of NTV, whereby a further reduction in porosity (increase in density) and an increase in sintering reactivity (increase in specific surface area) would be obvious.
180. In the defendant's view, the person skilled in the art would take JD 17 into consideration, as JD 17, like JD 24 itself, deals explicitly with NTV (Exhibit JD 17, p. 6). JD 17 also highlights silver flakes as being particularly suitable for NTV (Exhibit JD 17, p. 30). As JD 17 emphasises, suitable sinterable flakes sinter together with the corresponding substrate and can only be removed with great difficulty and not without leaving residues (Annex JD 17, p. 30). Consequently, such powders are well suited for permanent bonding.
181. The defendant refers to Table 2.2 on page 33 of JD 17. This table discloses two types of powder: suitable powders (Powders A to C) and unsuitable powders (Powders D to F). The suitable powders were characterised in particular by a higher bulk density compared with the unsuitable powders; thus, as would be expected based on technical knowledge, they resulted in the generally recognised advantage of reduced porosity.
182. The defendant argues that JD 17 discloses that the mathematical product of the unsuitable powders reaches a maximum of $36,000 \text{ cm}^{-1}$, whereas the mathematical product of the suitable powders covers a significantly higher range of 39,600 to $47,300 \text{ cm}^{-1}$ —that is, 9 to 24 per cent more than the unsuitable powders. The person skilled in the art would take this clear trend towards the increased suitability of powders A to C into account. Based on their technical knowledge of porosity, they would rely on this fundamental information derived from the parameters of bulk density and specific surface area, and would therefore recognise which properties of the powders are advantageous and which are not.
183. Insofar as the table indicates that Powder C, which shows the highest value for the mathematical product, is only 'suitable', whilst Powder B, which has a slightly lower mathematical product, shows a 'better' suitability rating of 'very good', the defendant points out that there are always variations in measured values. The values for powders B and C differ by only approximately 2.5 per cent, which falls within the usual margin of error for such measurements. A person skilled in the art would not interpret 2.5 per cent as a (significant) difference that would lead them to prefer powder C over powders with lower values.
184. In the defendant's view, the person skilled in the art would also have recognised that the specific surface area of the suitable powders lies in the range of 1.1 to $1.4 \text{ m}^2/\text{g}$, i.e. that an increased specific surface area and the resulting increased sintering activity would have a positive effect. Therefore, the person skilled in the art would routinely have carried out tests at least within this range. A powder that would then be an obvious choice, with the higher bulk density of 3.6 g/cm^3 (from Powder A) and the higher specific surface area of $1.4 \text{ m}^2/\text{g}$ (from Powder B), would yield a mathematical product of $50,400 \text{ cm}^{-1}$ and would therefore lead the person skilled in the art directly to the claimed range of values.
185. The skilled person would select a group of compounds or a single compound based on the known parameters and then use routine experiments to investigate whether

these compounds also had the desired effect. Such routine experiments would, as expected, lead to success.

186. The defendant emphasises that, although JD 17 does not explicitly mention the mathematical product of bulk density and specific surface area, (a) the formation of a mathematical product of known values of routinely used metal powders is merely another way of 'repackaging' well-known knowledge, and (b) such a product formed from density and surface area is common knowledge in the relevant technical field and is regularly used.
187. With regard to the combination of JD 24 and JD 17, the defendant also points out that the limit values of the mathematical product at $50,000 \text{ cm}^{-1}$ and $80,000 \text{ cm}^{-1}$ are arbitrary and cannot constitute an inventive step.
188. The claimant is of the view that the teaching of the patent is based on an inventive step. The defendant's argument is, in its view, retrospective.
189. The claimant points out that it is not the purpose of a patent to demonstrate its advantages over the entire state of the art. Furthermore, the technical contribution of the patent at issue need not necessarily lie in the fact that the solution described therein must be better than any alternative solution. The comparative tests described in the patent at issue are also suitable for substantiating the technical effect in question. One of the flaws in the defendant's comparative tests is that two of the powders were not known at all in the prior art, and that all four powders tested fall within the scope of the claims of the patent at issue. Furthermore, since the patent at issue has been granted, it is not the claimant's task to 'prove'; rather, it is for the defendant to rebut it.
190. In the claimant's view, the contested decision correctly defines the objective technical problem as the development of a sintering paste with improved bonding or adhesion between the components.
191. The claimant states that there is agreement that JD 24 is a realistic starting point.
192. According to the Claimant, JD 24 itself does not provide any basis for addressing bulk density and/or specific surface area, let alone an interaction or the selection of a specific range.
193. Nor, the claimant continues, does any such basis arise from general technical knowledge. The general technical knowledge briefly referred to by the defendant does not exist in that form. With regard to the objective set out in the contested decision—namely to obtain a sintered product (meaning the sintered layer) whose density corresponds to that of the relevant metal, the Claimant points out that whilst a high density of the sintered product does lead to high internal material strength of the sintered material, this is not to be equated with the adhesive strength of the sintered-bonded components. It is incorrect to assume that a high density leads to high bond strength. A high density/low porosity may also be disadvantageous, whilst a porous structure may also be advantageous. Minimal porosity/maximum density is primarily an objective of solid-state sintering (sintering for manufacturing, not for bonding). Secondly, with regard to the 'principled' transition from a high initial density (low porosity) to a high final density, it should be noted that this cannot, in any event, be a universally valid statement, and that the technical literature, by contrast, primarily addresses minimal porosity and maximum density of the final product as a question of process pressure.
194. In the Claimant's view, the porosity mentioned in JD 24 is not the decisive factor

of this publication. Furthermore, JD 24 attributes low porosity at the contact point of the finished end product to the use of sintering aids – and not to the particle parameters. Moreover, the burning off of the coating described in this context presupposes the possibility of ‘outgassing’ and thus a certain minimum porosity of the sintered layer being formed.

195. The claimant is of the view that the person skilled in the art would have had no reason to combine JD 24 with JD 15.

196. Even if, for the sake of argument, one were to assume that the person skilled in the art, proceeding from JD 24, were to seek ways of reducing porosity, it is not apparent why, objectively and ex ante, the person’s focus should be specifically on the choice of powders, nor why, in light of the teachings of JD 24, the person would refer to JD 15. Even if the person skilled in the art were to consider modifying the types of powder and, for this purpose, were to refer to JD

Had JD 15 been relied upon, this would not have led in any obvious way to the subject-matter of the patent at issue. JD 15 contains no reference to the use claimed in the patent. Furthermore, it discloses a wide variety of metal powders that could potentially be used, so that the person skilled in the art would not have been led to select SF30 in particular. And even if the person skilled in the art had selected SF30 from the several dozen products listed in JD 15, given the broad scope of its specifications, it would have been a matter of chance whether or not this would have fulfilled the scope of the claims. Moreover, the defendant does not assume that the person skilled in the art would have arrived at the subject-matter of the patent, but merely that the person skilled in the art could have started a series of experiments using the powders from JD 15. However, this does not constitute a reason.

197. The claimant maintains that the limit values of feature 2.3.3 of claim 1 are relevant. This is demonstrated by the examples in the patent at issue. The limit values are not arbitrary; they are based on empirical findings derived from the claimant’s tests. The underlying mechanism of action is not yet fully understood by the claimant.

198. In the claimant’s view, even a combination of JD 24 and JD 17 does not preclude inventive step.

199. The person skilled in the art would not refer to JD 17 simply because it was already a decade old by the priority date and concerned significantly different process parameters.

200. Even if the person skilled in the art were to refer to JD 17, JD 24 would not prompt them to examine the metal particles in any greater detail, let alone to focus specifically on the abstract parameters of tap density and specific surface area within the (very extensive) JD 17. JD 17 does not disclose the features of the mathematical product. It contains no indication of the significance of a targeted selection of the tap density and specific surface area of the metal powders used.

201. And even if the person skilled in the art had examined the particle parameters (in particular the particle size distribution), the Claimant submits that JD 17 would not have led the person skilled in the art to the subject-matter of the patent at issue. Rather, the person skilled in the art would consider the parameters of the particles listed in Table 2.2 individually and would note that the tap density of the (less suitable) powder C is significantly higher than that of the highly suitable powders A and D, whilst no significant difference could be identified in terms of specific surface area. The difference of 3.6/3.3 to 4.3 is also clearly of a significant order of magnitude. JD 17 would, at most, have prompted the person skilled in the art (assuming a corresponding, unprompted examination) to ‘restore’ the tap density to the level of powders A and B.

202. The defendant's reference to a reasonable expectation of success amounts to nothing more than an attempt to portray a multitude of unprompted and ineffective steps as obvious. The defendant has not demonstrated any reason why the outcome of the tests in question should have been clearly foreseeable, or why the person skilled in the art should have linked a particular expectation of success regarding the improvement of adhesive strength specifically to experiments with other powders. This is because there is no indication whatsoever in the entire prior art of the significance of the choice of tap density and specific surface area for adhesive strength. Consequently, no such approach has been demonstrated.

b) Legal standard

203. When assessing inventive step, the following procedure must be followed (Court of Appeal, UPC-CoA-464/2024, decision of 25 November 2025 – Meril/Edwards; UPC-CoA-528/2024, decision of 25 November 2025 – Amgen v Sanofi; UPC-CoA-901/2'25, order of 30 March 2026 – Abbott v Sinocare; UPC-CoA-36/2026, order of 8 July 2026 – Angelalign v Align):

204. Firstly, it must be established what the subject-matter of the invention is; that is to say, the objective problem (the objective technical problem) must be determined. This must be assessed from the perspective of a person skilled in the art, with their general technical knowledge, as at the filing date or the priority date of the patent. To this end, it must be determined what contribution the invention makes to the state of the art, not by considering the individual features of the claim, but by comparing the claim as a whole in conjunction with the description and the drawings, whilst also taking into account the inventive concept underlying the invention (the technical teaching), which must be based on the technical effect or effects that the person skilled in the art understands to have been achieved by the claimed invention on the basis of the patent.

205. To avoid a retrospective assessment, the objective problem must not contain any references to the claimed solution.

206. The claimed solution is obvious if, at the relevant time, the person skilled in the art, starting from a realistic point in the state of the art in the relevant technical field and with the aim of solving the objective problem, would have arrived at the claimed solution – and not merely could have arrived at it.

207. The relevant field of technology is the specific field relevant to the objective problem to be solved, as well as any field in which the same or a similar problem arises and which the person skilled in the art in the specific technical field must be expected to be familiar with.

208. A starting point is realistic if its teaching would have been of interest to a person skilled in the art seeking to solve the objective problem at the relevant time. This may be the case, for example, where the relevant prior art already discloses several features similar to those of the claimed invention and/or addresses the same or a similar underlying problem as that of the claimed invention. There may be more than one realistic starting point, and the claimed invention must be inventive when starting from each of these starting points.

209. The person skilled in the art possesses neither inventive ability nor imagination and requires a point of reference or a suggestion which, starting from a realistic starting point, prompts them to take the next step towards the claimed invention. As a rule, a claimed solution is to be regarded as non-inventive/obvious

if the person skilled in the art would take the next step on the basis of the cue or as a matter of routine and arrive at the claimed invention.

210. To establish inventive step, it is not necessary to demonstrate an improvement in the claimed technical teaching over the prior art. Inventive step may also be present if the patent claims disclose a non-obvious alternative to the solutions known in the prior art.

c) Application to the case

Objective problem

211. The objective problem of the patent at issue (claim 1) is to provide a permanent connection between components by means of metal sintering. This is indeed what the invention achieves compared with the state of the art, as is evident from a comparison of the claim as a whole in conjunction with the description and the drawings, and taking into account the concept underlying the technical teaching (see para. 39 et seq.).
212. By contrast, it is not the objective task of the patent at issue to improve or increase the strength of connections between components, as is known in the prior art (see para. 45).
213. The fact that the objective task is therefore ‘merely’ to provide an alternative to the permanent joining of structural elements does not, in itself, preclude inventive step.
214. The objective task defined in this way is consistent with the judgment of the Federal Patent Court of 7 November 2023 (Annex CBH 8, p. 13).

Realistic starting point

215. The local division was correct to regard JD 24 as a realistic starting point. It would have been of interest to a person skilled in the art seeking to solve the objective problem of the patent at issue. The parties are also in agreement on this point in the appeal proceedings.
216. JD 24 relates to a metal paste containing oxidising agents and a method for joining components using this metal paste. As can be seen from its introductory remarks (Annex JD 24, p. 1), in the field of power electronics, the joining of components such as LEDs or very thin silicon chips, which are highly sensitive to pressure and temperature, presents a particular challenge. For this reason, according to JD 24, such pressure- and temperature-sensitive components are frequently bonded together. However, the bonding technique has the disadvantage that it creates contact points between the components which exhibit insufficient thermal conductivity or electrical conductivity. To solve this problem, the components to be joined are often sintered. In view of known sintering processes, JD 24 considers it desirable to further reduce the process temperature (Annex JD 24, p. 2).
217. JD 24 states that its objective is to provide a sintering process that allows components to be joined together in a stable manner, whilst the process temperature remains below 200°C. In doing so, contact points are to be formed between the components to be joined

which exhibit low porosity and high electrical and thermal conductivity. According to JD 24, a further objective of the invention is to provide a metal paste which can be used in the sintering process according to the invention and which enables the process temperature to be reduced to below 200°C and the formation of contact points between the components to be joined with low porosity and high electrical and thermal conductivity (Annex JD 24, p. 2). The objective of JD 24 therefore overlaps with the objective of the patent at issue.

218. JD 24, which is cited as prior art in the patent at issue, discloses features 1 to 2.2 of claim 1. Feature group 2.3, on the other hand, is undisputedly not disclosed. There must therefore be a reason or motivation for the person skilled in the art to arrive at the specifications of the missing feature group.

Motivation from JD 24 in conjunction with general technical knowledge

219. Even taking general technical knowledge into account, JD 24 does not contain any such impetus or suggestion.

220. In so far as the defendant, referring to the technical expertise it has cited, claims that a person skilled in the art would seek to use, as a matter of preference, metal flakes with a high packing density and a high specific surface area during sintering, it must first be noted that the technical teaching of the patent at issue, and in particular feature group 2.3, does not go so far as to provide a silver component with a high bulk density and a high specific surface area. The subject-matter of feature group 2.3 is the mathematical product of bulk density and specific surface area, whereby a range is claimed in this respect. The patent at issue leaves open the question of which value of one or the other parameter can be used to achieve the claimed mathematical product or the claimed range. This allows for variation in the parameters and, in particular, also permits one of the two parameters to be low. It is not necessary for both parameters to be as high as possible.

221. No reason or motivation for providing feature group 2.3 follows from the last paragraph on page 4 of JD 24, which reads:

‘According to the invention, the combustion of the coating compounds produces, amongst other things, carbon monoxide. The carbon monoxide released during sintering acts as a reducing agent and, as such, is capable of reducing the metal oxide present on the surface of the metal particles. The removal of the metal oxide ensures unimpeded diffusion and, consequently, an increase in the diffusion rate. Furthermore, this reduction of the metal oxide generates reactive metal in situ, which further facilitates the sintering process. Furthermore, during the sintering process, this reactive metal can fill gaps between the metal atoms of the metal particles, thereby significantly reducing the porosity of the contact point between the components to be joined. This results in contact points that are extremely stable and highly thermally and electrically conductive.’

222. Although the last sentence of this paragraph explains the significant reduction in the porosity of the contact point between the components to be joined, it is not apparent that JD 24 focuses on reducing porosity.

223. The technical teaching of JD 24 is based on the realisation that, when sintering components using metal pastes, it is advantageous for the particles contained in the metal paste to be coated, preferably with fatty acids. If the metal particles are not

coated, then, according to JD 24, agglomeration of the metal particles in the metal paste occurs, leading to clumping of the metal particles at an early stage during the sintering process. This often results in inhomogeneous contact points between the components to be joined (Annex JD 24, p. 3).

224. According to JD 24, it was surprisingly discovered that metal particles coated in this way are also the reason why the sintering temperature cannot be reduced to below 200°C. Whilst the coating compounds remain on the surface of the metal particles, agglomeration of the metal particles is prevented on the one hand. On the other hand, the surface of the metal particles is not available for the sintering process, meaning that the metal particles cannot be sintered. According to JD 24, in conventional sintering processes, the coating compounds are burned off during the course of the sintering process at the temperatures typically used for sintering, which are well above 200°C. It is only after the coating compounds have been burned off that the surfaces of the metal particles become accessible to the sintering process. Consequently, sintering processes using the conventionally employed coated metal particles are only possible at temperatures well above 200°C (Annex JD 24, p. 3).
225. Exhibit JD 24 further states that it was surprisingly found that certain sintering aids ensure the burning off of the coating compounds at temperatures below 200°C. These sintering aids are preferably oxygen-containing oxidising agents which ensure that the coating compounds present on the metal particles are removed at temperatures below 200°C. Consequently, the surfaces of the metal particles are available for the sintering process even at temperatures below 200°C. It is also surprising that, despite the coating compounds burning off at temperatures below 200°C, the metal particles do not agglomerate; instead, homogeneous and stable contact points are formed between the components to be joined (Annex JD 24, p. 3).
226. Furthermore, JD 24 describes as surprising the fact that the surface of the metal particles lying beneath the coating layer is usually at least partially oxidised. Such metal oxide layers impair the diffusion processes required for sintering and consequently result in a reduction in the diffusion rate. For this reason, when sintering using these metal particles with oxidised surfaces, it is conventionally necessary to employ high process temperatures of well over 200°C (Annex JD 24, p. 4).
227. The focus of the technical teaching of JD 24 is therefore on achieving a stable, electrically and thermally conductive sintered compound at comparatively low temperatures. This is to be achieved, on the one hand, by using sintering aids that prevent the 'bonding-inhibiting' coatings at relatively low temperatures and, on the other hand, remove metal oxide layers, thereby facilitating the physical sintering process by increasing diffusion.
228. Furthermore, it cannot be ignored that, according to the technical teaching of JD 24, the sintering aids described therein are of essential importance. With regard to the reduction in porosity mentioned in paragraph 4 on page 4 of JD 24, the sintering aids are also cited as the essential means for achieving this. The effect described is attributed to them. According to the explanations in JD 24, the sintering aid significantly reduces the process temperature during sintering (see Annex JD 24, cross-page paragraph pp. 4–5) whilst still ensuring that the coating compounds present on the metal particles are removed by burning off without the metal particles agglomerating.
229. In so far as the defendant observes that it is irrelevant exactly which chemical processes are described in JD 24

, and that the only decisive factor is that the effect described in JD 24 is brought about by a reduction in porosity, this cannot be accepted. If a document links an effect solely to a specifically described (chemical) process and regards this as the cause, the document – in the absence of further indications – provides no reason to seek to achieve this effect by other means, parameters and/or processes.

230. There is no evidence to suggest that the person skilled in the art had any reason to omit the (essential to the invention) sintering aid mentioned in JD 24 and, instead, to rely on the parameters of tap density and specific surface area of silver particles and their mathematical product in order to achieve a firm bond between the components. Although JD 24 describes that the metal in the metal paste may be present in the form of particles, including flakes (Annex JD 24, p. 6), the parameters of bulk density and specific surface area of the metal particles are not mentioned anywhere in the document. JD 24 contains no information whatsoever on this point. Nor are the two parameters linked in any way to the effect – reduction in porosity. Nowhere in JD 24 is there any indication of a (functional) relationship between these two parameters for achieving a strong bond between components by means of sintering.
231. Finally, it cannot be established that it was part of general technical knowledge that the tamping density of silver particles as a raw material (and not, for example, density in general or the bulk density of the raw material) is a decisive parameter in the sintering process, and that the tamping density directly provides insights into porosity.

Combination of JD 24 and JD 15

232. Nor can inventive step be ruled out in the light of JD 24 and JD 15.
233. It is not apparent that the person skilled in the art had any reason to combine JD 24 with JD 15. Insofar as the reduction in porosity is mentioned in the last paragraph on page 4 of JD 24, JD 24 cites (solely) the sintering aid disclosed therein as the cause of this. The document therefore proposes a solution or a means of reducing porosity. The technical teaching of JD 24 is self-contained; in particular, it discloses the creation of a stable connection between structural elements. The problem posed therefore appeared to have already been solved. It is therefore not apparent – even taking into account the defendant's submission regarding general technical knowledge – that the person skilled in the art had any reason, on the basis of JD 24, to seek another or additional method of reducing porosity or achieving a high density. Furthermore, JD 24 contains no reference to the parameters of tamping density and surface area, nor to their functional relationship, nor to the relevance of these parameters for achieving a strong bond between structural elements; consequently, it is also not apparent that the person skilled in the art – insofar as this is at all relevant to the patent at issue – would consider these two parameters, including their functional relationship, for the purpose of reducing porosity (instead of, or in addition to, the disclosed sintering aid).
234. Moreover, without a specific reason, the person skilled in the art would not initiate a series of experiments (using commercially available silver flakes), which is why any supposed expectation of success is irrelevant in this respect.
235. Even if, for the defendant's sake, it is assumed that the person skilled in the art would have had reason to combine JD 24 with JD 15, it cannot be established that feature group 2.3 is obvious.

236. It is true that on page 20 of JD 15 the parameters 'TAP Density' and 'Surface Area' are mentioned, and values are given for these which, when multiplied, result in a mathematical product of 42,000 to 99,000 cm^{-1} (SF30) or of 29,000 to 66,500 cm^{-1} (SF70A). In numerical terms, therefore, mathematical products are disclosed which, at least in part, overlap with the range specified in feature 2.3.3.
237. However, it should first be borne in mind that JD 15 presents several dozen products in various categories, for each of which different areas of application are listed. On pages 14 and 15 of JD 15, 48 silver flakes are listed in a table containing the columns 'PSD' (particle size), 'Surface Area', 'TAP Density', 'Fisher Sub Sieve Sizer' and 'Application'. Pages 16 and 17 contain a graphical representation of various silver flakes, headlined 'Particle Size vs. Surface Area – Application'. It includes, amongst other things, colour-coded labels for 'Fired', 'Non-Fired' and 'Thick Film'. Pages 18 and 19 also show a graphical representation of various silver flakes with corresponding colour-coded markings, this time under the heading 'Particle Size vs. TAP Density – application'. The table on page 20 of JD 15, which has already been mentioned and is reproduced above (following para. 155), concerning the silver flakes SF30 and SF70A, contains, in addition to the information already mentioned, details on particle size distribution, application and the 'Key features' of the silver flakes. Regarding applications, the entry for SF30 states "Fired and non-fired pastes, Shielding", whilst for SF70A 'non-fired thick film inks, via fill pastes, membrane switches'. Under 'Key features', it states: 'SF series: Wide product range by particle size, surface area, density and shape for a wide range of applications and purposes.' On page 21, the silver flakes SF9, SF7A and SF26 are presented in the same tabular format.
238. It is not apparent that, or why, the person skilled in the art would have selected the silver flakes SF30 and SF70A mentioned on page 20 of JD 15 and used these in place of the sintering aids provided for in JD 24. Such a substitution or consideration would, amongst other things, require that the skilled person's attention had been directed towards the parameters of bulk density and specific surface area of these two silver flakes and the relationship between these parameters. However, this cannot be established.
239. On page 20, not only are SF30 and SF70A referred to as 'representative flakes', but so is the silver flake SF15. It is not clear what is meant by 'representative'. There is no explanation as to what these three silver flakes are representative of. Furthermore, the three silver flakes presented on page 21 – SF9, SF7A and SF26 – are also described as 'representative flakes'. Here too, no explanation of this designation is provided. The person skilled in the art would therefore have had to make at least one selection from among these six silver flakes described as representative, in favour of SF30 and/or SF70A.
240. In JD 15, the silver flakes SF30 and SF70A are not highlighted in comparison with the other (representative) silver flakes presented. All (representative) silver flakes are described in tabular form in the same manner, using the same parameters.
241. The mention of the parameters 'TAP Density' and 'Surface Area' and the values contained therein are not highlighted in JD 15 in comparison with the other parameters, in particular particle size and particle size distribution. Taking into account the sentence on pages 20 and 21 below the 'Key feature', the parameters are understood to be of 'equal importance'. Nor does JD 15 mention at any point the significance of the two parameters—tapped density and specific surface area—for the adhesive strength of bonded components. Similarly, there is no reference to their functional interaction and/or the significance of their mathematical product for the secure bonding of components. The skilled person's attention is directed neither to the parameters as such nor to their

relationship. Based on the headings on pages 16 to 19 of JD 15, the person skilled in the art's interest is, at most, directed towards a correlation between the particle size of the silver flakes and the bulk density or the surface area.

242. Furthermore, it cannot be established that the properties of the silver flakes SF30 and SF70A, in particular their tamping density and specific surface area, would have formed part of general technical knowledge. The reference to the commercial or industrial standard of the two flakes is not sufficient for this purpose.
243. Even if all this were disregarded and it were assumed that the person skilled in the art would ultimately select SF30 and SF70A from JD 15, it is not apparent on the basis of what considerations the person skilled in the art would envisage the measurement methods referred to in features 2.3.1 and 2.3.2. Neither DIN EN ISO 787-11 : 1995-10 nor DIN ISO 9277 : 2014-01 is mentioned in JD 15. It cannot be established that it formed part of general technical knowledge that the parameters of bulk density and specific surface area are to be measured in accordance with these measurement standards. Furthermore, it is undisputed that the products advertised in JD 15 were manufactured in the USA and that the person skilled in the art was aware of this. Moreover, there are a multitude of possible ISO methods. It is therefore not clear why, in view of this, the person skilled in the art would specify the aforementioned DIN standards as the methods for measuring bulk density and surface area.
244. Furthermore, it cannot be established that the person skilled in the art – when selecting SF30 and SF70A from JD 15 – would arrive at the range of the mathematical product claimed under feature 2.3.3. The range of the mathematical product calculable for SF30 and SF70A is larger than the range claimed (SF30) or only partially coincides with it (SF70A). JD 15 provides no guidance on this matter and contains no suggestions whatsoever in this regard. In view of this, it is not apparent on what grounds the person skilled in the art should have disregarded the ranges calculable from JD 15 and instead envisaged a mathematical product in the range of 50,000–80,000 cm^{-1} .
245. In so far as the defendant argues in this regard that no technical effect (across the entire scope of the claim) has been demonstrated or proven, and that the limits of the mathematical product were chosen arbitrarily, this argument does not hold water. The burden of proof regarding the existence of a ground for invalidity lies with the defendant. Consequently, it is (also) incumbent upon the defendant to set out and prove the alleged lack of a technical effect or the arbitrary selection of the range. However, the defendant has failed to do so.
246. The technical effect of feature group 2.3, and in particular feature 2.3.3, is evident from the examples in the patent at issue. The tables contained in paragraphs [0084] and [0086], which describe the adhesion of the assembly of components following pressureless or pressure sintering using a metal sintering preparation, show that the adhesion to the Cu surface [N/mm^3] and the adhesion to the Ag surface [N/mm^3] are more pronounced when metal sintering compositions are used whose mathematical product lies within the claimed range. Examples 1, 3, 4, 6 and 7 exhibit adhesion that is higher than that of the (comparative) examples which lie outside the claimed range. Metal sintering compositions according to the claims therefore provide a beneficial technical effect.
247. The fact that there is no strictly linear trend within the claimed range of the mathematical product (para. 64 et seq.) does not preclude the technical effect and is also not an indication of an arbitrary selection.

248. In so far as the defendant objects that the examples contained in the patent at issue are unsuitable for assessing the technical effect, and that the Claimant should instead have carried out comparative tests against the closest prior art, namely JD 24, to demonstrate that the patent at issue leads to improved adhesion, it must be countered, on the one hand, that it is not the purpose of the patent at issue to achieve improved adhesion of components compared with the prior art by using a metal sinter preparation in a sintering process (para. 45, 212). The objective purpose of the patent at issue is to provide an alternative. On the other hand, it should be noted that JD 24 does not specify any metal particles (with specific parameters and/or a mathematical product), but instead provides for a sintering aid. A concrete comparison is therefore difficult from the outset.
249. The comparative tests carried out by the defendant on the basis of JD 24 (Exhibit JD 35, explanatory notes in Exhibit JD 36) do not preclude the assumption of a technical effect of the mathematical product.
250. According to the defendant's submission, the sintering compositions A to D used in the comparative tests were selected such that, in terms of their composition and their properties relating to tap density and specific surface area, they fall within the range claimed in the patent at issue. Furthermore, sintering compositions B and D additionally contained a metal precursor and a sintering aid. Consequently, it is undisputed that the sintered preparations A to D used in the comparative test (Annex JD 35) are metal sintered preparations corresponding to the patent at issue, which, in particular, comprise a mathematical product as claimed (see, for example, Table, para. 31 of the appeal against revocation). However, if these are metal sintering compositions in accordance with the patent at issue, it is difficult, even in principle, to use them as evidence for the assertion that the mathematical product scope of the patent at issue has no technical effect and/or that it was chosen arbitrarily. Leaving aside the method of measuring strength (which does not correspond to the method used in the patent at issue), if one were to accept the defendant's assertion that sintered compositions A to D can result in compounds of equal strength, these comparisons would in fact support rather than contradict the technical effect of the mathematical product. Nor can arbitrariness be demonstrated on this basis. Furthermore, the strength of the structural elements bonded with sintered compositions A to D was not determined by means of a shear test in accordance with the specifications of the patent at issue, but by means of a mandrel bending test.
251. Nor can it be inferred from sintered preparation E of the comparative test JD 35 that the mathematical product has no technical effect in accordance with feature 2.3.3 or that the range has been chosen arbitrarily. Sintered preparation E does not comply with the patent at issue; the mathematical product ($94,700 \text{ cm}^{-1}$) lies above the range specified in feature 2.3.3. The mandrel bending test carried out by the defendant does not correspond to the (shear) test provided for in the patent at issue. Furthermore, it cannot be concluded from a single measurement that the upper limit of the mathematical product was chosen arbitrarily. Sintered preparation E does not prove that a metal sintered preparation containing a silver component with a mathematical product in accordance with feature group 2.3, and in particular feature 2.3.3., has no technical effect or that an arbitrary selection has been made.
252. It should also be noted that, in the prior art, the functional relationship between the tamping density and surface area of the silver component and its significance for the firm bonding of structural elements is not disclosed. There is no prior publication which addresses this relationship and discloses the use of a metal sintering preparation containing a silver component in a sintering process, the mathematical product of the ramming density and surface area of which lies within an 'unlimited' range or within a range that

fully encompasses that of the patent at issue. This also applies with regard to JD 15. As noted, this document contains no indication of the significance of the parameters 'tamp density' and 'specific surface area' for the permanent bonding, nor of the functional relationship. The patent at issue therefore does not select a specific range from ranges or possibilities already known.

Combination of JD 24 with JD 17

253. Claim 1 of the patent at issue does not lack an inventive step, even when considered in the light of JD 24 and JD 17.

254. JD 17 presents NTV as a pressure sintering process (at 230–250°C) used in power electronics and describes commercially available silver powders used in NTV (Annex JD 17, pp. 1, 6, 10). Furthermore, the presence of grinding wax residues in the form of fatty acid salts and the suitability of silver flakes suspended in organic solvents such as terpineol are explained (Annex JD 17, pp. 11, 27, 30).

255. Regarding the sintering process, Annex JD 17 states on page 16:

‘The term “bonding process” is used here to denote the actual execution of the sintering process. The conditions prevailing during this process determine the properties of the formed composite. In order to form a stable composite, the sintering conditions at the composite layer must be met during the sintering process. It is virtually impossible to determine these sintering conditions through simultaneous and precise measurement within the sintered layer, nor is it possible to draw a clear distinction between unstable and stable composites. Based on our current understanding, the sintering conditions are met by the data summarised in Table 2.1. The lower limits for the sintering parameters are derived from the test results listed in Chapter 4. The necessity of an oxygen-containing environment is discussed in detail in Chapter 3. The same strength can be achieved through different variations in the parameters. Particularly with regard to sintering temperature and time, a lower temperature can be compensated for by a longer duration, and vice versa. Pressure contributes significantly to the compaction of the layer and thus to the resulting porosity. Furthermore, pressure is crucial for the interlocking of the particles with the respective surfaces and thus for adhesion. Its influence on strength is less dependent on temperature and duration.’

256. Under the heading ‘Powder Technology’, page 26 states, amongst other things:

‘As mentioned at the outset, only certain types of silver powder exhibit a strong tendency to sinter as early as 230°C, and this only in the presence of oxygen. These are powders with platelet-shaped grains, so-called flakes, such as those used as filler material for conductive adhesives. These powders are therefore commercially available and not custom-made. However, not all of these flakes are equally suitable for the NTV process. Differences lie both in terms of processability and in the quality of the fully sintered layer and, consequently, the resulting bond. The differences between the powders stem from differences in the manufacturing process of the flakes.’

257. On page 28 of JD 17, as part of the powder analysis, it is explained, amongst other things, that powder density is specified on the basis of bulk density (loose powder) and tapped or rammed density (defined

compaction of the powder), with the explanation that, for practical purposes, only the tapped density should be used. Even these values vary quite significantly between different powders of the same type. It is also stated that a very important criterion for assessing a powder is the particle size distribution.

258. According to page 29 of JD 17, the selection of silver powder is a major consideration for the NTV process. It is then stated on page 30 that the good bonding and adhesion properties of the sintered powder are important, although the assessment of bondability (cohesion) and the formation of adhesion to a final metallisation layer (adhesion) is only possible to a limited extent on the basis of powder analysis. It is explained that, to date, only silver flakes have proved suitable for the NTV process, and that suitable powders mix well with the suspending agents terpineol and butanol. This is followed by the observation that the particle sizes of a suitable powder, as measured by laser diffractometry, range from 10 μm down to less than 1 μm .
259. From page 31 of JD 17 onwards, six different powders are compared with one another to assess the analysis results for a powder and its suitability for the NTV. It is stated that three of these powders are suitable for the NTV, whilst three are not. Of the suitable powders, Powder A and Powder B are considered very well suited, whilst Powder C, although sintered, does not quite achieve the strength of the other two powders. The other three powders were not produced using the standard flake process and did not sinter.
260. On page 32 of JD 17, it is stated that the bulk density of the suitable powders is already approximately one third of the density of silver; the bulk density of Powder C is slightly higher, that of crystalline Powder E is lower, and that of Fine-Flake Powder D is significantly lower. In terms of specific surface area, however, powder D exhibits by far the highest value. JD 17 explains that, generally speaking, a finer powder has a larger specific surface area than a coarser one, and a strongly flake-shaped powder has a larger specific surface area than a more spherical one. According to JD 17, the measured particle size for all the powders discussed falls within the same range. With regard to powder D, it is explained that this has the lowest bulk density. Page 32 also illustrates the significance of grinding waxes and the duration of the flake process for the (decreasing) bulk density. It is then stated that powder D was ground for longer than powder B, and that powder B was ground for longer than powder C. According to JD 17, the lower proportion of grinding wax remaining in the powder is also responsible for the poorer sintering behaviour of powder D compared with powders A and B.
261. Page 33 of JD 17 contains Table 2.2, shown below:

Tabelle 2.2: Übersicht einer Reihe verschiedenartig hergestellter und im Rahmen dieser Arbeit untersuchter Silberpulver. Analysedaten entsprechend Herstellerangaben; Farbe, Farbumschlag und NTV-Eignung nach eigenen Experimenten.

*) bis 280 °C kein Farbumschlag beobachtet.

Pulver			A	B	C	D	E	F
Typ			Flake	Flake	Flake	fine Flake	kristallin	sphärisch
Farbe			grau	hellgrau	hellgrau	dunkelgrau	dunkelgrau	weiß-grau
nach Trocknen	150 °C		hellgrau	hellgrau-weiß	hellgrau-weiß	grau	grau-grün	weiß-grau
Farbumschlag	bei T	°C	225	215	215	215	195	—
nach			heller	heller	heller	heller	hellgrau	—*
dann kratzfest			ja	ja	ja	nein	nein	nein
Stampfdichte		g/cm ³	3,6	3,3	4,3	0,1 – 0,6	2,5	
spez. Oberfläche		m ² /g	1,1	1,4	1,1	3,5 – 6	1,4	ca. 0,6
Partikelgrößen- verteilung	95 %	µm	10,6	6,5	6,3			
	90 %	µm	4,5	5,0	4,7		9,9	ca. 10
	50 %	µm	1,7	1,9	1,8		5,4	ca. 5
	10 %	µm	0,6	0,8	0,8		1,3	ca. 2,5
Gewichtsverlust	110 °C	%	0,03	0,04	< 0,1	< 0,4		
bei Erhitzen	538 °C	%	0,73	0,65	< 0,6	< 3,5		
an Luft	850 °C	%					< 0,5	
Eignung für NTV			sehr gut	sehr gut	geeignet	nein	nein	nein

262. In view of this, the rationale for combining JD 24 with JD 17 is already questionable. JD 24 sets out to produce a stable sintered compound at a process temperature of below 200°C. JD 17, on the other hand, reveals that the process temperatures of 230°–250°C specified therein could only be achieved by applying high pressure, and that the silver particles discussed only showed signs of sintering at 230°C. The process temperatures in JD 17 are therefore significantly higher than those specified in JD 24.
263. Furthermore, JD 17 explains the adhesion of the components ('adhesion strength') as a function of process pressure, and the assessment of the suitability of the analysed powders depends on whether a sintered bond was formed at all upon heating. No mention is made here of a solid bond within the meaning of the patent at issue. Finally, JD 17 expressly states that it is only possible to a limited extent to assess the bondability and the formation of adhesion to a final metallisation on the basis of powder analysis. Consequently, it does not teach that the properties of the powder used as the starting material are decisive.
264. Even if, for the defendant's sake, it is assumed that the person skilled in the art had reason, on the basis of JD 24, to consult JD 17, the combination of these two documents would not suggest feature group 2.3.
265. Firstly, it cannot be established that the skilled person's attention is drawn in JD 17 to the parameters of tap density and surface area. Whilst JD 17 does identify these parameters as important criteria for the powder to be used within the framework of the NTV, it also presents particle size distribution as a third important parameter, both in the text and in Table 2.2. Furthermore, attention is drawn to the importance of process pressure. Moreover, JD 17 does not illustrate the functional relationship between the two parameters of ramming density and surface area (for the strength of the bond between structural elements by means of sintering). JD 17 makes no mention of such a relationship in the text. Nor does it appear in Table 2.2.

266. Even if the skilled person had nevertheless considered both parameters, the functional relationship between them would not have become apparent to them, and they would not have arrived at the requirements set out in the claims.
267. Table 2.2 states that powder D (fine flake) is not suitable for NTV. Had the person skilled in the art focused on the parameters of tap density and specific surface area, they would therefore have seen that a silver flake with a mathematical product of $3,500 - 36,000 \text{ cm}^{-1}$ is unsuitable for a sintering process. From this, she might have concluded that there must be a minimum value – above $36,000 \text{ cm}^{-1}$ – necessary to achieve a solid bond. The skilled person would have deduced from the data on powders A to C that powder A has a mathematical product of $39,600 \text{ cm}^{-1}$, powder B a mathematical product of $46,200 \text{ cm}^{-1}$ and powder C a mathematical product of $47,300 \text{ cm}^{-1}$. The powders therefore have a mathematical product that lies above that of powder D, which is described as unsuitable. Powders A, B and C are described as suitable or very suitable. The person skilled in the art might therefore have concluded – had they focused on the two parameters – that a silver flake with a mathematical product in the range from $39,600 \text{ cm}^{-1}$ to $47,300 \text{ cm}^{-1}$ is suitable or very suitable for NTV. But nothing more than that. However, the person skilled in the art would not have concluded from the disclosure of JD 17 that a silver flake with a mathematical product within the range specified in the claims ($50,000 \text{ cm}^{-1} - 80,000 \text{ cm}^{-1}$) is required in order to produce a solid bond in the sintering process. JD 17 provides no indication whatsoever in this regard.
268. The expert would also note from Table 2.2 that the bulk density of powder C, which is described as suitable, is 4.3 g/cm^3 , which is higher than the bulk densities of powders A and B, described as very suitable, which are 3.6 g/cm^3 and 3.3 g/cm^3 respectively. This is consistent with the explanations on page 32 of JD 17. This difference is significant. It is not apparent that, or why, the skilled person would dismiss these differences as measurement method deviations that need not be taken into account. If the skilled person turns their attention to the specific surface area, they will see that it is similar for all three powders, at $1.1 \text{ m}^2/\text{g} - 1.4 \text{ m}^2/\text{g}$. In view of this, should the expert be considering a change to the parameters of bulk density and specific surface area, they would, at most, have had reason to reduce the bulk density of a powder, but not to increase this and/or the specific surface area. The latter is also not the case because powder D, described as unsuitable, has a significantly higher specific surface area ($3.5 \text{ m}^2/\text{g} - 6 \text{ m}^2/\text{g}$) than the powders described as suitable or very suitable.
269. With regard to the alleged arbitrary setting of limit values, reference is made to the arguments set out in paragraph 247 et seq.

IV. Merits of the counterclaim for nullity in other respects

270. The defendant's counterclaim for nullity is directed – according to the application at first instance – against the patent at issue in its entirety. Nevertheless, in the appeal proceedings, the defendant has argued solely on the (allegedly lacking) validity of claim 1; claims 2 to 8 are not mentioned. Nor has the defendant made any alternative submissions in this regard. The validity of claims 2 to 8 is therefore not the subject of the appeal proceedings.
271. For the sake of completeness, it should be noted that applications 2 to 8 all contain a reference back to claim 1. By virtue of this, they are likewise novel and inventive. This applies in particular to method claim 5, which the Claimant asserts in the context of the

infringement action.

C. Appeal against the infringement action

272. The appeal against the infringement action is unfounded. The local division was correct to find that the defendant had a right of prior use in Germany and to rule out the existence of (imminent) acts of use in France, Italy and Romania.

I. Practice of the Patent at Issue

273. The local division found that the contested embodiment makes use of the subject-matter of claim 1 in accordance with the literal wording of the claim. This finding has not been challenged by the defendant.

II. Germany

1) *Acts of use*

274. The defendant manufactures the contested embodiment in Germany and distributes it in Germany. This is undisputed between the parties. Nor has the defendant contested the local division's findings in this regard.

2) *Private right of prior use*

a) *Submissions of the parties (summarised)*

275. The claimant argues that the contested decision contains procedural errors in relation to the determination of the (alleged) prior right of use. Firstly, the discussions regarding 'disputing on the grounds of lack of knowledge' are flawed. Secondly, the decision is based on submissions and evidence, in particular the witness statement set out in Annex JD 77, which were only submitted or produced in the reply to the infringement claim and are therefore precluded. In the first instance, she was neither able nor required to comment on this.

276. In the claimant's view, the defendant has neither sufficiently argued nor proved the necessary objective possession of the invention. There is no submission regarding the alleged use of a sintered metal preparation for the permanent joining of components. Furthermore, even if the particle types SF65, SF70A and SF30 were allegedly used, there could be no question of the inevitable occurrence of the mathematical product according to the invention. In the first instance, the defendant presented the range of values for the mathematical product in the first instance, firstly by reference to the (not determined using the measurement methods specified in the claims) certificates of analysis from the powder manufacturer—which each contained a range specified in the specification and a specific value for the individual batch—and, secondly, by reference to its own measurements of old retained samples, from which a general correlation ('specific surface area according to the measurement method claimed in the claims = $1.3 \times$ specific surface area according to the manufacturer's SOP') was said to result. If these values were taken as a basis, this would result in differing ranges or range limits, which would, moreover, deviate from the value obtained when measuring a specific batch,

as illustrated by Annexes CBH 43 and CBH 48. Apart from the fact that neither the values listed in the certificates of analysis nor the values ‘calculated’ using a conversion factor determined by a methodologically unsound approach are reliable or usable, the defendant cannot argue on the basis of both at the same time.

277. The claimant further argues that the defendant has no intellectual inventiveness. In this context, it should be noted that the court is not bound by German case law. Article 28 of the UPC Agreement is directly applicable or, rather, establishes a ‘lex specialis’ link to national law. In this sense, with regard to the assessment of the right of prior use, the court need not apply national law within the meaning of Article 24(1)(e) of the UPC Agreement, but rather its own law in the first instance. This is also preferable in view of the harmonisation sought by the UPC Agreement and the UPC.
278. The claimant is of the view that the defendant’s submission, at most, suggests that the defendant had opted to use powder types SF30, SF31, SF70A and SF65. However, this does not necessarily entail that the scope of the claim has been realised. The powder types SF30, SF31, SF70A and SF65 are not manufactured in a (nearly) exactly reproducible manner, but are marketed in accordance with their respective specifications, with a certain range of properties and parameters defined by the manufacturer as permissible. When these powder types are procured on a regular basis, the range of possible parameter products is between 27,200 and 115,200 cm^{-1} . Nor do the values of the batches generally lie at the midpoint of the respective specifications. Rather, the upper and lower limits of the respective specifications are regularly utilised to the full, as evidenced by Annex JD 81. In view of the value of the mathematical product required by claim 1 of the patent at issue, which lies in the range from 50,000 to 80,000 cm^{-1} , ‘normal’ use of these powder types, taking into account the manufacturer’s specifications, there would at most be a probability of use. It is possible that the defendant may have fulfilled the claim ‘from time to time’. However, this is not sufficient to establish a right of prior use under Article 28 of the UPC Agreement in conjunction with Section 12 of the PatG.
279. In the claimant’s view, the premise that the defendant had opted for these powder types is also incorrect. It is not apparent from the contested decision how the local division arrived at this conclusion. In its statement of defence, the defendant did not allege prior use in the form of the SF65 powder, but rather in the form of the SF31 powder. However, this was not taken into account in the grounds for the decision. The ‘powder group’ listed in the contested decision corresponds, rather, to that set out in the reply to the infringement claim, which is precluded in this respect. In so far as the defendant had, for the first time – and thus belatedly – put forward a ‘basic formula’ in the reply to the infringement claim, no specification of a particular powder type could be inferred from it. Rather, two powder types, SF65/SF70A and SF70A/SF30/SF31, were used alternatively. From the defendant’s perspective, it was therefore irrelevant which type of powder was used. These four types of powder could have been used interchangeably. Furthermore, no written documentation (i.e. a manufacturing specification, a formula, a laboratory log or similar) for the basic formula had been submitted.
280. The claimant maintains that the scope of the prior use right as accepted by the local division is incorrect. The contested embodiment is not a product subject to prior use. In view of the fundamental principle of the established rights, a prior use right is limited to the use of specific particle types in a specific ‘basic formula’. For pastes of the type covered by the contested embodiment, therefore, a right of prior use would only be conceivable in the form of silver flakes SF70A, SF31 or SF30. In so far as the defendants attempt to substantiate their alleged right of prior use by means of the conversion factor developed by them, a

right of prior use would, at most, apply to the use of SF70A, whilst the use of SF30 would, in the vast majority of cases and in particular in the middle range, lead to products falling outside the scope of the claims.

281. In the defendant's view, the contested decision contains no procedural errors. The local division had taken note of the Claimant's denial on the grounds of lack of knowledge; however, a decision on this point was not required. The witness statement (Exhibit JD 77) and the submission regarding the basic recipe were not precluded. The facts regarding the basic recipes had merely been explained in greater detail in the reply to the infringement claim, based on the numerous examples of prior use which it had already introduced and substantiated in its statement of defence, in order to address the Claimant's objections in the Reply. The second written witness statement by Mr [REDACTED], in Annex JD 77, was merely a clarification and elaboration of the previous witness statement in response to the Claimant's renewed challenge in the Reply. Apart from that, the Claimant had now commented in detail on the submission allegedly precluded.
282. The defendant objects that, in its grounds of appeal, the claimant not only repeats the factual submissions made at first instance but also introduces a new diagram as a further annex (Annex CBH 48). The new submission is, on the whole, out of time. Moreover, it is irrelevant. The diagram submitted by the claimant confirms the finding of the local division.
283. The defendant is of the view that, for the purposes of establishing the right of prior use, it is sufficient that, prior to the priority date, it had decided to manufacture sintered pastes for applications in NTV using silver flakes of types SF65, SF70A and SF30. The decision was taken in order to firmly bond components together by means of a sintering process using the previously used powder types. The previously used silver flakes were selected on the basis of their suitability. The pastes were manufactured in accordance with the basic formula set out. Apart from the selection of suitable powder types, the implementation of the formula is trivial, as it merely involves mixing the powder with a solvent, as has been known in the prior art and practised for many years.
284. In the defendant's view, the specific measured values obtained from the remaining retention samples are decisive and sufficient for proving the right of prior use. The measurements were carried out on retention samples from the batches used at the time, using the measurement methods specified in the claims. This was explained in detail, for example, by the witness [REDACTED] in his statement (see Annex JD 43). The question of whether compliance with the claims should be assumed on the basis of the manufacturer's specifications or on the basis of the conversion factor it calculated from those specifications—and, if so, to what extent—is therefore not relevant to the decision.
285. The defendant takes the view that the local division correctly explained that the intrinsic properties of the silver flakes used are decisive, whereby, due to the production-related properties of the silver flakes SF65, SF70 and SF30 result in a sintering paste that complies with the patent, which exhibits the relevant parameters of specific surface area and bulk density and thus inevitably falls within the scope of the 'mathematical product' of the patent at issue. The intrinsic properties of the silver flakes are thoroughly documented.
286. In the defendant's view, the local division correctly established that the defendant, on the basis of the previously used silver flakes and the resulting sintering pastes, was able to reproduce the patented teaching in a systematic and repeatable manner. The silver flake SF30, with a value of $60,390 \text{ cm}^{-1}$ as well as the silver flake SF70A with

71,838 cm⁻¹ fell squarely within the claimed range of values. The use of the specific silver flakes previously used would, without a doubt, result in the realisation of the range of values claimed in the patent.

287. The defendant is of the view that the local division correctly determined the scope of the prior use right. The prior use right encompasses not only the use of Silberflake SF70A, but also the use of Silberflake SF30. Since the contested embodiment, like the previously used sintered pastes, utilises the silver flake SF30, and since the pastes were used prior to the priority date in the same way as they are today, the contested embodiment is also covered by the prior use right. It is sufficient that the prior use relates to a value falling within the range specified in the patent at issue. A transition to another value, which also falls within the scope of the patent claim, is possible and covered by the right of prior use. This applies all the more so where, as in this case, the products used (silver flakes) inherently exhibit a certain degree of variation due to their inherent properties, which inevitably covers a spectrum of values.

288. Furthermore, the defendant is of the opinion that it is irrelevant which commercially available silver flakes it uses within the range of values covered by the patent, as the patent is not limited to specific types of silver flakes.

b) Article 28 of the UPC Agreement

289. Article 28 of the UPC Agreement stipulates that anyone who has acquired a right of prior use in respect of an invention in a Contracting Member State – had a national patent been granted for that invention – shall also have the same rights in that Contracting Member State in respect of a patent covering that invention.

290. Article 28 of the UPC Agreement therefore does not establish a uniform European right of prior use, but refers to national law. The legal situation in the Contracting Member State for which a right of prior use is claimed is therefore decisive for the recognition of that right. National law comprises not only the statutory provisions but also legal practice and, in particular, the case law of the Contracting Member State (Court of Appeal, UPC-CoA-446/2025, order of 13 August 2025 – Boehringer Ingelheim v Zentiva; UPC-CoA-365/2025, UPC-CoA-367/2025, decision of 17 August 2026 – Knaus Tabbert v Yellow Sphere).

291. The Claimant's argument that, pursuant to Article 24(1)(a) of the UPC Agreement, the UPC Agreement takes precedence over national law is indeed correct, but it does not advance the matter in relation to the issue at hand. Article 28 of the UPC Agreement is applied (preemptively), but it explicitly contains a reference to national law. In so far as the claimant argues that the development of a distinct body of case law on the right of prior use is preferable in view of the harmonisation intended by the EPC and the UPC Agreement, this argument also fails to hold water. Article 28 of the UPC Agreement does not, in fact, establish a uniform European right of prior use.

292. Consequently, the prior user right claimed by the defendant for Germany must be assessed on the basis of German law (Court of Appeal, UPC-CoA-312/2025 UPC-CoA-2025 UPC-CoA-880/2025 UPC-CoA-882/2025, judgement of 2 June 2026 – Kodak v Fujifilm).

c) Right of prior use pursuant to Section 12 of the PatG (German Patent Act)

293. Section 12(1), first sentence, of the PatG provides that the patent shall not have effect against a person who,

the time of filing had already put the invention into use in Germany or had taken the necessary steps to that end. Pursuant to Section 12(1), second sentence, of the PatG, such a person is authorised to exploit the invention for the needs of their own business, whether in their own or third-party workshops.

294. With this restriction, the PatG seeks, on grounds of equity, to protect an existing commercial interest of the prior user – or one already established through preparatory measures – and thereby to prevent the unjust destruction of value created in a legally sound manner. On the basis of an exclusive right that arose only at a later date or was established in a legally relevant manner, the patent proprietor should not be able to exclude from using the invention anyone who has already been using the protected technical teaching or has taken concrete steps towards such use (Federal Court of Justice, judgment of 13 November 2001 – Bending device, X ZR 32/99; judgment of 10 September 2009, Xa ZR 18/08 – Filler; judgment of 14 May 2019, X ZR 95/18 – Protective cladding).

Requirements

295. According to the established case law of the Federal Court of Justice, the acquisition of a right of prior use under Section 12 of the German Patent Act (PatG) requires three elements: possession of the invention, exploitation of the invention, and the acquisition of possession of the invention prior to the priority date of the patent. In view of the dispute between the parties, the requirements for establishing possession of the invention must be considered.

296. According to the established case law of the Federal Court of Justice, possession of the invention is deemed to exist if the technical teaching arising from the problem and its solution is objectively complete and subjectively recognised to such an extent that the actual implementation of the invention is possible (Federal Court of Justice, judgment of 10 September 2009, Xa ZR 18/08 – Füllstoff; judgement of 12 June 2012, X ZR 131/09 – Desmopressin; judgement of 14 May 2019, X ZR 95/18 – Protective cladding). In this respect, a level of understanding must have been attained which makes it possible at any time to carry out the technical teaching in a systematic and reproducible manner (Federal Court of Justice, judgment of 12 June 2012, X ZR 131/09 – Desmopressin). Such an insight is lacking if the technical activity has not yet progressed beyond the experimental stage or if an object has been used which, in individual instances, merely ‘coincidentally’ exhibited the characteristics of the invention (Federal Court of Justice, judgment of 12 June 2012, X ZR 131/09 – Desmopressin). For in both cases, the activity is not underpinned by an understanding that makes it possible at any time to carry out the technical teaching in a repeatable manner; consequently, it is not justified to attach a legal position conferring a right of prior use to it (Federal Court of Justice, judgment of 12 June 2012, X ZR 131/09 – Desmopressin). Such cases of unconscious or, at the very least, insufficiently established use of the technical teaching are distinguished from conduct that is systematically directed towards the realisation of that teaching. This is to be regarded as establishing ownership of the invention, because it is based on the established knowledge that the invention can be carried out. Only to this extent may knowledge of the relationship between cause and effect be relevant (Federal Court of Justice, judgment of 12 June 2012, X ZR 131/09 – Desmopressin). Conversely, it is not necessary for the inventor to possess knowledge of the advantageous effects of the invention beyond the established feasibility of the invention. This is because inventive step cannot be made dependent on conditions that have not become part of the technical teaching, as defined in the patent claim. Knowledge of effects which, according to the information in the description, are supposed to be associated with the use of the subject-matter of the invention but which have not been included in the patent claim cannot therefore be decisive for the question of whether possession of the invention has been established (Federal Court of Justice, judgment of 12 June 2012, X ZR 131/09 – Desmopressin).

Scope

297. According to the case law of the Federal Court of Justice, the prior user is restricted to the use of that acquired right for which all the conditions of the exception were met prior to the filing date or priority date. They are precluded from making further developments beyond the scope of their previous use if these infringe the subject-matter of the protected invention (Federal Court of Justice, judgment of 14 May 2019, X ZR 95/18 – Protective cladding; Federal Court of Justice, judgment of 20 June 2023, X ZR 61/21 – Fibre web). The Federal Court of Justice has held that such an infringement exists where the embodiment alleged to infringe the patent incorporates all the features of the patent claim, whereas this was not yet the case with the previously used embodiment due to the absence of one of these features (Federal Court of Justice, judgment of 13 November 2001, X ZR 32/99 – Bending device).
298. Furthermore, according to the case law of the Federal Court of Justice, an infringement of the subject-matter of the patent may also be deemed to exist if the prior user utilises the invention to a greater extent than is commensurate with their acquired rights, or if they utilise the invention in a manner different from that which was the case prior to the filing date or priority date. Admittedly, the right of prior use must not be interpreted so narrowly that the prior user cannot make economically viable use of it. On the other hand, however, account must also be taken of the fact that the technical teaching of a patent may encompass alternatives which realise the technical and economic advantages of the invention in quantitatively or qualitatively different ways. In any event, the rights acquired by the prior user, who has recognised and utilised only some of these alternatives, do not necessarily justify granting the prior user access to all of these alternatives at the expense of the patent proprietor. The prior user may therefore be precluded from deviations from the prior-used embodiment even if the technical teaching of the invention is realised both by the prior use and by the embodiment used only after the filing date, provided that the latter realises the teaching of the patent claim in a different configuration or method (Federal Court of Justice, judgment of 14 May 2019, X ZR 95/18 – Protective cladding).
299. Whether a different form of use exists in this sense must be determined on the basis of the patent claims as interpreted in the light of the description and drawings. Changes which have no bearing on whether and in what manner the technical teaching of a patent claim and its individual features are realised are irrelevant to the right of prior use. If, on the other hand, at least one feature of the patent claim is realised in a technically different manner than was the case prior to the filing date, this may exceed the limits of the right of prior use. Whether this is the case must be determined on the basis of an overall assessment which strikes a fair balance between the prior user's interest in being able to make economically sensible use of the rights acquired and the patent proprietor's interest in having to tolerate the use of their intellectual property right only to the extent that the technical teaching covered by the patent has been recognised and implemented by the prior user (Federal Court of Justice, judgment of 14 May 2019, X ZR 95/18 – Protective cladding; Federal Court of Justice, judgment of 20 June 2023, X ZR 61/21 – Fibre web).
300. Under Section 12(1) of the German Patent Act (PatG), the effects of the granted patent do not apply to a person who was in possession of the invention at the time of filing or the priority date. According to the case law of the Federal Court of Justice, the protection of the prior user established thereby cannot be undermined by a subsequent limitation of the property right. A subsequent amendment to the claims cannot remove a right to modify the previously used subject-matter that exists thereafter (Federal Court of Justice, judgment of 20 June 2023, X ZR

61/21 – Fibre web).

301. It is further recognised that a prior user's right is covered where a patent for a specific substance contains a range specification for its quantity in the patent claim, and the prior user switches from a value within that range to another value which, however, also lies within the limit specified in the patent claim (Scharen in Benkard, PatG, 12th edition 2023, § 12 para. 22; Keukenschrijver, GRUR 2021, p. 944 (947)).

d) Application to the present case

302. In its appeal, the Claimant challenges (solely) the local division's finding that the defendant possessed the necessary knowledge of the invention for a right of prior use. The challenges brought against this finding are unsuccessful.

303. In so far as the claimant objects that it cannot be inferred from the contested decision on what basis the fulfilment of feature group 2.3 of claim 1 is supposed to follow, and that reference was made merely to data sheets and batch production records, this argument fails from the outset. Page 60 of the contested decision shows that the local division assumed the existence of the necessary possession of the invention on the basis of actual measured values.

Objective possession of the invention

304. The defendant was objectively in possession of the invention at the priority date.

305. Prior to the priority date, the defendant had decided to manufacture sintering pastes for NTV using silver flakes of (at least) the types SF30 and SF70A. The sintering pastes were produced according to two basic formulations, one for spray applications (basic formulation (1)) and one for sintering pastes for screen and stencil printing (basic formulation (2)). For basic formula (1), silver flakes of type SF65 and, later, SF70A, together with solvents, were used. For basic formula (2), silver flakes of type SF70A and, later, SF30, together with a solvent, were used. Each of the basic formulas contained specific details regarding the weight percentages of the aforementioned components. The basic formulations were refined to meet customers' requirements regarding viscosity and workability. In total, the defendant manufactured 45 sintering pastes in accordance with these basic formulations between January 2008 and November 2014.

306. The manufacture of the sintering pastes using these basic formulations is substantiated by the second witness statement from Mr [REDACTED] (Exhibit JD 77), whilst the number of sintering pastes is substantiated by Exhibit JD 78. The facts and evidence presented in the reply to the infringement claim are taken into account by the court. Contrary to the Claimant's view, preclusion pursuant to Rule 222.2 of the RoP has not occurred. The facts and evidence were already submitted at first instance. They are therefore, pursuant to Rule 222.1 of the RoP, subject to the appeal proceedings. In so far as the Claimant complains that it was unable to comment on this, this defect has in any event been remedied in the appeal proceedings. In the appeal, the claimant commented at length on the defendant's submissions in the reply to the infringement claim, including the evidence submitted. Finally, the court has, in particular, no grounds to doubt the accuracy of Mr [REDACTED]'s statement.

307. The defendant intended the sintering pastes for use in the NTV, as is evident from the

respective batch run sheets (Annex JD 40) and the data sheets. The sintering pastes are designated as 'low temp bonding paste' and the product description states: 'Product Description: ... is an Ag paste especially designed for metallisation for chip bonding at low temperatures. ...'. This is further confirmed by the witness statement of Mr (Exhibit JD 77). [REDACTED] sintering pastes were therefore – on the basis of the above interpretation – used in accordance with feature 1 of the patent at issue.

308. It is undisputed that the sintering pastes manufactured by the defendant comply with features 2 to 2.2 of the patent at issue. It can also be established that they were manufactured using silver flakes which fulfil feature group 2.3.
309. The defendant has, amongst other things, produced sintering pastes with the product numbers 6380 0010, 6380 0015, 6380 0020 and 6380 025 in accordance with the basic formula, in which type 70A silver flakes (four times) and type SF30 silver flakes (twice) were used.
310. The defendant manufactured sintering paste 6380 0015 in October 2014 in various variants (different E-batch numbers) (Annexes JD 39, 40). In the batches with the numbers E-2670, 2671, 2672, 2676, 2677 and 2678 of the sintering paste, SF70A silver flakes were used, which in turn originated from a batch with the number 639449 (Exhibit JD 40). In the batches with the numbers E-2673, 2674, 2675, 2679, 2680 and 2681 of sintering paste 6380 0015, SF30 was used. These originated from a batch numbered 639537 (Exhibit JD 40). The defendant had sourced the silver flakes from Ferro Corporation in South Plainfield (USA).
311. Using remaining stock, the defendant had the bulk density and specific surface area of SF70A (batch 639449) and SF30 (batch 639537) measured by 3 P Instrument GmbH & Co. KG in Germany in accordance with the measurement methods specified in the patent at issue. The measurements yielded a bulk density of 3.3 g/cm^3 and a specific surface area of $1.83 \text{ m}^2/\text{g}$ for SF70A (Exhibits JD 43, 45). The mathematical product for SF70A of the batch used is therefore $60,390 \text{ cm}^{-1}$. According to these measurements, SF30 has a bulk density of 3.07 g/cm^3 and a specific surface area of $2.34 \text{ m}^2/\text{g}$ (Annexes JD 47, 48). The mathematical product for the batch of SF30 used is therefore $71,838 \text{ cm}^{-1}$.
312. The defendant manufactured sintering paste 6830 0025 in September 2013 (Exhibit JD 55). SF70A from batch 336269M was used in this paste. Measurements of the residual quantities carried out by 3 P Instruments GmbH & Co. KG revealed a bulk density of 3.20 g/cm^3 and a specific surface area of $1.90 \text{ m}^2/\text{g}$ (Exhibits JD 57, 58). The mathematical product for the specific batch used is therefore $60,800 \text{ cm}^{-1}$.
313. The defendant has therefore demonstrated and proved, on the basis of specific measurements of the residual quantities of the SF70A and SF30 used, that the silver component in each case had a mathematical product falling within the claimed range.
314. The court cannot agree with the Claimant's objections to the specific measurements.
315. In so far as the claimant, on the grounds of lack of knowledge, disputes that the measured batches are residual quantities of the same powder batches used as starting materials at the time, this argument is unsuccessful.
316. However, Rule 171.2 of the RoP does not, as such, preclude this 'denial'. Rule 171.2 of the RoP states that an assertion of fact which is not 'specifically contested' by either party is deemed to be undisputed between the parties. It follows that each party must state its position on the facts alleged by the opposing party, and a blanket denial is inadmissible. A party which does not wish the aforementioned presumption to apply, or which does not

must therefore, firstly, state that it disputes the specific (individual) fact put forward and, secondly, (in principle) substantiate that dispute. A substantiated dispute means that the party must respond to a statement of facts with positive information and specifically set out the reasons why it disputes the fact put forward by the other party.

317. However, a substantiated denial cannot be required if the fact put forward is one that lies outside the scope of the (disputing) party's knowledge and responsibility. In this situation, it is simply not possible for the party, whilst complying with the applicable duty of truthfulness, to respond with positive statements. It cannot be required of that party to invent reasons or evidence purportedly contradicting the fact, or to make unsubstantiated assertions. If the fact lies outside the party's sphere of knowledge and responsibility, it must therefore be permissible for that party to state that it has no knowledge of the fact. The fact is then not deemed undisputed; rather, it requires proof.
318. The fact put forward by the defendant—namely, that the measurements were carried out on the remaining stocks of the batches used—is a fact that lies outside the Claimant's sphere of knowledge and responsibility. Rather, the fact originates solely within the defendant's sphere; it concerns an internal process within the defendant's organisation. In view of this, a declaration of lack of knowledge is admissible.
319. However, the declaration is unsuccessful in the present case. The defendant has proved, by means of the (written) witness statements of Mr [REDACTED] (Annexes JD 43, JD 79) and Mr [REDACTED] (Annex JD 77), that the measurements were carried out on residual stocks that were still in the defendant's laboratory. The court has no grounds to doubt the accuracy of these statements. Contrary to the Claimant's view, preclusion pursuant to Rule 222.2 of the RoP has not arisen with regard to the facts and evidence put forward in the reply to the infringement claim. The statement in paragraph 306 applies.
320. In so far as the claimant, on the grounds of lack of knowledge, disputes that the analyses of the samples carried out in 2024 yielded results which can be extrapolated to the actual composition of the silver powder, as measured in accordance with the claims, at the time of manufacture of the respective pre-use products – on the grounds that the expiry date of the samples had long since passed at the time of analysis and that the analytical laboratory appears to have carried out only 1,250 'taps' in each case and a frequency of 100 'taps/min' was noted in the analysis reports, even though a camshaft operating at a speed of 250 ± 15 rpm was to be used, this 'denial' regarding the alleged lack of transferability is inadmissible. The grounds cited by the claimant as evidence of the alleged lack of transferability do not constitute facts outside her sphere of knowledge. The only fact 'denial on the grounds of lack of knowledge' that lies outside its sphere of knowledge and responsibility is the fact, already discussed, of the testing of residual stock still held by the defendant.
321. It is not apparent that the expiry of the best-before date of the remaining stock is relevant to the measurements. The claimant argues in this regard that changes to the material were inevitable. The claimant is therefore merely expressing a conjecture. This is not supported by specific facts. It cannot be inferred from the submission what specific changes are alleged to have occurred to SF30 and/or SF70A over time, nor that – or why – any such material changes are alleged to have an impact on the tamping density or the specific surface area. This does not satisfy the requirements for a substantiated challenge. This is particularly so because the defendant has argued, and has demonstrated by means of the witness statement from Mr [REDACTED] (Exhibit JD 77) that the substance in question is not unprotected

silver powder, but rather silver flakes with a coating that prevents agglomeration, and that the samples were stored in non-transparent, tightly sealed tins in a cupboard in the defendant's air-conditioned laboratory. As the Claimant is itself a specialist company, it would have been reasonable and possible for it to substantiate its objection and to set out specifically which changes in the material, for what reasons, led to which differing results.

322. The Claimant's reference to the measurement frequencies and the number of tamping operations likewise leaves no room for doubt regarding the measurements. Clause 3.2.3 of DIN EN ISO 787-11 (1995-10) assumes a rotational speed of 250 ± 15 rpm, whereby – subject to documentation requirements (Clause 7(d)) – deviations are permitted. A lower tapping frequency is irrelevant to the result; it merely prolongs the duration of the tapping procedure. Clause 5.2 of DIN EN ISO 787-11 (1995-10) requires that a reading be taken after approximately 1,250 taps and that tamping then continue at intervals of 1,250 taps until the difference in volume is less than or equal to 2 ml. The defendant has convincingly argued that, for the samples whose volume was recorded after 1,250 taps, a total of 2,500 taps were carried out, but the volume was identical to the value recorded after 1,250 taps. In the case of the samples whose volume was recorded after 2,500 taps, 3,750 taps were performed, but the volume was identical to the value recorded after 2,500 taps. Thus, the maximum compressed volume achieved with the minimum number of taps was always recorded in the analysis report.

323. In view of the specific measurements of the batches of SF30 and SF70A used, it is not necessary to clarify whether sintered pastes produced using SF30 or SF70A (also) result in a mathematical product within the meaning of feature 2.3.3 when based on the manufacturer's specifications and/or on a value determined by taking into account the conversion factor calculated by the defendant.

Subjective possession of the invention

324. At the priority date, the defendant also subjectively possessed the invention. It was able to carry out the technical teaching of the patent at issue in a reproducible manner. The implementation of the technical solution of the patent at issue was also based on systematic action.

325. The use of SF30 and SF70A was not merely experimental. Their use was not intended merely to identify a viable solution to a problem. Rather, as already discussed, the sintering pastes produced with SF30 and SF70A were based on the basic formulations, and the sintering pastes were deliberately manufactured and marketed for use in a process for producing a permanent bond between components. In this respect, the defendant acted in a planned and repeatable manner. It subjectively recognised that, with the aid of SF30 and SF70A, a metal sintering preparation was produced which results in a permanent bond.

326. The fact that the defendant – at the request of customers – refined the basic formulations and also manufactured and distributed silver sintering pastes using other types of silver flakes does not alter the decision to use SF30 and SF70A systematically for the production of silver sintering pastes intended for the formation of a permanent bond between components in a sintering process. The refinements made at the customers' request did not result in the sintering paste no longer being capable of forming a solid bond between components. On the contrary, this remained the intended purpose. The use of different types of silver flakes and the decisions relating thereto coexist. There is no relationship of exclusivity or reciprocity between them; consequently, in the present context, it is not necessary for the defendant to have committed (exclusively) to the use of a specific

type of powder. The decision to manufacture a sintering paste (also) using a different type of silver flake, for example SF65 and SF31, does not result in the loss of the decision to (also) use SF30 and SF70A.

327. It should also be noted in this context that the patent at issue is not limited to a specific type of silver flake.

328. The fact that the defendant did not recognise the technical significance and effect of the mathematical product within the meaning of feature group 2.3 of the patent at issue does not preclude subjective possession of the invention. In accordance with the case-law set out in paragraph 296, it was not necessary for the defendant to have such an understanding or to have taken such a decision in order to establish possession of the invention. Consequently, no decision was required to the effect that only those silver flakes whose mathematical product falls within the scope of the claims of the patent at issue were to be used for the production of the sintering paste.

329. Finally, contrary to the Claimant's view, it cannot be established that the defendant had previously used sintering pastes which – in accordance with the case-law set out in paragraph 296 – merely exhibited the characteristics of the invention 'by chance' in individual samples. It is true that the values of the parameters 'tapped density' and 'specific surface area' vary due to manufacturing processes, so that the use of SF30 and SF70A results in different values for the mathematical product. However, it cannot be established that these variations are so significant that only in isolated cases is there 'by chance' a mathematical product falling within the range specified in the claims of 50,000 – 80,000 cm⁻¹. Rather, the mathematical products of the specific Silverflake batches used – 336269M (SF70A), 639449 (SF70A) and 639537 (SF30), with which several variants of silver pastes were produced – all lie within the range specified in the claim (para. 311 et seq.).

330. Furthermore, measurements in accordance with the claims of a further 2,020 batches used in 2020, as shown in the table displayed below (measurements in rows 2, 3 and 7, Annex JD 79), rule out the possibility that the mathematical product was achieved only by chance in individual samples.

Material	Charge	Messung			Zertifikat			Faktor	Durchschnitt
		SA [m ² /g]	TD [g/ml]	Produkt	SA [m ² /g]	TD [g/ml]	Produkt		
SF30 Ag Flake	639537	2.34	3.07	71838	1.76	3.1	54580	1.32	1.28
SF30 Ag Flake	686300	2.29	3.11	71219	1.74	3.1	53940	1.32	
SF30 Ag Flake	685412	2.13	3.18	67734	1.69	3.3	55770	1.21	
SF65 Ag Flake	686247	1.38	3.66	50508	0.99	3.7	36630	1.38	1.39
SF70A Ag Flake	639449	1.83	3.3	60390	1.35	3.3	44550	1.36	
SF70A Ag Flake	336269M	1.9	3.2	60800	1.26	3.1	39060	1.56	
SF70A Ag Flake	664298	1.76	3.31	58256	1.4	3.3	46200	1.28	
Durchschnitt gesamt								1.34	

331. The measurements in rows 2, 3 and 7 also all result in a mathematical product within the scope of the claim (71,219 cm⁻¹, 67,734 cm⁻¹ and 58,256 cm⁻¹). Even if batches from 2020 cannot establish a right of prior use, their measured mathematical product may, in the present case, be taken as an indication that the features are realised not merely in isolated instances. The measurements are, moreover, taken into account by the court. The objection regarding the delay is not upheld. The measurements were already submitted at first instance. In any event, the claimant had sufficient opportunity to comment during the appeal proceedings.

332. Finally, it must be borne in mind in the present case that SF30 is itself

(paragraph [0080], table). It is described as falling within the scope of the claims, and a mathematical product of $59,400 \text{ cm}^{-1}$ (tapped density 3.3 g/cm^3 and a specific surface area of $1.8 \text{ m}^2/\text{g}$) is stated. This, too, contradicts the assumption that feature group 2.3 is realised only sporadically and by chance.

333. In view of this, the parties' arguments regarding an alleged probability of use based on the manufacturer's specifications or on values calculated by the defendants using a conversion factor are irrelevant. Nor is it necessary to resolve the parties' dispute regarding the (alleged) intrinsic properties of SF30 and SF70A.

Scope

334. The defendant is entitled to make use of its acquired rights. It may continue or repeat the acts leading to the establishment of the right of prior use.

335. As the contested embodiment uses SF30-type silver flakes (Annexes CBH 16, JD 89), their manufacture for use in a sintering process and the distribution of the contested embodiment for use in a sintering process are covered by the prior use right relating to SF30.

336. Furthermore, a right of prior use has arisen in respect of a sintering paste containing SF70A. The defendant is (also) entitled, on the basis of this right of prior use, to manufacture the contested embodiment and to use or distribute it for use in NTV for the permanent joining of components. The other type of silver flake does not preclude this. The use of SF30 (in the contested embodiment) instead of SF70A (in a previously used sintering paste) does not constitute an exploitation of the technical teaching of the patent at issue to a greater extent or in a modified manner. This does not result in the patent at issue being implemented differently, either quantitatively or qualitatively. The patent at issue is not limited to a specific type of silver flake; the only relevant factor in this respect is that it is a silver flake corresponding to feature group 2.3.

337. Nor is the defendant's right of prior use limited to the use of the specific batch of SF30 and SF70A used prior to the priority date. Similarly, the right is not limited to silver flakes which exhibit the specific measured mathematical products. The use of other batches or of silver flakes of the aforementioned types which have a different mathematical product does not constitute a more extensive or modified application of the technical teaching of the patent at issue. In feature 2.3.3, the patent at issue specifies a range for the mathematical product. No distinction is made with regard to the individual values falling within this range. In particular, the patent at issue does not associate specific or individual values within the range claimed with any particular technical or economic advantages, such as a 'better' or 'worse' permanent bond between the components. According to the technical teaching of the patent at issue, a metal sintering preparation as claimed results in a permanent bond between components within the meaning of the patent at issue. If the mathematical product of SF30 and SF70A lies within the claimed range, the use of a batch other than those used prior to the priority date, or the presence of a different mathematical product, does not result in the realisation of a different or additional feature. 'Only' feature group 2.3, and in particular feature 2.3.3, is realised in all cases.

338. The right of prior use also encompasses the use of method claim 5.

Application pursuant to Rule 36 of the RoP

339. In view of the defendant's right of prior use, it is not relevant to the decision whether the defendant exhibited the contested embodiment at the PCIM ('Power Conversion and Intelligent Motion') in Nuremberg from 9 to 11 June 2026, or how it advertised it there. The application pursuant to Rule 36 of the RoP, set out in the document of 16 June 2026, which seeks to introduce new factual submissions in this regard, must therefore in any event be dismissed as unfounded.

III. France, Italy, Romania

1) *Acts of use*

a) *Submissions of the parties*

340. In the claimant's view, the local division wrongly refused to order the defendant to pay damages for infringement of the French, Italian and Romanian parts of the patent at issue.

341. It is true, however, that the claimant is not aware of any specific acts of infringement in the three Member States mentioned, and is therefore unable to allege any such acts. However, the legal assessment is flawed, particularly in view of the specific circumstances of the present case. Apart from the fact that the use of the patent in Germany is not lawful due to the absence of a right of prior use, the assumption that, in the event of lawful use of the patent in one Contracting Member State, there is no risk of infringement in the other Contracting Member States is incorrect. The actual likelihood that the defendants will also use the patent in the other contracting member states is independent of whether the use at the outset is lawful or unlawful.

342. From an economic perspective, the defendants do not use the patent at issue in Germany (which is only decisive for the question of legality), but within the single European market. There is no factual or economic distinction between distribution in the various contracting Member States. It should also be borne in mind that the defendant (both then and now) is part of a globally operating group and drafts its data sheets for customers in English as the international working language, which would make no sense if distribution were restricted to Germany alone. In the claimant's view, the defendant's submissions regarding the alleged prior rights of use in the specified contracting Member States must also be taken into account. According to the claimant, it follows from these submissions that the defendant had also distributed products to France, had prepared promotional material in Romania, and had always intended the relevant products for international distribution.

343. In addition, in the claimant's view, the defendant has emphatically argued that it 'naturally' also has a right of prior use in the other contracting member states, namely France, Romania and Italy. This demonstrates that the defendant is, in fact, of the view that it is entitled to market the contested embodiment in the other patent-protected contracting member states as well.

344. From the defendant's perspective, the local division correctly assumed that, as a result of the

right of prior use in Germany, there was no risk of infringement in relation to France, Italy and Romania. The Claimant had not alleged any specific acts of infringement in the aforementioned contracting member states. The acts alleged in relation to Germany could not be relied upon, as they constituted lawful acts by virtue of the right of prior use. Law-abiding conduct gives no cause to fear any acts of infringement (in other contracting member states), either immediately or in the near future.

345. In so far as the Claimant now emphasises an ‘economic perspective’, this does not alter the matter. The basis for assuming a risk of infringement must always be the unlawfulness of the underlying act, as only this can justify a corresponding injunction. Furthermore, the presumption of a risk of infringement cannot exist because the scope of protection under the relevant intellectual property rights in the individual Contracting Member States is not identical. Moreover, the claimant is merely engaging in speculation here, without putting forward any concrete arguments.

346. The Claimant’s first reference to the defendant’s submissions regarding the right of prior use is of no more help. The submission on the right of prior use specifically concerned the demonstration of the conditions for such a right prior to the priority date and thus proved that the defendant held rights to use the mark in those countries, but not that acts of infringement were imminent or had taken place. The question of the right of prior use must be strictly separated from the act of use.

b) Legal standard

347. The substantive legal requirement for an injunction is a finding of actual patent infringement or a finding of imminent patent infringement.

348. If an actual patent infringement is established, this finding generally implies a risk of further or future acts of infringement. This applies even to acts of use which the patent infringer has not yet committed (Court of Appeal, UPC-CoA-789/2025, UPC-CoA-813/2025, Order of 6 March 2026 – Dyson v Dreame), and also in respect of those Contracting Member States in which no use has yet taken place (Court of Appeal, UPC-CoA-523/2024, Order of 3 March 2025 – Sumi v Syngenta). This is justified by the fact that the infringer has demonstrated that they are prepared and willing to use the protected subject-matter or process without authorisation. This unlawful conduct generally gives rise to the presumption that the infringer will also use, or intends to use, the technical teaching of the patent in the future (in other Contracting Member States), irrespective of the form of use to date and/or the geographical scope of use to date.

349. A threatened patent infringement is deemed to exist where a patent infringement is imminent. For this to be the case, the potential infringer must have already fully completed the prerequisites and/or preparations for infringing the patent, such that the infringement is merely a matter of taking or implementing the final step (Court of Appeal, UPC-CoA-446/2025, Order of 13 August 2025 – Boehringer Ingelheim v Zentiva).

c) Application to the present case

350. The Claimant itself states that it cannot allege any specific (already occurred) acts of infringement in the Contracting Member States of France, Italy and Romania. It is not aware of any such acts. Consequently, in view of the undisputed submissions of the parties, it is not possible to establish that acts of infringement have already taken place in these Contracting Member States.
351. A risk of infringement in these three Contracting Member States can therefore only be considered if the defendant's acts in Germany – which are undisputed as such – could be relied upon to substantiate the risk of infringement. In this respect, however, the local division rightly held that the use of the patent at issue in Germany is lawful on the basis of the right of prior use and therefore cannot give rise to a risk of infringement. A risk of infringement presupposes, in fact, a finding of actual patent infringement. However, a patent infringement is to be understood (solely) as the unlawful use of the technical teaching of a patent. Only then is the presumption justified that the patent infringer will continue to use a patent without authorisation in the future. In the case of a lawful user, however, this cannot generally be assumed, as they have so far acted in accordance with the law.
352. No imminent patent infringement can be established in the present case. It is undisputed that the defendant is part of an internationally active group of companies which, amongst other things, has sites in France and Italy and advertises its products internationally. The defendant also uses (or has used) data sheets in English, including for the contested embodiment. Furthermore, the defendant has argued that it is also entitled to a right of prior use in France, Italy and Romania, and to substantiate this, it claims that in 2009 it supplied sintered paste 6380 0020 to the customer Valeo in France and, in 2013, sintered paste 6380 0025 to the customer Eurofarad (Exxelia). It is also true that Germany and the other Member States mentioned form part of the EU single market. All of this may support the finding that the defendant is, in principle, in a position to market the contested embodiment (as well) in France, Italy and Romania. However, this is not sufficient to assume that a patent infringement is imminent. There is no indication that a patent infringement is imminent. The defendant markets not only the contested embodiment but also other products throughout Europe. The Claimant's submissions do not reveal any completed preparatory acts that would lead to the conclusion that the defendant need only take the final step to now (unlawfully) infringe the patent in France, Italy and/or Romania through the distribution of the contested embodiment. Furthermore, with regard to Italy, the defendant has not put forward any specific deliveries or offers (within the scope of the right of prior use). The same applies to Romania. The defendant has cited only one distribution partner in Eastern Europe (Mr [REDACTED] in Hungary). Finally, the deliveries to France alleged by the defendant took place before the priority date (3 November 2014). Furthermore, the publication of the patent at issue dates from August 2018, which means that approximately nine and six years, respectively, elapsed between the alleged deliveries to France and the priority date, and that the patent at issue has now conferred protection for approximately eight years. Despite this period, the claimant was unable to adduce any evidence of use or preparatory acts.

2) *Right of prior use*

353. In the absence of acts of use in France, Italy and Romania, the defendant's objection that a right of prior use also existed in their favour in France, Italy and Romania is just as irrelevant as the objection regarding unlawful removal.

D. Costs ruling in the contested decision

354. The local division's decision on costs is not open to criticism. The apportionment of costs (60:40) reflects the respective successes and failures in relation to the infringement action and the counterclaim for revocation. The local division was correct to take into account that the infringement claim was dismissed in its entirety and that the counterclaim for revocation led to a restriction of the French, Italian and Romanian parts of the patent at issue.

E. Costs

355. The order for costs is based on Article 69(1) of the UPC Agreement.

DECISION:

- I. The Claimant's appeal is dismissed.
- II. The defendant's appeal is dismissed.
- III. All further applications by the parties are dismissed.
- IV. The claimant shall bear the costs of the appeal against the infringement claim. The defendant shall bear the costs of the appeal against the counterclaim for annulment.
- V. The value in dispute for the appeals against the infringement claim and against the counterclaim for nullity is set at €1,000,000.00 in each case.

**Ulrike
Voß**

Ulrike Voß, Presiding Judge

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Unified Patent Court
Einheitliches Patentgericht
Juridiction unifiée du brevet

Jeroen Meewissee, technically qualified judge



Max Tilmann, technically qualified judge

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On behalf of the Registry