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Datasheet for the decision of 16 September 2026

Case Number: T 0891/24 - 3.3.09

Application Number: 18749638.5

Publication Number: 3645272

IPC: B32B7/12, B32B27/08, B32B27/18, B32B27/20, B32B27/32, B32B27/30

Language of the proceedings: EN

Title of invention:
MULTILAYER POLYETHYLENE LAMINATES AND FILMS FOR USE IN FLEXIBLE PACKAGING MATERIALS

Patent Proprietor:
DOW GLOBAL TECHNOLOGIES LLC

Opponent:
Borealis GmbH

Headword:
Multilayer polyethylene laminates/DOW

Relevant legal provisions:
EPC Art. 56, 100(a)

Keyword:
Claim interpretation
Inventive step - (yes) - non-obvious alternative

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It can be changed at any time and without notice

Decisions cited:
G 0001/24, T 0079/96

Catchword:

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Case Number: T 0891/24 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 16 September 2026

Appellant: (Opponent)	Borealis GmbH Trabrennstrasse 6-8 1020 Vienna (AT)
Representative:	Kador & Partner Part mbB Corneliusstraße 15 80469 München (DE)
Respondent: (Patent Proprietor)	DOW GLOBAL TECHNOLOGIES LLC 2040 Dow Center, Midland, MI 48674 (US)
Representative:	Boult Wade Tennant LLP Salisbury Square House 8 Salisbury Square London EC4Y 8AP (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted/electronically transmitted on 29 May 2024 rejecting the opposition filed against European patent No. 3645272 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chair	A. Haderlein
Members:	A. Jimenez
	M. Ansorge

Summary of Facts and Submissions

I. The appeal was filed by the opponent (appellant) against the decision of the opposition division rejecting the opposition.

II. The opposition division decided that the subject-matter of claim 1 as granted was novel over D1 and D2 and involved an inventive step starting from D1 as closest prior art.

III. The following document was cited in the case in hand:

D1: WO 2015/200743 A1
D4: "Handbook of Polyethylene", Structures, Properties, and Applications, A.J. Peacock, 2000
D6: Technical datasheet "ELITE™ 5960G1", Dow Chemical Company
D7: Brochure "Optimizing toughness/stiffness balance for downgauging opportunities", ExxonMobil™ HDPE HTA108

IV. With its statement of grounds of appeal, the appellant requested that the decision under appeal be set aside and the patent be revoked.

They argued that the subject-matter of claim 1 of the patent as granted was not novel over the multilayer blown film made from inventive compositions 6 or 8 (tables 11 and 12) of D1 or over the 5 layer blown film produced from inventive blend 1 of D2. They added that in any case claim 1 was not inventive starting from D1 as closest prior art.

V. In the reply to the appeal, the patent proprietor (respondent) requested that the appeal be dismissed or, as an auxiliary measure, that the patent be maintained on the basis of one of auxiliary requests 1 to 9 filed during the opposition proceedings.

VI. In its communication pursuant to Article 15(1) RPBA, the Board preliminarily concluded that the subject-matter of claim 1 of the main request (patent as granted) did not involve an inventive step over D1 as closest prior art, but that the auxiliary request 1 appeared allowable.

VII. By letter dated 11 June 2026, the appellant informed the Board that they withdrew their request for oral proceedings, provided that the Board maintained its preliminary opinion that auxiliary request 1 was allowable.

By letter dated 15 June 2026, the respondent, subject to the same condition, withdrew their main request and their request for oral proceedings. Auxiliary request 1 would thus become their new main request. The respondent also filed amended paragraphs [0007], [0021], [0080], [0156], [0157] and [0158] of the description.

VIII. With a communication dated 24 June 2026, the Board confirmed its preliminary opinion that auxiliary request 1 was allowable and invited the appellant to inform the Board whether they had any objections concerning the amended description filed by the respondent.

IX. With a letter dated 29 June 2026, the appellant stated that they had no objections in that respect.

X. The oral proceedings were cancelled.

XI. The appellant's arguments relevant for the decision can be summarised as follows:

- the skilled person would not interpret claim 1 as requiring the first and second compositions to be different from one another. Instead, it is not excluded by claim 1 that a single composition fulfils both the requirement for the first and the second composition.

- The subject-matter of claim 1 of the new main request is rendered obvious in view of the teaching of D1 in combination with D4, D7, or D8.

XII. The respondent's arguments relevant for the decision can be summarised as follows.

- the skilled person would understand that "first" and "second" compositions in claim 1 are different from each other.

- The subject-matter of claim 1 of the new main request is inventive starting from D1 as closest prior art: D1 does not disclose or suggest an intermediate layer comprising both the first composition and a HDPE.

XIII. Claim 1 of the new main request reads as follows:

"A multilayer polyolefin film comprising at least 3 layers, the multilayer polyolefin film comprising:

a first surface layer comprising:

a first composition comprising at least one ethylene based polymer, wherein the first composition comprises a Molecular Weighted Comonomer Distribution Index (MWCDI) value greater than 0.9, and a melt index ratio (I_{10}/I_2) that meets the following equation: $I_{10}/I_2 \geq 7.0 - 1.2 \times \log(I_2)$; and

a second composition comprising an ethylene based polymer having a density from 0.890 to 0.925 g/cc and a melt index (I_2) from 0.2 to 2.0 g/10 min; and

a first intermediate layer comprising the first composition, wherein the first intermediate layer further comprises a high density polyethylene (HDPE) having a density from 0.950 to 0.965 g/cc and a melt index (I_2) from 0.1 to 1.3 g/10 min."

Claim 8 relates to a laminate structure comprising the multilayer polyolefin film of any preceding claim.

Claim 13 relates to an article comprising the laminate of any of claims 8-12.

Claims 2 to 7, 9 to 12 and 14 are dependent claims.

XIV. The parties' final requests are as follows:

The appellant requests that the decision under appeal be set aside and that the patent be revoked.

The respondent requests that the decision under appeal be set aside and that the patent be maintained on the basis of the new main request, corresponding to auxiliary request 1 filed on 14 July 2022 during the opposition proceedings.

Reasons for the Decision

1. Claim interpretation

1.1 A central issue in dispute between the parties is whether the first and second compositions required by claim 1 may be the same. Put differently, there was dispute between the parties whether a layer of a blown film made of a single resin, as disclosed in D1, may be considered to fulfill the requirement of claim 1 in which the first surface layer comprises a blend of a first and a second composition, in case this single resin fulfilled the requirements of the first and second composition defined in claim 1.

1.2 According to the opposition division and to the respondent, the skilled person would understand that "first" and "second" compositions are different from each other, otherwise the epithets "a first" and "a second" would be redundant.

1.3 The appellant argues that a single ethylene composition may satisfy the requirements of both the first and the second compositions, the terms “first” and “second” serving merely as labels. In the appellant’s view, the patent contains no indication that the first composition must differ from the second. Rather, “first” denotes a first set of technical features to be met, and “second” denotes a second set of technical features to be met. This does not preclude both sets of features from being fulfilled by one and the same composition.

According to the appellant, the first composition is defined as comprising “at least” one ethylene-based

polymer and may therefore include two or more such polymers (i.e. a blend), provided that it meets the required MWCDI and I_{10}/I_2 ratio. Claim 1 does not exclude the possibility that an ethylene-based polymer recited for the second composition is also present in the first composition. Likewise, the second composition is defined using "comprising" language and may therefore include additional polymers. This interpretation is technically sound and consistent with the finding in T 79/96 that a claim should be construed in the broadest technically reasonable manner.

1.4 The Board is not convinced by the appellant's arguments.

According to decision of the Enlarged Board of Appeal G 1/24, the claims are the starting point and the basis for assessing the patentability of an invention under Articles 52 to 57 EPC. The description and drawings shall always be consulted to interpret the claims when assessing the patentability of an invention under Articles 52 to 57 EPC, and not only if the person skilled in the art finds a claim to be unclear or ambiguous when read in isolation.

Applying these principles of claim interpretation, the following can be concluded:

- The claim uses two different qualifiers, "first" and "second," to define the compositions, which already indicates that they are intended to be distinct.
- As noted by the respondent, this interpretation is supported by the description. The two compositions are presented separately (see, for instance, paragraphs [44]-[73] for the first composition and

paragraphs [74]-[76] for the second composition), distinct compositions are used in the examples, and the second composition is consistently described as being present in addition to the first composition (see paragraphs [21] "Additionally, the first surface layer further comprises a second composition …" and [74] "In addition to the first composition, the first surface layer also comprises a second composition…").

The Board hence agrees with the conclusion of the opposition division that the skilled person interprets claim 1 as requiring the first and second compositions to be different from one another, notwithstanding the appellant's argument that both compositions are defined using "comprising" language.

2. There was no novelty objection against the subject-matter claimed in the new main request (former auxiliary request 1). The only objection raised against this claim request was an inventive step objection in view of D1 as the closest prior art.

3. Inventive step

3.1 Claim 1 of the main request (former auxiliary request 1) results from the combination of granted claims 1 and 2 and requires, in addition to the presence in the first surface layer of the multilayer polyolefin film of two distinct compositions, one fulfilling the requirement for the first composition according to claim 1, and one for the second, a first intermediate layer comprising the first composition and additionally a high-density polyethylene (HDPE) having a density of

0.950 to 0.965 g/cm³ and a melt index (I_2) of 0.1 to 1.3 g/10 min.

3.2 Both parties agree that inventive step of claim 1 is to be assessed starting from inventive compositions 6 or 8 of D1.

3.3 Inventive composition 6 of D1 is used in a "monolayer" blown film which comprises three layers; all layers being made of the same resin composition, i.e., the composition of inventive composition 6. In a similar manner inventive composition 8 of D1 is used in a "monolayer" blown film which comprises five layers; again all layers being made of the same resin composition, i.e. the composition of inventive composition 8. The inventive compositions 6 and 8 represent a single resin, not a blend of resins.

3.4 Accordingly, D1 discloses blown films comprising 3 or 5 layers of the same resin composition, which are each made of a single resin, either made of inventive composition 6 or inventive composition 8 of D1. Each of these inventive compositions 6 and 8 meets the requirements of both the first and the second composition of claim 1 (see for inventive composition 6, page 39 lines 13-14 and table 7 page 44, and for inventive composition 8, table 11 page page 49).

3.5 Since each of these layers of the blown film structures are made from the same single resin, and not a blend of two compositions having the properties as required in claim 1, these embodiments do not disclose the presence of two different compositions in the first surface layer of the multilayer polyolefin film, as required by claim 1 (see point 1., above).

Accordingly, the subject-matter of claim 1 differs from the blown film made from inventive compositions 6 and 8 by the presence in the first surface layer of a second composition comprising an ethylene based polymer having a density from 0.890 to 0.925 g/cc and a melt index (I_2) from 0.2 to 2.0 g/10 min.

3.6 The subject-matter of claim 1 also differs by the presence, in the first intermediate layer of a HDPE having the limitations defined in claim 1 together with the first composition.

3.7 Contrary to what the appellant submits, the passage on page 6 of D1 does not disclose or suggest an intermediate layer comprising both the first composition and this HDPE. Rather, it merely indicates that the second layer comprises a polymer selected from a list that includes either the inventive composition or an HDPE, i.e. one or the other.

3.8 Even assuming that no improvement can be acknowledged over D1, so that the problem to be solved is to provide an alternative multilayer polyolefin film, as outlined below, the claimed subject-matter involves an inventive step over D1 as closest prior art.

3.9 With respect to the question of obviousness, the Board agrees with the respondent that D1 contains no suggestion that would prompt the skilled person to incorporate, in the first surface layer of the blown film made from inventive composition 6 or 8, a composition fulfilling the requirement for the second composition of claim 1 and, at the same time, to provide an intermediate layer comprising the first composition together with the HDPE, as required in claim 1.

3.10 D1 (page 6, lines 3–7) discloses that the inventive composition may comprise a LDPE having properties overlapping with those of the second composition defined in claim 1. Furthermore, claim 6 of D1 specifies that a layer formed from a composition comprising a first composition with the properties set out in claim 1 of the main request may additionally include a LDPE. In this context, a specific LDPE, AGILITY 1021, having a density and melt index falling within the ranges required for the second composition of claim 1 of the patent, is disclosed as being added to compositions 4, 5, and 7 of D1 (see page 42, lines 13–14, and page 47, lines 18–20).

Even if the skilled person, in light of this teaching, were to consider adding a LDPE having the properties defined for the second composition in claim 1 of main request to inventive composition 6 or 8 of D1, they would still not arrive at the claimed subject-matter. D1 nowhere suggests providing, in an intermediate layer, the first composition together with the HDPE, required in claim 1.

Accordingly, the subject-matter of claim 1 of the main request (former auxiliary request 1)is not obvious to the skilled person starting from D1.

3.11 D4, D6 and D7 merely provide properties of conventional HDPE and fail to suggest to modify the film of D1.

3.12 The subject-matter of claim 1 involves an inventive step in view of D1 as the closest prior art alone or in combination with one of documents D4, D6 or D7. The same applies to claims 2 to 14.

4. Adaptation of the description

Neither the appellant nor the Board had any objection to the amended description filed by the respondent with letter dated 15 June 2026. The patent can therefore be maintained on the basis of the claims of the main request together with the description as amended on 15 June 2026.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The case is remitted to the opposition division with the order to maintain the patent as amended in the following version:

Description:

- Paragraphs [0001] to [0006],[0008] to [0020], [0022] to [0079], [0081] to [0155], [0159] to [0167] of the patent specification,
- Paragraphs [0007], [0021], [0080], [0156], [0157] and [0158] filed with letter dated 15 June 2026

Claims:

No. 1 to 14 according to main request filed as auxiliary request 1 on 14 July 2022

Drawings:

Figures 1 to 6 of the patent specification.

The Registrar: The Chair:

K. Götz-Wein A. Haderlein

Decision electronically authenticated