



Local Division The Hague
UPC_CFI_478/2025
UPC_CFI_585/2026

ORDER

of the Court of First Instance of the Unified Patent Court
issued on 11 May 2026
concerning R.190

CLAIMANT:

Avient Protective Materials B.V.

Urmonderbaan 22, Building 200, 6167 RD Geleen The Netherlands

represented by: Tjibbe Douma, Laurens Buijtelaar and Philippa van Hengel (of Bird&Bird)

DEFENDANTS:

1. Xingi Technology Co., Ltd

2. Jiangsu Jiuzhou Xingji High-Performance Fiber Products Co., Ltd.

both established and domiciled in the People's Republic of China

represented by: Michael Rüberg, Karl-Heinz Metten and Lars-Oliver Eggersdorfer (of Boehmert&Boehmert)

PATENT AT ISSUE:

European patent n° **2 791 402** (the “**patent**”) of Avient Protective Materials B.V.

DECIDING JUDGES [R. 351.1(c) RoP]:

This order is issued by the judge-rapporteur.

SUMMARY OF FACTS AND PROCEDURE

1. Claimant (“**Avient**”) initiated this infringement action, alleging that defendants (collectively the “**Xingi Group**”) infringe the patent. The patent, granted on 28 November 2018 on an application dated 14 December 2011, pertains to *Ultra-high Molecular Weight Polyethylene (“UHMWPE”) Multifilament Yarn*. Infringement of three sets of claims is asserted, namely:
 - claims 2-4 (which depend on claim 1) claiming multifilament UHMWPE yarn;
 - claims 8-10 concerning a *composite article* comprising any one of the yarns according to claims 1-4 and
 - claims 12-15 relating to a *panel* comprising a plurality of *sheets* containing the yarns of claims 1-4, wherein each sheet preferably comprises at least 2

monolayers, more preferably at least 4 monolayers, with further properties defined in claims 13-15).

These three groups of claims are asserted to be infringed with the following products of the Xingi Group: 'Xingi UD Fibers' (claims 2-4), 'Xingi UD Fabrics' (claims 8-10) and 'Xingi UD Panels', which panels are comprised of UD sheets (claims 13-15).

2. Claims 12-13 of the patent read as follows:

12. A panel comprising a plurality of sheets containing the yarns of any one of claims 1-4, wherein each sheet preferably comprises at least 2 monolayers, more preferably at least 4 monolayers.

13. The panel of claim 12, said panel being rigid, having a flexural strength of at least 10 MPa as measured before impacts and having an Eabs (J/[kg/m²]) of at least 170 against an AK47 FMJ MSC projectile, more preferably of at least 190, even more preferably at least 210, most preferably at least 230, said Eabs being determined for an areal density of the panel of about 15.5 kg/m².

14. The panel of claim 12, said panel being flexible wherein the plurality of sheets is assembled without compressing and having an Eabs (J/[kg/m²]) of at least 370 against a 0.357 Magnum JSP projectile, more preferably of at least 390, even more preferably at least 410, yet even preferably at least 430, most preferably at least 450; said Eabs being determined for an areal density of the panel of about 3.1 Kg/m².

15. The panel of claim 14, said panel having an Eabs (J/[kg/m²]) against a 17 grain FSP projectile of at least 35, more preferably at least 38, most preferably at least 41; said Eabs being determined for an areal density of the panel of about 3.1 Kg/m².

3. In the description of the patent the following is mentioned:

'networks of the inventive yarns can be comprised in cut resistant garments, e.g. gloves and also in anti-ballistic products, e.g. bullet-proof panels, vests and helmets. Therefore, the invention also relates to such articles.' (in para [0030]) and

'Multi - layered composite articles proved very useful in ballistic applications, e.g. body armor, helmets, hard and flexible shield panels, panels for vehicle armouring and the like. Thus, the invention also relates to ballistic resistant articles as the ones enumerated hereinabove containing the inventive yarns.' (in para [0031])

The panels of claims 12-15 concern such ballistic use. The panels are further defined inter alia by 'ballistic performance' and/or 'back face deformation' ("BFD") tested by assessing the impact of projectiles of various types on a sample, as defined and described in para. [0036] of the patent.

4. On 12 December 2025, the Xingi Group filed a statement of defence arguing non-infringement. At the same time, it filed a (separate) counterclaim for revocation with a large number of invalidity attacks, requesting the patent to be invalidated in its entirety.
5. Avient's R.190 RoP application (the "**Application**"), filed on 27 March 2026, concerns evidence regarding asserted infringement by the use of panels comprising a plurality of

sheets of fabrics containing the yarns of claims 1-4 for ballistic purposes according to claims 13-15.

6. On 17 April 2026 Avient filed its reply to the statement of defence in the infringement action as well as its statement of defence to the counterclaim and a conditional application to amend the patent.

REQUEST AND PARTY SUBMISSIONS

7. With the Application, Avient requests the court to:
 - a) order the Xingi Group to produce, within 14 days of the order, the evidence specified in Section IV above [reproduced in the table below, the court], in its original form and, where the originals are in a language other than English, accompanied by a certified English translation (Rule 190.4(a) RoP);
 - b) impose such confidentiality measures as the Court considers appropriate pursuant to Rule 190.1, second sentence RoP and Rules 262 and 262A RoP;
 - c) specify the sanctions applicable in the event of non-compliance pursuant to Rule 190.4(b) RoP; and
 - d) record that, should the Xingi Group fail to comply with the order, the Court shall take such failure into account when deciding on the issues in question, including by drawing the adverse inference that the withheld evidence would have been adverse to the Xingi Group's position, pursuant to Rule 190.7 RoP.

The evidence specified in section IV of the Application, referred to in a) above, is reproduced in the following table (hereafter: the "**Table**"):

#	Subject	Evidence requested	Purpose
1	The Infringing Sheets (i.e. J280, J300-, J400- and J500 UD Fabric) used in the manufacture of rigid and flexible panels contained in the Infringing Bulletproof Products.	<p>(a) Sufficient samples of representative ballistic sheets/UD Fabric for each product line (i.e. J280, J300-, J400- and J500), and in any event:</p> <p>(i) primarily, at least 30 kg each of J280_16oS_4UD, J280_12oH_2UD, J300_16oS_4UD, J300_12oH_2UD, J400_12oH_2UD, and J500 UD Fabric variants, or equivalent commercial samples thereof;</p> <p>(ii) alternatively, at least 30 kg each of J300_12oH_2UD and J300_13oS_4UD, or equivalent commercial samples thereof.</p> <p>(b) all ballistic test reports, V50 test results and Eabs calculations in Xingi Group's control for each panel type manufactured from those sheets or their current equivalents.</p>	To further demonstrate infringement of claims 13, 14 and 15; to enable ballistic testing of panels at the reference areal densities specified in claims 13-15; to verify or supplement Meulman's calculations with the Xingi Group's own test data.
2	English version of the company Introduction Video (J500).	<p>(a) All versions of the company Introduction Video removed from public access during these proceedings, including the original English-language version;</p> <p>(b) all internal communications relating to the decision to remove or replace the video, including communications concerning the removal of the world map and European arrow.</p>	To further demonstrate that J500 UHMWPE Fiber was offered in the relevant territories; to address the Xingi Group's conduct in removing evidence during proceedings.

8. The Application contains the following substantiation (in paragraphs 12, 16-22):

12. (...) The request primarily encompasses at least 30 kg of sheet material of the UD sheet grades highlighted in bold above, the selection representing a hard ballistic and a soft ballistic grade for each yarn type J280, J300, J400 and J500. Alternatively, the request encompasses at least 30 kg metres each of J300_120H_2UD and J300_130S_4UD. Where the exact variant is no longer available, an equivalent commercial sample is requested, recognizing that the Xingi Group's product portfolio may have evolved somewhat since the 2023 documentation. The requested quantity accounts for an in duplo ballistic evaluation according to the methods listed in the patent claims. No broader or more general production is sought.

16. As to item 1: the ballistic performance data in Xingi Group's control for the J280, J300, J400 and J500 panels is the most probative evidence available on the question of infringement of claims 13-15. It is credible — and in the circumstances inevitable — that such data exists: no commercial manufacturer of ballistic sheets markets its products as providing AK47, .357 Magnum or FSP protection without internal testing to that effect.

17. Avient requests both physical samples and internal test data, for distinct but related reasons.

18. As regards physical samples of the Infringing Sheets: Avient has been able to obtain samples of Xingi UD Fabrics which includes the Xingi UHMWPE Fibers — part of which have been analysed and are referenced in the Texttechno Test Reports (Exhibits BB12.A and BB12.B). However, the amounts obtained are insufficient to assemble the full range of panels required for ballistic testing specified in the description and especially in claims 13-15. Ballistic testing cannot be performed on raw yarn — it requires panels of sufficient areal density assembled from adequate quantities of UD sheets. The UD sheets are intermediate products in a B2B supply chain and the UD sheets are not available for purchase through ordinary commercial channels. The Xingi Group, by contrast, manufactures these sheets itself and has them in its possession. Sufficient samples of representative sheet variants are therefore necessary to enable Avient — in its own laboratories as testing facility, and if necessary at an independent testing facility such as TNO — to carry out ballistic testing at the reference areal densities specified in claims 13-15, rather than relying on calculations based on Xingi Group's own published marketing data.

19. As regards test data: the Xingi Group has challenged Meulman's methodology in its Statement of Defence and has argued that "actual testing" would be needed to demonstrate infringement. The Xingi Group cannot credibly take that position whilst simultaneously withholding the very test data that would either confirm or refute Meulman's methodology. The Xingi Group's own Product Catalogues (Exhibits BB03 and BB04) and UD Fabric Products Data Sheet (Exhibit BB10) contain ballistic performance tables — tables which necessarily presuppose testing.¹⁸ [footnote 18: See Exhibits BB03, BB04, BB07 and BB10] The Xingi Group must have tested these panels to be able to make the marketing claims it does. Production of the Xingi Group's V50 test results and Eabs calculations will enable the Court to assess the reliability of Meulman's methodology against the Xingi Group's own empirical data, and will resolve the very uncertainty that the Xingi Group has sought to create by challenging that methodology without offering any counter-evidence of its own.

20. Hence, even though Avient's primary position is that it has sufficiently established infringement and the Xingi Group's defence is insufficient, in light of the Xingi Group's statement that actual testing needs to be performed — without providing any test data of its own — Avient seeks to bolster its infringement arguments with testing samples and the Xingi Group's own data (which it apparently does not want to submit).

21. Avient's request is limited to the specific sheet variants directly in issue (the Infringing Sheets) – being the representative sheet types from which the panels contained in the Infringing Bulletproof Products are manufactured, or equivalent commercial samples thereof where the exact variants listed would no longer be available - and to the specific categories of material and data that are necessary to fully address the Xingi Group's challenge. (...)

22. As to item 2: Avient requests both the video itself and the internal communications relating to its removal, for distinct reasons. The original English-language video constitutes direct evidence of an offer of the J500 Fiber in the English language to a European audience, including by virtue of the world map with an arrow pointing to Europe displayed therein. Although Avient has preserved a hyperlink and a snippet of the video as originally submitted with the Statement of Claim, the Xingi Group has removed the original from public access in the course of these proceedings, and the full version – including all frames and audio – is now exclusively in the Xingi Group's control. Production of all versions of the video is therefore necessary to ensure that the Court has before it the complete and unedited record of what was offered, to whom and in what form. (...)

9. In its response, the Xingi Group request:

that the Application be dismissed in its entirety.

In the alternative, and strictly as an auxiliary request, the Xingi Group request:

(i) that any documents or information ordered to be produced be designated as confidential pursuant to Rules 190.1, 262 and 262A RoP;

(ii) that access to such confidential information be restricted to a limited number of designated persons (confidentiality club), in particular external counsel and independent experts; and

(iii) that such information be used exclusively for the purposes of these proceedings and not disclosed or used in any other context.

10. The Xingi Group contends that the threshold of R.190 RoP is not met, in particular because Avient has not sufficiently substantiated its infringement case, the measures are neither necessary nor appropriate and the Application seek broad categories of internal data and communications whereas there is no legal basis in the UPC framework for such 'general discovery'. It submits inter alia the following:

On pages 2-4:

Contrary to Claimant's assertions, it is entirely permissible for Defendants to plead lack of knowledge with respect to the alleged ballistic performance and derived parameters of the accused products under specific test conditions. A clear distinction must be drawn between:

- *intrinsic product characteristics, such as composition, structure or manufacturing parameters, which are within the Defendants' direct knowledge as manufacturer; and*
- *performance characteristics under defined testing conditions, which depend on external variables and are not inherent, fixed properties of the product.*

The present case clearly concerns the latter.

As set out in the Claimant's own infringement case, the alleged infringement of claims 13–15 is not based on any identifiable structural feature of the products, but on calculated and inferred performance values (in particular Eabs values derived from assumed V50 values at specific areal densities). These values are not directly measurable product properties, but depend on:

- *the assembly of panels from intermediate materials (UD sheets),*
- *the selected areal density,*
- *the test protocol and setup, and*

- *the methodology and assumptions used for extrapolation and calculation.*

As further reflected in the Statement of Defence (pages 10 subs.), the Patent itself requires testing at specific areal densities, and the Claimant's proposed "mathematical transformation" is disputed as not technically feasible. This underscores that infringement can only be assessed on the basis of actual testing under defined conditions, not by reference to inherent product features [emphasis added by the Court]. Accordingly, even a manufacturer does not possess a definitive set of values corresponding to the specific test scenarios constructed by the Claimant and its expert. It follows that the Defendants cannot be expected to admit the Claimant's alleged performance values, which are not based on direct testing of the accused products under the claimed conditions, but derived from assumptions, extrapolations and modelling steps applied by the Claimant.

In these circumstances, pleading lack of knowledge is not only permissible but required. Claimant bears the burden of proof where infringement depends on test-dependent behaviour rather than intrinsic characteristics. (...) In such a scenario, the Defendants are under no obligation to generate or disclose test data in order to fill that gap.

On page 8:

In sum, Claimant's own submissions confirm that the products were accessible on the market and capable of being tested. The alleged inability to obtain "sufficient amounts" merely reflects a preference for a more extensive testing regime, not a genuine lack of access to relevant evidence. It therefore cannot justify a far-reaching disclosure order under Rule 190 RoP.

On page 10:

In sum, the request for at least 180 kg of ballistic sheets is neither necessary nor proportionate, but constitutes an attempt to obtain extensive material for the purpose of developing and refining the Claimant's case. Such use of Rule 190 RoP is impermissible and the request must therefore be rejected.

On page 11 (regarding the request for internal testing data):

(...) The reference to marketing materials and performance tables does not justify disclosure. Even if such materials presuppose that certain tests have been conducted, this does not establish that (i) the underlying data corresponds to the specific test configurations, areal densities and methodologies relied upon by the Claimant, or (ii) such data would be determinative for the infringement analysis in this case. As explained above, the alleged infringement depends on behavior under specific conditions, not on general performance characteristics. Internal data generated under different conditions would therefore not resolve the issues in dispute and cannot be considered "necessary for deciding the case" within the meaning of Rule 190 RoP.

GROUNDS FOR THE ORDER

11. Avient requests four types of evidence, specified in the Table (reproduced in 7. above):

- 30 kg samples of several variants of Xingi UD Fabrics (1(a) in the Table)
- Xingi internal documentation relating to ballistic properties of these Xingi UD Fabrics (1(b) in the Table) and
- All versions, including the original English language version, of a company Introduction Video removed from public access during these proceedings (2(a) in the Table)

- All internal communications concerning the removal or replacement of this video (2(b) in the Table)

12. As follows from Art. 59(1) UPCA , R.190(1) RoP and Art. 6 of the Enforcement Directive¹, the Court must consider the following cumulative conditions when assessing the Application:²

- (i) The requesting party must have presented plausible evidence “reasonably available” in support of its claims;
 - (ii) The evidence to which access is requested must be “specified” and lie in control of the other party;
 - (iii) The other party’s confidential information must be protected;
- Any order to produce evidence must satisfy the requirements of necessity, proportionality, equity, and fairness.³

(i) reasonable evidence regarding the entitlement to the patent, the infringement and validity

13. The Xingi Group does not dispute Avient’s entitlement to the patent. Further, the JR is sufficiently convinced a prima facie case of infringement of claims 13-15 exists, based on the evidence presented for infringement of claims 2-4 and claims 8-10 with, respectively, the Xingi UD Fibers and the Xingi UD Fabrics, as set out in the Application and the SoC to which is referred. While the Xingi Group contests that the Xingi UD Panels fulfil the ballistic properties/ features of those claims, the proper evaluation of infringement is as a principle for the panel in the proceedings on the merits. The JR also takes into consideration that it is for the verification of precisely those ballistic features that the evidence is requested, which implies – for the purpose of application of R. 190 RoP – that it cannot be expected from Avient to already be conclusive in its argumentation (and evidence) on these features. It is also taken into consideration that the Xingi Group asserts that infringement of claims 13-15 can only be established with actual testing [of ballistic performance of the Xingi UD Panels] under the conditions defined in the patent. One of the purposes of the Application is to acquire Xingi UD Panels precisely for that purpose: actual testing under the claimed conditions.

14. As to validity, it is up to the alleged infringer to bring forward arguments, substantiated by facts, that the patent is invalid. The Xingi Group has submitted in its SoD, various grounds for invalidity, which are refuted by Avient in its defence thereto. In this respect, it is relevant that the patent was examined during prosecution by the EPO and granted. This entails a presumption of validity for the purposes of this request. As with infringement however, the evaluation of the validity arguments as a principle is for the panel in the proceedings on the merits. It is therefore not for the JR to preclude in depth

¹ Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights

² cf. LD The Hague Order of 14 October 2024 in case UPC_CFI_327/2024 (Winnow v Orbisk), para. 8, confirmed and further developed in subsequent case law of the UPC including CoA order of 24 September 2024, in case UPC_CoA_298,299,300/2024 (Oppo v Panasonic).

³ Condition 4 follows from the general rules of Articles 41(3) and 42 UPCA, as well as Art. 3 Enforcement Directive.

on these issues, unless there would be a clear-cut case of invalidity. The Xingi Group has not alleged, nor has the JR identified, such a case, as it currently stands.

(ii) The requested evidence: specification and control

15. That the requested evidence is within the control of the Xingi Group is not really disputed. Avient inter alia requests the production of Xingi UD Fabrics/sheets of six specified product lines, alternatively of two different product lines, as well as specific internal documentation relating thereto (see the Table item 1). The evidence is thus sufficiently specified. The same holds for the evidence specified in the Table at item). This is also not disputed by the Xingi Group.
16. The related internal documentation regarding ballistic properties of those fabrics, is also sufficiently specified. The same applies to the Introduction Video and related internal documentation.

(iv) Necessity, proportionality, equity and fairness

17. The Xingi Group contests the necessity, proportionality and equity of the requested evidence. This defence is partially successful.
 - *1(a) The UD Fabrics*
18. The Court fails to understand why it is necessary and proportional to test six different UD Fabrics, as set out in the requested evidence at 1 (a) of the Table, whereas to justify the requested measures in the infringement action, the establishment of infringement with one product generally suffices. This is even more relevant because considerable quantities of each variant are apparently needed for proper testing.
19. The provision of UD Fabrics will therefore be limited to the two types of Fabrics requested in the alternative. Where the exact variant is no longer available, an equivalent commercial sample must be provided, recognizing that the Xingi Group's product portfolio may have evolved somewhat since the 2023 documentation available to Avient, on which it based its requests.
20. The requested amount of thirty kilos, to which the Xingi Group also objects, will not be altered as Avient substantiated that such amount is necessarily for a proper testing in dublo of the ballistic performance according to the methods of the patent.
21. The Xingi Group seems to agree a lack of necessity by asserting that Avient was able to acquire UD Fabrics on the market. However, it does not challenge Avient's position that it could only obtain small amounts and is not able to acquire the considerable quantities of UD Fabrics (also referred to as UD sheets) needed to assemble UD Panels required for ballistic testing. That the UD Fabrics and UD Panels are not available (in sufficient quantities) through ordinary commercial channel and only in a B2B supply chain, is not contested. Furthermore, ballistic testing is deemed to be necessary and relevant for establishing infringement of claims 13-15. This argument is therefore dismissed.

- *1(b) Xingi internal ballistic test reports etc*

22. In addition to the UD Fabrics as such, Avient also requests to provide “*b) all ballistic test reports, V50 test results and Eabs calculations in Xingi Group’s control for each panel type manufactured from those sheets or their current equivalents’* regarding the specified UD Fabrics (1 (b) of the Table). At this moment, the Court fails to see that the provision of internal testing data by the Xingi Group is necessary for deciding the case. The Xingi Group points out that the internal testing was not performed according to the specific conditions required by the patent. Provision thereof thus does not seem necessary to resolve the issues in dispute. The provisions of such internal documentation will thus be refused as disproportionate and unnecessary. The Xingi Group is of course free to provide this documentation voluntarily, in support of its position.

- *2(a) and (b) Introduction Video and related internal documentation*

23. Avient substantiates its request for production of the Introduction Video by the need to prove infringing acts within/directed at UPCA-territory with this marketing tool. An English version of the Introduction Video allegedly proving such acts, was apparently available on Xingi’s website at the time these proceedings were initiated but has since been removed and Avient did not retain a copy. No other infringing acts

24. It is thus considered plausible that the video is necessary to establish acts of infringement in UPCA-territory.

25. The Xingi Group’s statement that the video is not necessary to establish (technical) infringement, is dismissed as irrelevant. The Introduction Video is not requested to that end. Also, the comment that the video would still be available on its website, is dismissed. The JR could not establish this (no link was provided) and, in case it is, the provision of the video would not compromise the Xingi Group in any way and is not considered disproportionate.

26. All further requests regarding the Introduction Video, in particular the request to order the Xingi Group to produce all internal communications relating to the decision to remove or replace the Introduction Video, is considered unnecessary at this stage of the proceedings and disproportionate based on the respective arguments put forward by the parties. The request at 2(b) is thus dismissed.

(iii) Protection of confidential information

27. The Xingi Group has only substantiated its confidentiality request with respect to the requests at 1(b) and 2(b) of the Table, i.e. regarding internal documentation of the Xingi Group. As these requests are entirely dismissed, there are no confidentiality issues that need to be considered, and a confidentiality club is not necessary. Should this be otherwise, a R.262A and/or R.262.2 RoP request can be submitted.

Conclusion and practicalities

28. The production of at least 30 kg of the samples of the UD Fabric types J300_120H_2UD and J300_130S_4UD, or equivalents, shall be granted. Production must be done by providing the samples to Avient at its registered address or to any other address in The Netherlands indicated by Avient. To avoid discussion about the subsequent testing of the samples in these proceedings, Avient is advised to have the testing done by an independent institution, such as TNO (mentioned in the Application) and/or to invite representatives of the Xingi Group to be present at the testing.
29. The request to produce the English version or English versions of the Introduction Video that was/were available online via the website, will be granted. Production of all English versions of the Introduction Video that were available on the Xingi Group's website after the grant of the patent (28 November 2018) shall be ordered. Production must be done by making the English version(s) of the Introduction Video digitally available to the UPC representatives of Avient.
30. The Xingi Groups is ordered to produce all evidence within two weeks, as requested. Pursuant to R.190.4 (b) RoP the Court will impose a penalty if the evidence is not fully produced according to the order of EUR 1,000 per day, in addition to the applicability of R.190.7 RoP.

ORDER

The Court, having heard the parties:

1. Orders the Xingi Group to produce within two weeks of the issuing of this Order the following evidence:
 - i. At least 30 kg each of UD Fabric/ballistic sheets of J300_120H_2UD and J300_130S_4UD, or samples of commercially equivalent available variants (in line with 19. And 28. above);
 - ii. The English version or versions of the Introduction Video that was/were available online via the Xingi Group's website on or after 28 November 2018 (in line with 29. above).
2. Orders the Xingi Group to pay to the Court a recurring penalty of EUR 1,000 for each day of delay to completely comply with the order to produce evidence as set out in 1. above.
3. Dismisses all other requests.
4. Stipulates that if the Xingi Group fails to comply with this order, the Court shall take such failure into account when deciding on the actions in question (R. 190.7 RoP).

Information on Appeal

An appeal may be lodged in accordance with Art. 73(2)(a) UPCA and R.220.1 RoP (R.190.6 RoP) within fifteen calendar days of the notification of this order.