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**Datasheet for the decision
of 30 April 2025**

Case Number: T 0886/23 - 3.3.03

Application Number: 17719858.7

Publication Number: 3469021

IPC: C08L23/08, C08L23/26,
B32B27/08, B32B17/10,
H01L31/054, H01L31/042

Language of the proceedings: EN

Title of invention:

MULTILAYER ASSEMBLY COMPRISING SILANE-GRAFTED POLYOLEFIN

Patent Proprietor:

FINPROJECT S.p.A.

Opponent:

The Dow Chemical Company

Relevant legal provisions:

RPBA 2020 Art. 13(2)

EPC Art. 56

Keyword:

Amendment after summons - exceptional circumstances (no)
Inventive step - obvious alternative

Decisions cited:

T 0939/92



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Case Number: T 0886/23 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 30 April 2025

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
13 March 2023 concerning maintenance of the
European Patent No. 3469021 in amended form.**

Composition of the Board:

Chairman D. Semino
Members: F. Rousseau
W. Ungler

Summary of Facts and Submissions

- I. The appeal lies from the interlocutory decision of the opposition division according to which European patent No. 3 469 021 as amended according to the claims of auxiliary request 1, filed initially as second auxiliary request with letter dated 1 December 2022, and a description adapted thereto met the requirements of the EPC.
- II. The decision was taken having regard *inter alia* to the following documentary evidence:
- D1: WO 2014/176088 A1
D10: Technical report submitted by the patent proprietor with letter of 1 December 2022.
- III. According to the reasons for the contested decision which are pertinent for the appeal proceedings:
- (a) Experimental report D10 was admitted into the proceedings.
- (b) The subject-matter of auxiliary request 1 was found *inter alia* to involve an inventive step over the disclosure of Example 1 of document D1 taken as the closest prior art.
- IV. An appeal against that decision was lodged by the opponent (appellant).
- V. Following the filing of the statement setting out the grounds of appeal and a reply to the statement of grounds of appeal filed by the patent proprietor

(respondent), additional written submissions were made by both parties.

VI. After issuance of a communication pursuant to Article 15(1) RPBA conveying the Board's provisional opinion in preparation of the oral proceedings, the respondent submitted with letter of 29 April 2025 the following document:

D13: WO 91/09075 A1

VII. Oral proceedings before the Board were held on 30 April 2025 by videoconference with the participation of both parties.

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

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

The respondent requested that the appeal be dismissed.

IX. The claim relevant for the present decision is claim 1 of the claim request underlying the decision under appeal, filed initially as second auxiliary request with letter dated 1 December 2022. It reads as follows:

"1. A multilayer composition comprising:

(a) at least one layer of glass, of a metal or of a polymeric material (PM), and

(b) a least one polymeric layer comprising a cross-linked polyolefin (XPO) obtainable by hydrolysis and condensation of a cross-linkable polymer (SPO) having one or more backbone chains consisting of recurring units derived from ethylene and a C₆-C₁₀ olefin and comprising hydrolysable silane groups, said cross-

linkable polymer (SPO) being obtainable from the reaction of:

- an olefin silane (OS) comprising hydrolysable silane groups of formula $R^1R^2R^3SiY$, wherein Y denotes a hydrocarbon radical comprising at least one vinyl functional group, R^1 is a hydrolysable group and R^2 and R^3 are, independently from each other, a C_1-C_8 alkyl group or are an hydrolysable group as R^1 , with
- a blend (CB) of at least two copolymer (c1) and (c2) of ethylene and a C_6-C_{10} olefin,

wherein:

the melt flow rate (MFR) of (c1) is lower than 8 g/10 min and the MFR of (c2) is higher than 10 g/10 min, as measured at 190°C and 2.16 kg according to ISO 1133; the weight ratio of (c1):(c2) in (CB) is from 70:30 to 60:40; and

wherein b) adheres directly to at least a portion of (a) and (PM) is different from (XPO)."

- X. The parties' submissions, in so far as they are pertinent to the present decision, may be derived from the reasons for the decision below. They essentially concerned admittance of D13 into the proceedings and inventive step of the claimed multilayer composition over the disclosure of Example 1 of D1 as the closest prior art.

Reasons for the Decision

Admittance of D13

1. With letter of 29 April 2025, i.e. one day before the oral proceedings, the respondent indicated that the reference to WO 91/07075 in paragraph [0060] of the opposed patent was erroneous and should read WO 91/09075, which document D13 was filed with the same letter. These submissions by the respondent constitute an amendment to the respondent's case made after notification of the Board's communication under Article 15, paragraph 1. Pursuant to Article 13 (2) RPBA, such amendment, shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

The respondent's sole justification for the filing of D13 is that it was filed in case it was necessary to address the teaching of the document erroneously mentioned as WO 91/07075. However, in the absence of any reference to the technical teaching provided in paragraph [0060] of the specification, in particular that of document WO 91/07075, in the entire opposition or appeal proceedings, the Board does not discern any exceptional circumstances within the meaning of Article 13 (2) RPBA which would justify the filing of D13. On this basis, the Board found it appropriate to exercise its discretion under Article 13 (2) RPBA by not taking into account this document into the proceedings.

Inventive step

2. According to paragraph [0009] of the specification, there was a need for a material suitable to be used as encapsulant material for photovoltaic modules that overcomes the drawbacks of EVA and of the known olefin-based materials.

Closest prior art

3. An olefin-based encapsulant material for photovoltaic modules, which was known at the filing date of the patent, is described in Example 1 of document D1. In agreement with the contested decision, the parties consider that the disclosure of said example represents a suitable starting point for the invention in accordance with operative claim 1. The Board has no reason to depart from that view and therefore considers the disclosure of Example 1 of D1 to be the closest prior art.

Distinguishing feature

4. The composition of the encapsulant film in Example 1 of D1 is described in Table 1 on page 18, as well as in paragraphs [0077] to [0082], which give details about its individual components.

According to Table 1, this encapsulant film comprises 65.0 wt.% of a grafted resin obtained by reacting a mixture consisting of:

- 44.1 wt.% of copolymer "E/O 1" (an ethylene/octene copolymer having a MFR of 5 g/10 min; paragraph [0078], whereby the MFR are disclosed in D1 by reference to the

equivalent parameter Melt Index (MI) as shown in paragraph [0034] of that document),

- 39.2 wt.% of copolymer "E/O 2" (an ethylene/octene copolymer having a MFR of 30 g/10 min; paragraph [0079])
- 14.7 wt.% of copolymer "E/O 4" (an ethylene/octene copolymer having a MFR of 18 g/10 min; paragraph [0081])
- 1.905 wt.% vinyl trimethoxy silane and
- 0.905 of a peroxide (2,5-bis(tert-butylperoxy)-2,5-dimethylhexane) (paragraph [0077]).

E/O 1 corresponds to a copolymer (c1) in accordance with operative claim 1. E/O 2 and E/O 4 correspond both to a copolymer (c2) as defined in present claim 1.

The encapsulant film of Example 1 of D1 comprises in addition to said grafted resin 25.0 wt.% of E/O 4 and 10.0 wt.% of a masterbatch with additives made with an ethylene/octene copolymer having a MI of 5 g/10 min carrier resin (D1, paragraph [0082]).

The parties were in agreement that the subject-matter of operative claim 1 differs from the multilayer composition described with Example 1 of D1 only in that the weight ratio of (c1) to (c2) for the preparation of the cross-linkable polymer is from 70:30 to 60:40.

Although the parties agreed on the existence of this sole distinguishing feature, there was no consensus on the (c1):(c2) weight ratio used in the closest prior art for the preparation of the cross-linkable polymer (SPO). While the appellant held that only one copolymer of each type should be chosen for calculating said ratio (i.e. either E/O2 or E/O4 as copolymer (c2)), meaning that a (c1):(c2) weight ratio of 75:25 could be

computed taking only E/04 as copolymer (c2) (statement of grounds of appeal, page 9, point 5.3), the respondent took the view that the sum of all copolymers of the same type (c1) or (c2) should be used, which would result in a (c1):(c2) weight ratio of 45:55 (rejoinder, pages 10 and 11, section 5.2).

The definition of a blend (CB) of at least two copolymers (c1) and (c2) of ethylene and a C₆-C₁₀ olefin in operative claim 1 implies that one or more of each of (c1) and (c2) can be employed to prepare the cross-linkable polymer (SPO), as confirmed in paragraph [0035] of the specification. Moreover, since operative claim 1 contains no limitations regarding the number of components belonging to category (c1) or (c2), nor their proportions within these categories, the only sensible technical meaning of this ratio is that it must take into account all the copolymers (c1) and (c2) used to prepare the cross-linkable polymer (SPO). On this basis, the weight ratio of the (c1) and (c2) copolymers used to prepare the cross-linkable polymer (SPO) in the closest prior art is 45:55, as correctly submitted by the respondent.

Problem successfully solved

5. The respondent submitted that the mix of low MFR polymer (i.e. component (c1)) and high MFR polymer (i.e. component (c2)) fulfils both the need to increase the adherence to glass and the need to facilitate the processability (letter of 5 June 2024, paragraph bridging pages 2 and 3). On that basis, the objective technical problem was formulated by the respondent at the oral proceedings in the same manner as in the contested decision (point 3.5.3 of the Reasons), namely as the provision of a multilayer composition in which

the encapsulant layer has improved adhesion and good processability.

The conclusion of the opposition division regarding the problem successfully solved over the closest prior art was based on the experimental data reported in D10. The opposition division considered without providing further explanation in that respect that "*the proprietor has shown that for the process conditions used in D10 (amount of peroxide, catalyst, silane, temperature, type of extruder etc) the effect of improved adhesion is linked to the claimed ratio c1/c2*" (point 3.5.2.3 of the Reasons, last paragraph). In the absence of any evidence filed by the opponent, the opposition division had "*no reason to assume that such effect would not occur under different process conditions.*"

In addition, the respondent submitted that Examples 4 and 5 of the specification demonstrate the effectiveness of a composition with a (c1):(c2) ratio of 70:30 in terms of resistance to delamination before and after ageing (Table 2 and 3) and in terms of optical properties (rejoinder, section 5.3).

- 5.1 This is disputed by the appellant. In their opinion, neither the experimental report D10, nor the experimental data comprised in the specification would be suitable to demonstrate said alleged technical benefits.

The probative value of the experimental results shown in D10 was contested among others on the grounds that it would be difficult or impossible to rationalise the trends in MFR and in the percentage of gel of the cross-linked polymer as a function of the (c1):(c2)

ratio (statement of grounds of appeal, sections 5.10 to 5.12), and that the examples in D10 were too dissimilar to Example 1 of D1 to provide a fair comparison (statement of grounds of appeal, section 5.16).

The objective technical problem solved over the closest prior art would therefore reside in the mere provision of a further multilayer composition (statement of grounds of appeal, section 5.33).

5.2 The experiments addressed in D10 are summarized in its Table 2 reproduced below:

	Monoresin C1 or C2		Blend of resins					Monoresin C3
			A phr	B phr	C phr	D phr	E phr	
C1 (MFR = 5 g/10')	100		80	70	60	50	40	
C2 (MFR = 30 g/10')		100	20	30	40	50	60	
C3 (MFR = 13 g/10')								100
Properties of cross-linked polymers								
MFR 190°C/2,16	3.1	18.0	3.5	7.4	6.1	6.7	7.4	6.5
gel content	33.3	3.4	19.8	52.7	59.2	29.4	25.1	3.6

The cross-linkable polymers which allow to prepare a multilayer composition in accordance with operative claim 1 are those obtained with blends B and C. The other materials correspond to embodiments which are not in accordance with the present invention. A (c1):(c2)

weight ratio of 45:55 as used in the closest prior art is between those used for comparative tests E and D of D10.

5.3 Based on the information given in D10, these experiments can be described in the following manner:

The polyolefins (c1, c2, c3) are functionalised with a silane to obtain a cross-linkable polymer using vinyltrimethoxysilane (VTMO) at a ratio of 1.7 parts by weight to 100 parts by weight of polyolefin. A small amount of DCP peroxide is previously solubilised in the VTMO silane. The peroxide enables the silane to be grafted onto the polyolefin chains via a temperature-activated radical reaction during the compounding process (D10, page 2, last paragraph).

In a first step, the polyolefin pellets, i.e. for resins A to E a mixture of c1 pellets and c2 pellets, were mechanically homogenized and an exactly weighted quantity of silane containing the peroxide was dispersed on their surface. The pellets were left for one hour to facilitate absorption of the silane (D10, page 3, first paragraph).

In a second step, the surface treated pellets were compounded in an extruder in order to homogenise the polymers in the molten state, and at the same time to decompose the peroxide, resulting in the generation of radicals and the grafting of silane groups. The resulting polymers branched with silane groups were then granulated and cooled (D10, page 3, second and third paragraphs).

The MFR of the silane-grafted polymer blends (SPO) A-E was determined directly on the pellets obtained from the compounding extruder (D10, page 4, lines 4-5).

In a third step the five blends of grafted polymers (SPO) A-E were added with a masterbatch containing a catalyst capable of activating and accelerating the hydrolysis and condensation reactions of the silanol groups that convert the material to the cross-linked state (XPO). The five blends of SPO pellets and masterbatches were then extruded in the form of a strip (D10, page 4, lines 6-10).

In said fourth step a strip sample of each of the five blends was treated in water at 95°C for 2 hours in order to complete the crosslinking reaction, followed by the measurement of the maximum gel content of the cross-linked polymers XPO (D10, page 4, lines 10-13).

5.4 Regarding the relevance of the parameters MFR and gel content reported in D10:

Higher MFR values of the grafted polymers SPO would allow for a more homogeneous film deposition between the photovoltaic cells and the front glass or the rear backsheet. This would minimise the risk of defects, which could lead to the formation of areas of delamination and, in general, loss of adhesion between the layers (D10, page 1, lines 16-21).

The gel content would be a measure of the extent of cross-linking achievable by the cross-linked material (XPO) (D10, page 1, lines 22-23). A high gel value would correspond to the formation of dense three-dimensional bonds between the polymer chains. Higher cross-linking would favour adhesion and prevent over

time delamination between the layers of the cells, as well as increasing the module's maximum operating temperature (D10, paragraph bridging pages 1 and 2).

- 5.5 While D10 describes that the MFR of the silane-grafted polymer blends (SPO) A-E was determined directly on the pellets obtained from the compounding extruder (see point 5.3 above, fifth paragraph), i.e. at a stage where no cross-linking of the grafted silane groups has taken place, it is apparent that the variations of MFR reported in Table 2 as a function of the (c1):(c2) ratio are not in agreement with that statement. This is because blends B and E with different (c1):(c2) ratios of 70:30 and 40:60, respectively, using single components c1 and c2 which are not cross-linked and exhibit a marked difference in their MFR values, are expected to exhibit a different MFR, contrary to what is obtained in the present case with the same value of 7.4 g/10 min for both mixtures.

This statement is also in contradiction with the indication at the bottom of Table 2 that the MFR is a property of the cross-linked polymers. The respondent, however, stated at the oral proceedings that the MFR indicated in Table 2 is not that of the completely cross-linked polymers obtained after the above mentioned fourth step, since the material is too highly cross-linked at this stage to be flowable. According to the respondent's indications given during the oral proceedings, the MFR reported in Table 2 instead refers to the polymeric material at the extrusion stage (i.e. in the third step mentioned above), which is partly cross-linked, but still flowable (see minutes, page 3, second paragraph). This is in agreement with the teaching in paragraph [0077] of the specification according to which a partial cross-linking of the (SPO)

can be carried out during its preparation, e.g. during extrusion of the layer in the form of a film.

In addition, the respondent confirmed at the oral proceedings that the gel contents specified in the last row of Table 2 were for the rigid products obtained after completion of the cross-linking reaction (minutes, page 3, second paragraph).

5.6 In section 5.11 of the statement of grounds of appeal, the appellant noted that the trends in both MFR and % gel as a function of the (c1):(c2) ratio concerning the results of D10 were unclear. This was illustrated by the table shown in section 5.10 of the statement of grounds of appeal, in which the experimental results of Table 2 of D10 have been ordered as follows:

	c1/c2 ratio	MFR (=I ₂) cross-linked polymer	% gel cross-linked polymer
Formulation A	c1/c2 = 80:20	MFR = 3.5	% gel = 19.8
Formulation B	c1/c2 = 70:30	MFR = 7.4	% gel = 52.7
Formulation C	c1/c2 = 60:40	MFR = 6.1	% gel = 59.2
Formulation D	c1/c2 = 50:50	MFR = 6.7	% gel = 29.4
Formulation E	c1/c2 = 40:60	MFR = 7.4	% gel = 25.1
Monoresin c1		MFR = 3.1	% gel = 33.3
Monoresin c2		MFR = 18.0	% gel = 3.1

As the appellant pointed out, the monoresin c1 with a MFR of 3.1 g/10 min, i.e. the resin with the highest molecular weight has a reported gel content of 33.3% and the monoresin c2 with a MFR of 18.0 g/10 min and therefore the lowest molecular weight, exhibits a % gel of 3.1. This is technically sensible, since a resin with a higher initial molecular weight is expected to require a smaller number of reaction events to reach

the gel point, as pointed out by the appellant (appellant's letter of 29 February 2024, section 53, lines 7-9).

The indication by the appellant that a higher concentration of reactive sites on the polymer, i.e. of grafted silane groups, favours a greater degree of cross-linking (statement of grounds of appeal, section 5.10, first sentence) is common general knowledge and undisputed. Accordingly, polyolefins with a decreasing molecular weight or increasing MFR are expected to exhibit a lower degree of cross-linking and gel content for the same concentration of grafted silane groups. This would mean that formulations A to E prepared with an increasing proportion of the monoresin c2 of higher MFR or a decreasing (c1):(c2) ratio are expected to result in a decreasing % of gel content.

However, while an increase in the proportion of resin c2 initially results in a decrease in % gel (blend A leads to a % gel value of 19.8% for a (c1):(c2) ratio of 80:20, compared to a % gel value of 33.3% for resin c1 alone), a further increase in the proportion of the c2 component results in % gel values higher than the initial value (52.7% and 52.9% for blends B and C, with (c1):(c2) ratios of 70:30 and 60:40, respectively). A further increase in the proportion of the c2 component, however, leads to a decrease in % gel values (29.4% and 25.1% for blends D and E, with (c1):(c2) ratios of 50:50 and 40:60, respectively).

As pointed out by the appellant, this makes it difficult to rationalise the data reported in Table 2.

5.7 The appellant questioned the credibility of the test report D10, arguing that the graft yield, i.e. the

amount of vinyltrimethoxysilane ultimately grafted to the polymer divided by the amount of vinyltrimethoxysilane provided for reaction, was not disclosed for any of the compositions (statement of grounds of appeal, section 5.13). The appellant is therefore of the opinion that the concentration of reactive sites between the various polymers tested might have been varied, which would not only make it impossible to attribute any technical effect to the sole (c1):(c2) weight ratio, but also explain the erratic variations in % gel.

In the absence of information regarding factors that could impact the MFR at the extrusion stage or the maximum gel content obtained after exposure to moisture of the extruded films (such as the grafting yield obtained when functionalising the polyolefin resins), in a context where an exhaustive description of the tests performed with D10, ensuring that all test conditions except the (c1):(c2) ratio can be considered to have been kept the same, is missing, the Board agrees with the appellant that no firm conclusion can be drawn about the influence of the (c1):(c2) ratio on the properties measured in D10.

- 5.8 According to the established jurisprudence, if comparative tests are relied upon to demonstrate an inventive step on the basis of an improved effect, 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 features distinguishing the invention from the closest state of the art (Case Law of the Boards of Appeal, 10th edition, 2022, hereinafter "Case Law", I.D.4.3.2).

In the present case, having regard to the incoherent information, erratic data and missing details about the tests reported in D10 (see above points 5.5, 5.6 and 5.7), it was not shown that the comparative tests offered with D10 are suitable to demonstrate that the feature distinguishing the invention from the closest state of the art, i.e. a weight ratio of (c1) to (c2) from 70:30 to 60:40 is causative for the alleged technical advantages in terms of MFR and gel content.

- 5.9 The respondent submitted in relation to test report D10 that, although the degree of cross-linking expressed by the gel content is related to graft yield, certain silane branches pending from the polymer backbone may not cross-link (rejoinder, section 5.8).

In this respect, during the oral proceedings the respondent reiterated the arguments brought forward in section 5.7 of their rejoinder, namely that higher gel contents could be explained by a better heat dispersion within the bulk of the blend, due to the higher flowability of the (c2) resin. This higher flowability would enable active sites (i.e. other reactive silane groups for condensation) to be reached faster and more completely within the blend's mass than would be the case with component (c1) alone. This would increase the degree of cross-linking of the blend, as cross-linking is a reaction that depends on temperature. Therefore, a skilled person in polymer technology would not consider the data of D10 to be implausible.

The respondent's argument refers to the polymeric material in a molten state, since the (c2) resin carrying reactive sites is said to flow, and undergoes cross-linking. This means that the respondent's argument can only refer to the above mentioned third

step of the process described in D10, in which the polymeric material is extruded to form strips (D10, page 4, lines 6-13). This is consistent with the respondent's indication at the oral proceedings that cross-linking of the polymeric material begins with the experiments of D10 when the material is applied by extrusion, i.e. while the material is still flowable (point 5.5 above, second paragraph).

This is not convincing. Even when considering to the benefit of the respondent that all test conditions were meant to be the same for all samples prepared in D10, meaning that the sole variable changed was the (c1): (c2) ratio, their explanations for the erratic results in terms of % gel content and MFR as a function of the c1:c2 weight ratio are not consistent with the experimental data of D10.

The respondent's argument that higher gel contents would be achieved because higher amounts of (c2) would lead to a better heat dispersion, favouring cross-linking of the silane group during the extrusion of the polymeric material in strip form implies that samples B and C according to the invention should exhibit a higher degree of cross-linking at that stage.

However, this does not align with the MFR of the polymeric material at that stage, as shown in Table 2. This is demonstrated by the fact that the highest MFR of all blends is achieved by both inventive blend B and comparative blend E.

Moreover, the respondent's explanation that heat dispersion within the bulk of the blend would be improved by the higher flowability of resin (c2) is not supported by any reference to relevant literature.

On that basis, the respondent's explanations for the erratic variations of the gel content as a function of the (c1):(c2) ratio do not lend credibility to the data reported in D10.

- 5.10 In these circumstances, there is no need to evaluate whether the degree of gel content of the cross-linked blend of grafted polyolefins (c1) and (c2), as measured in D10, is representative of its degree of adhesion, as argued by the respondent.
- 5.11 In view of the above, the respondent did not demonstrate with D10 that the (c1):(c2) ratio defined in operative claim 1 is causative for the alleged improvement in adhesion and good processability.
- 5.12 With regard to the probative value of Examples 4 and 5 of the specification, which the respondent alleged to demonstrate the effectiveness of a composition with a (c1):(c2) ratio of 70:30 in terms of resistance to delamination before and after ageing, as well as optical properties, these were not compared with a comparative composition exhibiting a (c1):(c2) ratio of 45:55 which is representative of the closest prior art. Furthermore, the comparative examples of the patent in suit only concern the use of a single grafted polyolefin of the type (c1) (Comparative Example 1), the use of a single grafted polyolefin that is neither of type (c1) or type (c2) (Comparative Example 3) and a blend that does not comprise a polymer of type (c2) (Comparative Example 2). In addition, Examples 4 and 5 do not concern compositions comprising a non-grafted polyolefin in addition to the blend of grafted polyolefins (c1) and (c2). For these reasons, the experimental data of the patent in suit cannot

demonstrate that the feature distinguishing the subject-matter of operative claim 1 from the closest prior art brings about the alleged technical advantages, particularly in the context of the closest prior art, where the composition to be applied comprises 25 wt.% of a non-grafted polyolefin.

- 5.13 In view of the foregoing, and considering that, according to established case law, alleged advantages to which the patent proprietor merely refers, without offering sufficient evidence to support the comparison with the closest prior art, cannot be taken into consideration in determining the problem underlying the invention and thus in assessing inventive step (Case Law, I.D.4.3.1), it is concluded that the objective technical problem solved over the closest prior art resides in the mere provision of a further multilayer composition.

Obviousness of the solution

6. It remains to be decided whether the skilled person desiring to solve the problem so defined would have found it obvious to modify the multilayer composition of the closest prior art in such a way as to arrive at the multilayer composition of operative claim 1. The appellant referred in this respect to the general teaching of D1, in particular its paragraphs [0038] and [0039].

It is an established principle that the answer to the question as to what a person skilled in the art would have done depends on the result he/she wished to obtain (T 939/92, point 2.5.3 of the Reasons).

In the present case, the skilled person is seeking to provide a further multilayer composition, i.e. independently of whether or not an improvement of adhesion or processability is achieved.

In view of the variation in the proportion of the polyolefins to be grafted in Examples 1 and 2 of D1 (Table 1 on page 18), and in line with the general teaching in paragraph [0038] of D1, according to which "*blends of any of the ethylene interpolymers described above may also be used*", which is to be read in the light of paragraphs [0036] and [0037] concerning the "*ethylene interpolymers used in the grafted resin composition*", the skilled person faced with the problem identified in point 5.11 above would have found it obvious to vary the proportions of copolymers E/O 1 (a component of the (c1) type with a MFR of 5 g/10 min), E/O 2 (a component of the (c2) type having a MFR of 30 g/10) and E/O 4 (a component of the c2 type with a MFR of 18 g/10 min). On this basis, the skilled person would have found it obvious to prepare blends of copolymers E/O 1, E/O 2 and E/O 4 corresponding to a (c1):(c2) ratio in accordance with the definition of operative claim 1.

It is also undisputed that varying the proportion of copolymers E/O 1, E/O 2 and E/O 4 would necessarily result in a blend with a MFR in accordance with the general teaching given in paragraph [0039] of D1, i.e. a MFR within the range of 1 to less than about 100 g/10 min. By performing such obvious variations of the amounts of copolymers E/O 1, E/O 2 and E/O 4 the skilled person would thus arrive, without any inventive ingenuity, at a multilayer composition falling within the definition of operative claim 1.

Accordingly, the subject-matter of present claim 1 which encompasses obvious embodiments does not meet the requirements of Article 56 EPC, prejudicing maintenance of the patent in the form defined in the present and sole claim request.

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