Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 18 November 2022

Case Number: T 0397/20 - 3.3.03

Application Number: 08734667.2

Publication Number: 2129818

IPC: D01F6/46, D01F6/30, D01F6/04, D01D5/42

Language of the proceedings: EN

Title of invention:
FIBRES, TAPES OR FILAMENTS COMPRISING A POLYETHYLENE COMPOSITION

Patent Proprietor:
Borealis Technology Oy

Opponent:
TotalEnergies One Tech Belgium

Relevant legal provisions:
RPBA 2020 Art. 12(4), 13(2)
EPC Art. 54, 56, 84

Keyword:

Admittance of documents (yes)
Novelty - All requests (yes)
Inventive step - Main request (no) - Auxiliary request I (no) - Auxiliary requests IV and V (no)
Admittance of auxiliary requests I-VII (yes)
Clarity - Auxiliary requests II and III (no)
Clarity - Auxiliary requests VI and VII (no)

Decisions cited:

T 1742/12

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 0397/20 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 18 November 2022

Appellant: (Opponent)	TotalEnergies One Tech Belgium Industrial Property Zone Industrielle C 7181 Seneffe (BE)
Representative:	Garcia Martin, Margarita TotalEnergies One Tech Belgium Patent Department Zone Industrielle C 7181 Seneffe (Feluy) (BE)
Respondent: (Patent Proprietor)	Borealis Technology Oy P.O. Box 330 06101 Porvoo (FI)
Representative:	Dehns St. Bride's House 10 Salisbury Square London EC4Y 8JD (GB)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 27 January 2020 concerning maintenance of the European Patent No. 2129818 in amended form.**

Composition of the Board:

Chairman	D. Semino
Members:	D. Marquis
	W. Ungler

Summary of Facts and Submissions

I. The appeal lies against the decision of the opposition division concerning maintenance of European patent No. 2 129 818 in amended form on the basis of auxiliary request I filed during the oral proceedings before the opposition division.

II. Claim 1 of auxiliary request I read as follows:

"1. A carpet or sports surface comprising:

(A) a fibre, tape or filament comprising a linear low density polyethylene composition obtainable by polymerisation of ethylene using a metallocene catalyst (mPE), wherein said mPE composition has a density of more than 905 to less than 940 kg/m^3, and an MFR_2 of 5 g/10min or less when measured according to ISO 1133 at 190°C at load of 2.16 kg; and wherein said mPE composition is produced in-situ in a multistage polymerisation process and is multimodal with respect to molecular weight distribution, and comprises at least
(i) a lower weight average molecular weight (LMW) ethylene copolymer component, and
(ii) a higher weight average molecular weight (HMW) ethylene copolymer component; and
(B) a UV stabiliser".

III. The following documents were *inter alia* cited in the opposition procedure:

D5: JP 2004-238774
D5a: English translation of D5

D7: JP 11-269 811

D7a: English translation of D7

IV. As far as it is relevant to the present case the decision of the opposition division can be summarized as follows:

Claims 1 and 11 were novel over D5 because that document did not make a direct and unambiguous disclosure of whether the polyethylene was unimodal or multimodal. D7 and not D5 was the closest prior art. Claims 1, 9 and 11 of auxiliary request I involved an inventive step over D7.

V. The opponent (appellant) lodged an appeal against the decision of the opposition division and filed D13 to D15 with their statement of grounds of appeal.

D13: Kirk-Othmer Encyclopedia of Chemical Technology, John Wiley and Sons, Inc. 5th Ed. 2006, Volume 20, LLDPE chapter, pages 179-211.

D14: Kirk-Othmer Encyclopedia of Chemical Technology, John Wiley and Sons, Inc. 5th Ed. 2006, Volume 11, Fibers chapter, pages 224-245.

D15: Gaucher-Miri et al. 1997, "On the plastic behavior of homogenous ethylene copolymers compared with heterogenous copolymers", Polymer Engineering and Science, vol 37, N°10, pages 1672-1683.

VI. With the reply to the statement of grounds of appeal the patent proprietor (respondent) submitted seven sets of claims as auxiliary requests I to VII.

VII. The parties were summoned to oral proceedings and a communication pursuant to Article 15(1) RPBA 2020

indicating specific issues to be discussed at the oral proceedings was sent to the parties.

VIII. With letter of 17 October 2022 the respondent submitted seven further sets of claims as auxiliary requests I to VII.

IX. Oral proceedings were held on 18 November 2022 by videoconference.

X. The final requests of the parties were as follows:

(a) The appellant requested that the decision under appeal be set aside and the patent be revoked.

(b) The respondent requested that the appeal be dismissed (main request) or that the patent be maintained on the basis of auxiliary requests I to VII filed by letter of 17 October 2022 or should these auxiliary requests not be admitted into the proceedings, on the basis of auxiliary requests I to VII filed with the reply to the statement of grounds of appeal.

The main request in appeal was auxiliary request I on which the decision was based (for the wording of its claim 1 see point II, above).

The wording of claim 1 in the auxiliary requests I to VII filed by letter of 17 September 2022 was identical to the wording of claim 1 in the auxiliary requests I to VII filed with the reply to the statement of grounds of appeal respectively.

Claim 1 of auxiliary request I differed from claim 1 of the main request in that the upper value of the range

defining the density of the mPE composition was changed from "940 kg/m^3" to "938 kg/m^3".

Claim 1 of auxiliary request II differed from claim 1 of the main request in that the formulation of component (A) "a fibre, tape or filament comprising a linear low density polyethylene composition" was modified to "a fibre, tape or filament consisting of a linear low density polyethylene composition".

Claim 1 of auxiliary request III corresponded to claim 1 of auxiliary request II additionally modified in that the upper value of the range defining the density of the mPE composition was changed from "940 kg/m^3" to "938 kg/m^3".

Claim 1 according to auxiliary request IV, V, VI and VII corresponded to claim 1 according to the main request and auxiliary requests I, II and III, respectively.

XI. The appellant's arguments, in so far as they are pertinent to the present decision, may be derived from the reasons for the decision below. They are essentially as follows:

- D13-D15 should be admitted into the proceedings.

- Claim 1 of the main request differed from the disclosure of D5, which was a suitable document to be chosen as the closest prior art, in that the mPE composition was multimodal. The patent in suit did not establish the presence of any effect related to the distinguishing feature over D5. The problem was the provision of alternative carpets or sports

surfaces. Using a monomodal or a multimodal mPE polyethylene composition did not involve an inventive step.

- Auxiliary requests I-VII filed with letter of 17 October 2022 were late filed and should not be admitted into the proceedings.

- The same arguments of lack of inventive step as outlined for claim 1 of the main request applied to claim 1 according to auxiliary requests I, IV and V.

- Claim 1 of auxiliary request II lacked clarity. The same lack of clarity applied to claim 1 according to auxiliary requests III, VI and VII.

XII. The respondent's arguments, in so far as they are pertinent to the present decision, may be derived from the reasons for the decision below. They are essentially as follows:

- D13-D15 were late filed and should not be admitted into the proceedings.

- D5 was not an appropriate document to be chosen as the closest prior art, as D7 was far closer to the patent in suit. Were D5 considered as the closest prior art, claim 1 of the main request differed from the disclosure of D5 in that the mPE composition was multimodal. The examples of the patent in suit showed an improved balance of softness, mechanical properties and resilience for the subject-matter of claim 1 with a multimodal composition. The problem was therefore the provision of carpets or sports surfaces comprising

mLLDPE (linear low density polyethylene from a metallocene catalyst) displaying an improved balance of softness, mechanical properties and resilience. There was no incentive in D5 or in the prior art to use monomodal or multimodal mPE polyethylene compositions in mLLDPE compositions.

- Auxiliary requests I-VII should be admitted into the proceedings.

- The same arguments in favour of inventive step as outlined for claim 1 of the main request applied to claim 1 according to auxiliary requests I, IV and V.

- Claim 1 of auxiliary request II met the requirements of Article 84 EPC. The same applied to claim 1 according to auxiliary requests III, VI and VII.

Reasons for the Decision

1. Admittance of D13-D15

1.1 D13-D15 are documents that were first submitted into the proceedings by the appellant with their statement setting out the grounds of appeal (section 2, page 2). The admittance of these documents into the appeal proceedings underlies the provisions of Article 12(4) RPBA 2020 and is subject to the discretion of the Board. According to the 4th sentence of that provision the discretion shall be exercised in view of, inter alia, the complexity of the amendment, the suitability of the amendment to address the issues which led to the decision under appeal, and the need for procedural

economy.

1.2 D13 and D14 are extracts of an encyclopedia and D15 is an academic publication from 1997. These documents form part of the common general knowledge of the patent in suit and as such they were cited by the appellant in support of arguments in the discussion of inventive step that related to the basic properties of metallocene-based LLDPEs (sections 6.8 to 6.11 of the statement of grounds of appeal). These arguments are not new to the appeal proceedings as they are part of the contested decision (page 13, second paragraph to page 14, third paragraph). The teaching of D13-D15 cited by the appellant is not complex and appears to be relevant to the question of inventive step as supporting evidence of arguments already raised in opposition proceedings. Also, the admittance of D13-D15 into the proceedings does not affect procedural economy as the subject of discussion is not changed. On this basis the Board finds it appropriate to exercise its discretion according to Article 12(4) RPBA 2020 by admitting document D13-D15 into the proceedings.

Main request

2. Novelty of claim 1 over D5

2.1 The appellant considered that examples 1-3 of D5 took away the novelty of claim 1 of the main request.

2.2 Examples 1-3 of D5 (paragraphs 54/55) disclose the preparation of artificial turf from yarns of a resin composition of three polymeric components (A)-(C) and additives including a UV absorber (paragraph 55). According to Table 2 of D5, component (C) in examples 1-3 is M-LLDPE, a metallocene-catalysed linear low

density polyethylene with a density (0.913 g/cm^3 corresponding to 913 kg/m^3) and a melt flow rate (2.4 g/10 mins) (paragraph 54) which fall within the ranges defined in claim 1 of the main request (density of 905 to 940 kg/m^3 and melt flow rate of 5 g/10 min or less).

2.3 Novelty of claim 1 was contested in the written proceedings in appeal on the grounds that D5 would implicitly disclose a multimodal polyethylene. It was however acknowledged at the oral proceedings before the Board that the modality of component (C) used in examples 1-3 of D5 was not clearly and directly derivable from that document. It follows that claim 1 of the main request is novel over examples 1-3 of D5 on the basis of that feature.

3. Inventive step over D5

3.1 The opposition division considered that D7 and not D5 was the document representing the closest prior art (section 3.5). The appellant considers instead that document D5 should be taken as the closest prior art.

3.2 The patent in suit is directed to filaments, tapes or fibres based on polyethylene compositions having excellent resilience and tenacity properties (paragraphs 4 and 12). Claims 1 and 11 in particular are directed to carpets or sports surfaces.

3.3 D5 aims at providing a flexible yarn using polypropylene exhibiting fibrillation resistance (paragraph 7). The specific problem addressed in the patent in suit is not mentioned in D5, but that alone is not sufficient to discard D5 as the closest prior art. D5 is in the same field as the patent in suit and it discloses the preparation of compositions comprising

a polyethylene and made for the manufacture of filaments (flexible yarns) from polyolefins for use in carpets/sports surfaces (artificial turf on page 1, lines 4-8). Furthermore, claim 1 of the main request only differs from the starting point within D5 (examples 1-3) in that it specifies that the composition is multimodal (see section 2, above). Thus, even if D5 addresses a problem that is not identical to that of the patent in suit, D5 nevertheless qualifies as a reasonable document to be taken as the closest prior art (Case Law of the Boards of Appeal, 10th Edition 2022, I.D.3.1).

3.4 The appellant submitted that D5 relied on the presence of polypropylene as the main component in the composition (claim 1, paragraph 7) while the patent in suit intended to move away from the presence of that polymer in the composition (paragraph 5). The absence of polypropylene from the compositions of the patent in suit constituted, according to the appellant, a significant difference in view of D5.

3.5 The Board does not concur with that conclusion. The composition of the fibre, tape or filament is claim 1 of the main request is defined by an open wording "comprising". The presence of polypropylene in that composition is therefore not excluded by the wording of claim 1. Paragraph 82 of the description confirms that the presence of further polymers is possible "The Fibres of the invention may contain other polymer than mPE, as well". The presence of polypropylene in the compositions of D5 is thus not a fact that renders that document less relevant to the patent in suit.

3.6 D5 retains its validity even if D7 was chosen as the closest prior art in the contested decision. The Board

in agreement with the case law considers that the selection of the closest prior art is not necessarily a process by which a single document arises as being the closest to the invention disclosed in the patent in suit. Often, the evaluation of inventive step based on the analysis of the prior art is such that the skilled person has a choice between several workable routes, i.e. routes starting from different documents, which may reasonably be seen as documents realistically leading to the invention (Case Law, *supra*, I.D.3.1, paragraph relating to T 1742/12 in particular). In that situation, the rationale of the problem and solution approach requires that the invention be assessed relative to all these possible routes before an inventive step can be acknowledged. Since D5 is a reasonable starting point, inventive step must therefore also be assessed with respect to D5.

3.7 According to the respondent the examples of the patent in suit showed that the carpet/sport surfaces of claim 1 of the main request displayed an improved balance of mechanical properties (tenacity, elongation at break, resilience) and softness (represented by a low density) by comparison to examples 1-3 of D5, which improved balance was related to the distinguishing feature (the multimodality). In particular, the examples showed that the multimodal composition mLLDPE1 had the best resilience after 24h (see Figure 1) for a density (915 kg/m^3) that was lower than the one of the unimodal compositions mLLEPE2 (922 kg/m^3) and mLLDPE3 (934 kg/m^3). The problem as formulated by the respondent was the provision of a carpet or sports surface comprising a fibre, tape or filament of an mLLDPE which displayed an improved property balance between softness and mechanical properties (resilience).

3.8 According to the established case law, an unexpected effect (advantageous effect or feature) demonstrated in a comparative test can be taken as an indication of inventive step but the nature of the comparison with the closest state of the art must be such that the alleged advantage or effect is convincingly shown to have its origin in the distinguishing feature of the invention compared with the closest state of the art (Case Law of the Boards of Appeal, 10th Edition 2022, I.D.4.3.2). The question was thus whether the examples of the patent in suit relied upon by the appellant allowed a fair comparison with examples 1-3 of D5 that showed the presence of an effect.

3.9 The compositions of example 1-3 of D5 are composed of a mixture of polypropylene homopolymer (HPP) and propylene-ethylene block copolymer (BCP) (paragraph 48, Table 2), an olefinic thermoplastic elastomer composition (polymer-I and polymer-II, paragraph 49 and Tables 1 and 2) and a mixture of Ziegler-catalysed linear low density polyethylene (Z-LLDPE: Novatec LL UDF340) and a metallocene-catalysed linear low density polyethylene (M-LLDPE: Kernel KF271) (Table 2). The compositions mLLDPE1, mLLDPE2 and mLLDPE3 of the patent in suit by contrast are made of only one low linear density polyethylene (paragraph 125). Since the compositions of examples 1-3 of D5 differ significantly from those of the patent in suit, none of the compositions analysed in the patent in suit can be seen as a fair representation of any of the compositions chosen as starting point in D5. It follows that the examples of the patent in suit cannot show an effect over the closest prior art D5.

3.10 The respondent nevertheless considered that the examples of the patent in suit compared to one another

established the presence of an effect resulting from the choice of a multimodal composition (mLLDPE1) over a unimodal one (mLLDPE2 or mLLDPE3). The Board however finds that the comparison made by the respondent is not a valid one.

3.10.1 It is first apparent from Table 1 of the patent in suit that the copolymers mLLDPE1, mLLDPE2 and mLLDPE3 differ significantly in several instances from one another (density, comonomer content, MFR_2 and MFR_{21}). In particular, the multimodal mLLDPE1 has a different structural composition (mLLDPE1 is based on ethylene, butene and hexene) than mLLDPE2 and mLLDPE3 (based on ethylene and hexene only). Since these compositions do not differ from one another in their modality only (the established distinguishing feature over D5), any effect reported in the patent in suit cannot be unambiguously attributed to the provision of a multimodal composition.

3.10.2 The respondent argued that employing different comonomers would not be expected to significantly impact upon the final properties of the resultant polymer compositions which were measured in Table 1 of the patent in suit (section 21 of letter of 17 October 2022). The respondent cited the tenacity and elongation of the inventive examples of the patent in suit and D13 as evidence for their argument. However the inventive example mLLDPE1 based on butene/hexene as comonomers show differences in the tenacity and elongation properties at both draw ratios (1:5 and 1:6) by comparison to the inventive example mLLDPE2 and mLLDPE3 based on hexene only as comonomer. In particular the Board finds the differences in elongation at break to be significant (draw ratio 1:5, mLLDPE1 28.2%; mLLDPE2 39.51% and mLLDPE3 77.14%). That alone shows that the

nature and number of comonomers in the copolymer actually has an impact on the properties of the produced fibres.

3.10.3 With regard to D13 cited by the respondent, the passage on page 186 "Tensile properties of all the resins are quite similar[...]" is not found to be relevant since it concerns a comparison of polymers that mainly differ from one another in the type of comonomer used (1-butene, 1-hexene and 1-octene) as shown in Table 3. The situation in the inventive examples of the patent in suit is however different since the comparison made concerns an ethylene-butene-hexene terpolymer with an ethylene-hexene bipolymer. It has not been established that the conclusions laid out in D13 for bipolymers would validly apply to terpolymers as well.

3.10.4 The respondent additionally based their effect on the resilience of the compositions reported in Figure 1 of the patent in suit. It is however apparent from the definition of the resilience test in paragraph 137 that a lesser (1:5) draw ratio (uniaxial stretching in the machine direction compared to their original length, paragraphs 92 and 98) was used for mLLDPE1 than for mLLDP2 and mLLDPE3 (1:6). It is therefore questionable whether the resilience shown in Figure 1 with different draw ratios for different copolymers can be used as a fair comparison, especially since the draw ratio is said in the patent in suit itself to have an influence on other mechanical properties of the fibers made from these copolymers (effect on tenacity in paragraph 139). As to the tenacity and elongation of the tested fibres for a given draw ratio, Table 1 actually shows that mLLDPE2 and mLLDPE3 are mostly better (higher values) than mLLDPE1.

3.11 The Board therefore does not find in the examples of the patent in suit a support for the problem as formulated by the respondent. The problem that can be formulated on the basis of the evidence on file is therefore the provision of further carpets or sports surfaces.

3.12 The only difference between claim 1 of the main request and examples 1-3 of 5 is that the linear low density polyethylene composition comprised in the fibre, tape or filament in the carpet/sports surface of claim 1 is multimodal. The multimodal composition is one of the only two options (multimodal or unimodal) that can be contemplated starting from D5. It was not in dispute that the process according to examples 1-3 of D5 using a metallocene catalyst could produce either one of the two options. In view of the problem posed, the selection of any of these two options can only be seen as being arbitrary and therefore not involving an inventive step.

3.13 Claim 1 of the main request lacks therefore an inventive step starting from D5.

Auxiliary requests I-VII submitted with letter of 17 October 2022

4. Admittance

4.1 The admittance into the proceedings of auxiliary requests I-VII submitted with letter of 17 October 2022 was contested by the appellant. The respondent argued that auxiliary requests I-VII should be admitted in appeal because they were essentially based on auxiliary requests filed in opposition (auxiliary requests IV, VI and VII filed with letter of 24 September 2019) that

were also part of the valid requests recorded in the contested decision (page 3, last paragraph).

4.2 By comparison with auxiliary requests IV, VI and VII filed with letter of 24 September 2019, auxiliary requests I-VII submitted with letter of 17 October 2022 contain some amendments that were introduced in a version of auxiliary requests I-VII submitted with the reply to the statement of grounds of appeal and others that were introduced in the version filed with said later letter. These amendments having been made at different points in time of the appeal proceedings, their admittance underlies different provisions of the Rules of Procedure of the Boards of Appeal 2020.

4.3 Amendments submitted with the rejoinder

4.3.1 The amendments submitted with the rejoinder that were not part of the auxiliary requests IV, VI and VII filed with letter of 24 September 2019 are subject to the provisions of Article 12(4) RPBA 2020.

4.3.2 The first amendment present in claim 1 of auxiliary requests I-VII filed with letter of 17 October 2022 is the deletion of the references made to the lower weight average molecular weight (LMW) component (i) and higher weight average molecular weight (HMW) component (ii) being a homopolymer. This amendment is in line with the amendment made in claim 1 of auxiliary request I that was considered by the opposition division as the basis for maintenance of the patent. The amendment therefore addresses a situation of prohibition of *reformation in peius* that would have arisen for auxiliary requests containing subject matter that was excluded from the claims as maintained by the opposition division. The amendment is not complex since it is a deletion of one

of two alternative types of polymers for each component (i) and (ii) and it does not affect the procedural economy of the appeal proceedings.

4.4 The second amendment consists in that auxiliary requests IV-VII of the rejoinder correspond to the main request and auxiliary request I-III of the rejoinder in which the claims pertaining to a unimodal linear low density polyethylene composition in component (A) have been deleted. This deletion of claims is relevant to the objections of lack of novelty and lack of inventive step pursued in appeal. It is not a complex amendment and it does not affect the procedural economy of the proceedings either. Considering that the objection of lack of inventive step in view of D5 found to be relevant in appeal was only raised on 26 September 2019, two months before the oral proceedings before the opposition division, the Board finds that this amendment in auxiliary requests IV-VII is justified.

4.5 Amendments submitted with letter of 17 October 2022

4.5.1 Auxiliary requests I-VII filed with letter of 17 October 2022 further contain the following additional amendments:

(a) in claim 3 of auxiliary requests I, III, V and VII and in claim 4 of auxiliary request II and VI the reference to homopolymers was deleted.

(b) in claim 2 of auxiliary request I the dependency was amended from claim 2 to claim 1.

4.5.2 These amendments submitted with letter of 17 October 2022 are subject to the provisions of Article 13(2) RPBA 2020, which foresees that amendments made after

notification of the summons shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

4.5.3 The deletions in claim 3 of auxiliary requests I, III, V and VII and in claim 4 of auxiliary request II and VI concern the components (LMW) (i) and (HMW) (ii) being a homopolymer. These amendments are consistent with the corresponding amendment made in claim 1 of auxiliary request I-VII with regard to the prohibition of *reformation in peius* (see point 4.3 above).

4.5.4 Both amendments (a) and (b) were provided in reaction to the objections of lack of clarity raised by the opponent with letter of 4 March 2022 (sections 7.1-7.6), i.e. also after notification of the summons. The Board finds that the amendments resolve the issues raised by the opponent and are not detrimental to the procedural economy. In view of the simplification of the case resulting from the amendments made on 17 October 2022 and being them a reaction to objections raised after notification of the summons, the Board finds that "exceptional circumstances" within the meaning of Article 13(2) RPBA 2020 were present in the present case that justified to admit the amendments (a) and (b).

4.6 In consideration of the amendments made in auxiliary requests I-VII with the reply to the statement of grounds of appeal and with letter of 17 October 2022, the Board finds it appropriate to exercise its discretion according to Article 12(4) RPBA 2020 and Article 13(2) RPBA 2020 by admitting auxiliary requests I-VII filed with letter of 17 October 2022 into the proceedings.

5. Auxiliary request I - Inventive step

5.1 Claim 1 of auxiliary request I differs from claim 1 of the main request only in that the upper value of the range defining the density of the linear low density polyethylene composition in the fibre, tape or filament (A) was reduced to 938 kg/m^3.

5.2 The density of the metallocene-catalysed linear low density polyethylene (M-LLDPE) Kernel KF271 present in the composition of examples 1-3 of D5 chosen as closest prior art for the main request is 0.913 g/cm^3, i.e. 913 kg/m^3 (D5, paragraph 54). The amendment in claim 1 of auxiliary request I therefore does not result in a new distinguishing feature with respect to D5.

5.3 Both parties declared that the arguments they respectively submitted for the main request with respect to inventive step over D5 also applied to auxiliary request I. The Board finds that examples 1-3 of D5 remain the closest prior art and that the same reasoning and conclusion set out for the main request also apply to auxiliary request I. Claim 1 of auxiliary request I therefore lacks an inventive step over D5.

6. Auxiliary request II and III - Clarity

6.1 Claim 1 of auxiliary request II differs from claim 1 of the main request in that the wording of the definition of the composition of the fibre, tape or filament (A) in the carpet or sports surface was amended from "comprising a linear low density polyethylene composition" to "consisting of a linear low density

polyethylene composition".

6.2 The appellant argued that as the result of that amendment and in view of paragraph 82 of the patent, operative claim 1 did not meet the requirements of Article 84 EPC. The respondent submitted that the amended wording of claim 1 was clear and supported by the description. The argument of the respondent was that the term "consisting of" was commonly used in numerous patents of the polymer field in order to exclude further polymeric components but allow for the presence of additives. Paragraph 82 of the description would reflect that use of the term "consisting of".

6.3 The respondent did not provide evidence supporting their argument and the Board is also not aware of the allegedly accepted definition provided by the respondent. The term "consisting of" introduced in operative claim 1 has a well accepted meaning in the field of patents but according to constant case law of the Boards, it is a term used to define a "closed" composition, a composition from which elements other than those mentioned (e.g. further additives) are excluded (Case Law of the Boards of Appeal, 10th Edition 2022, II.A.6.2).

6.4 The definition of the fibre, tape or filament (A) by the term "consisting of" in the context of operative claim 1 is therefore in itself formally clear. It means that the presence of other components that are not the linear low density polyethylene composition obtainable by polymerisation of ethylene using a metallocene catalyst (mPE) that is defined in (A) is excluded from that composition. The commonly accepted meaning of the term "consisting of" present in operative claim 1 is however in contradiction with the description of the

patent in suit as paragraph 82 reads "The used term "consists of" means herein only that no other polymer components are present in the Fibres, but naturally said Fibres of such embodiment may comprise conventional fibre additives such as antioxidants, UV stabilisers, colour masterbatches, acid scavengers, nucleating agents, anti-blocking agents, slip agents etc. as well as polymer processing agent (PPA)". That contradiction between the commonly accepted meaning of "consisting of" in the patent field and the definition set out in the description of the patent in suit means that there is a lack of support in the description for the amendment made in claim 1 of auxiliary request II and that the scope of that claim becomes unclear as a consequence of that contradiction. Claim 1 of auxiliary request II therefore does not meet the requirements of Article 84 EPC.

6.5 Claim 1 of auxiliary request III differs from claim 1 of auxiliary request II only in that the upper limit defining the range of density of the linear low density polyethylene composition was amended from "940 kg/m^3" to "938 kg/m^3". The modification of the upper limit of the density range does not affect the objection raised against the wording "consisting of" defining the component present in the fibre, tape or filament (A) of claim 1 of auxiliary request III. Both parties declared at the oral proceedings before the Board that with respect to the fulfillment of the requirements of Article 84 EPC for auxiliary request III they relied on their arguments provided for auxiliary request II. The reasoning of lack of clarity against claim 1 of auxiliary request II equally applies to claim 1 of auxiliary request III. Claim 1 of auxiliary request III therefore does not meet the requirements of Article 84

EPC.

7. Auxiliary request IV and V - Inventive step

7.1 Claim 1 of auxiliary request IV is identical to claim 1 of the main request. Claim 1 of auxiliary request V is identical to claim 1 of auxiliary request I.

7.2 Both parties declared at the oral proceedings before the Board that with respect to inventive step of auxiliary requests IV and V they relied on their arguments provided for the main request and auxiliary request I respectively. The reasoning of lack of inventive step against claims 1 of the main request and auxiliary request I therefore equally applies to claim 1 of auxiliary requests IV and V respectively. Claim 1 according to auxiliary request IV and V therefore does not meet the requirements of Article 56 EPC.

8. Auxiliary request VI and VII - Clarity

8.1 Claim 1 of auxiliary request VI is identical to claim 1 of auxiliary request II and claim 1 of auxiliary request VII is identical to claim 1 of auxiliary request III.

8.2 Both parties declared at the oral proceedings before the Board that with respect to the fulfillment of the requirements of Article 84 EPC for auxiliary requests VI and VII they relied on their arguments provided for auxiliary requests II and III respectively. The reasoning under Article 84 EPC against claim 1 according to auxiliary requests II and III therefore equally applies to claim 1 of auxiliary requests VI and VII respectively. Claim 1 according to auxiliary

request VI and VII therefore does not meet the requirements of Article 84 EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside

2. The patent is revoked.

The Registrar: The Chairman:

D. Hampe D. Semino

Decision electronically authenticated