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Datasheet for the decision of 9 October 2020

Case Number: T 0302/17 - 3.3.03

Application Number: 10709235.5

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Title of invention:
POLYOLEFIN MASTERBATCH AND COMPOSITION SUITABLE FOR INJECTION MOLDING

Patent Proprietor:
Basell Poliolefine Italia S.r.l.

Opponent:
Borealis AG

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (no)

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Case Number: T 0302/17 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 9 October 2020

Respondent: (Patent Proprietor)	Basell Poliolefine Italia S.r.l. Via Pontaccio 10 20121 Milano (IT)
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Representative:	Lux, Berthold Maiwald Patentanwalts- und Rechtsanwaltsgesellschaft mbH Elisenhof Elisenstraße 3 80335 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 5 December 2016 concerning maintenance of the European Patent No. 2411464 in amended form.**

Composition of the Board:

Chairman	D. Semino
Members:	D. Marquis
	C. Brandt

Summary of Facts and Submissions

I. The appeal by the opponent lies from the decision of the opposition division concerning maintenance of European patent No. 2 411 464 in amended form on the basis of auxiliary request II filed during the oral proceedings before the opposition division and an adapted description.

II. Claim 1 of the patent in suit read:

"1. A masterbatch composition comprising:

- 70-90 %wt of a component (A) being a propylene homopolymer or a copolymer of propylene with ethylene or C_4-C_{10} alpha olefins, having a MFR^A according to ISO 1133 (230°C/2.16 Kg) ranging from 15 to 70 g/10 min; and

- 10-30 %wt of a component (B) being a propylene-ethylene copolymer comprising 25-45 %wt of ethylene derived units and having a value of the intrinsic viscosity [η] (determined in tetrahydronaphtalene at 135°C) of the fraction soluble in xylene at room temperature ranging from 5 to 9 dl/g, said masterbatch composition having a total MFR higher than 4 g/10 min, and a value of the flexural modulus measured according to ISO method 178 ranging from 950 to 2000 MPa."

III. A notice of opposition against the patent was filed in which revocation of the patent was requested.

IV. The contested decision was based on the claims as granted as the main request and on the auxiliary requests I and II both filed during the oral proceedings.

Claim 1 of auxiliary request I read as follows:

"1. A thermoplastic polyolefin composition comprising up to 30% by weight of a masterbatch composition comprising:

- 74-86 %wt of a component (A) being a propylene homopolymer or a copolymer of propylene with ethylene or C_4-C_{10} alpha olefins, having a MFR^A according to ISO 1133 (230°C/2.16 Kg) ranging from 20 to 60 g/10 min; and

- 14-26 %wt of a component (B) being a propylene-ethylene copolymer comprising 30-42 %wt of ethylene derived units and having a value of the intrinsic viscosity [η] (determined in tetrahydronaphtalene at 135°C) of the fraction soluble in xylene at room temperature ranging from 5 to 9 dl/g,

said masterbatch composition having a total MFR comprised between 6 and 10 g/10 min, and a value of the flexural modulus measured according to ISO method 178 ranging from 950 to 2000 MPa."

Auxiliary request II differed from auxiliary request I in that the wording "suitable for injection molding" was added after "A thermoplastic polyolefin composition" in claim 1.

V. The following documents were cited *inter alia* in the contested decision:

D3: WO 02/28958 A2
D4: EP 2 000 506 A1

VI. The decision of the opposition division can be summarized as follows:

Main request

Sufficiency of disclosure

- The ethylene content and the intrinsic viscosity of component (B) as well as the flexural modulus of the masterbatch composition were common properties for which standard measurement methods were available to the skilled person. Furthermore, the patent in suit mentioned general measurement methods for these three properties.

- Besides, the question of whether a skilled person could ascertain whether a given masterbatch composition fell within the ambit of claim 1 or not was not a question of lack of sufficiency of disclosure but a question of lack of clarity, which was not open to objection in opposition.

Novelty

- Claim 1 of the main request pertained to a composition. The wording "masterbatch" had no recognized meaning in the art and was not shown to be limiting for claim 1. As a consequence, claim 1 was directed to a composition comprising the components (A) and (B) in weight ratios defined by the numerical ranges according to claim 1.

- Example 6 of D4 disclosed a polyolefin composition having a flexural modulus of 1380 MPa and a melt flow rate (MFR) of 29 g/10 min, said composition comprising 74 wt.-% of a component (A) being a crystalline propylene polymer having a MFR^A of 57 g/10 min (230°C/2.16 kg) and 26 wt.-% of a component (B) being a propylene-ethylene random copolymer with a 30 wt.-% ethylene content and an intrinsic viscosity of 7.3 dl/g.

- The composition of example 6 of D4 fell under the definition of the composition of claim 1 of the main request. As a consequence claim 1 of the main request lacked novelty.

Auxiliary request I

- The passage of the description cited as a basis for claim 1 of auxiliary request I was limited to a thermoplastic polyolefin composition suitable for injection molding. Claim 1 of auxiliary request I, which was not limited to such a composition, did not meet the requirements of Article 123(2) EPC.

Auxiliary request II

- The claims of auxiliary request II met the requirements of Articles 123(2) and (3) EPC.

- It was clear from the claims and from paragraph 39 of the patent in suit that the reference in claim 1 to 30 wt.-% of masterbatch was made with respect to the thermoplastic polyolefin composition. Any further objection relating to the amount of (A) and (B) in the composition was not open to discussion under Article 84 EPC since these features were

already present in the granted claims. The objections to claim 1 of auxiliary request II under Article 84 EPC were therefore not successful.

Novelty

- Neither D3 nor D4 disclosed a thermoplastic composition comprising up to 30 wt.-% of the masterbatch composition as defined in claim 1.

Inventive step

- D4 was the closest prior art. Claim 1 differed from D4 in the flexural modulus and the MFR of the modifier composition.

- Since it was not shown that any effect resulted from any of these distinguishing features, the problem that could be formulated was the provision of alternative polyolefin compositions which permitted injection moulding of articles having low gel content.

- Neither D3 nor D4 itself rendered claim 1 of auxiliary request II obvious. Auxiliary request II thus met the requirements of Article 56 EPC.

VII. Both the patent proprietor and the opponent lodged an appeal against that decision. The patent proprietor, however, withdrew their appeal at the outset of the oral proceedings before the Board. The opponent therefore remained the sole appellant, while the patent proprietor became the respondent.

VIII. Document D12 (WO 2004/087805) was filed *inter alia* by the respondent with the reply to the statement of

grounds of appeal of the appellant.

IX. The parties were summoned to oral proceedings. Issues to be discussed at the oral proceedings were then specified by the Board in a communication dated 16 January 2020.

X. Oral proceedings were held on 9 October 2020, the appellant being present on the EPO premises and the respondent being connected remotely by videoconference.

XI. The appellant's arguments, insofar as relevant to the decision, may be summarised as follows:

Inventive step - Claims upon which the maintenance of the patent was based (Main request)

(a) Document D4 represented the closest prior art. Any of examples 6, 9 or 10 could be chosen as starting points within D4. Example 6 of D4 in particular disclosed a composition that was a mixture/blend of three polymer components being 85 wt-% of base material-1, 10 wt.-% of Modifier-11 and 5 wt.-% of Modifier-23. Further, the crystalline propylene polymer (B1) contained in Modifier-23 corresponded to the propylene homopolymer component (A) of claim 1 of the main request and the propylene/ethylene random copolymer (A2) contained in Modifier-11 corresponded to the propylene-ethylene copolymer component (B) of claim 1 of the main request.

(b) Claim 1 of the main request defined a thermoplastic polyolefin composition comprising up to 30 wt.-% of a masterbatch wherein the masterbatch comprised the components (A) and (B). In other words the thermoplastic polyolefin composition contained

other components than the masterbatch and the masterbatch itself could also contain other components as well. That allowed several interpretations of the composition disclosed in example 6 of D4, one of them being that component (B1) of the Modifier-23 having a melt flow rate of 57 g/10 min and component (A2) of Modifier-11 having an ethylene content of 30 wt.-% and an intrinsic viscosity of 7.3 dl/g corresponded to components (A) and (B) of claim 1 of the main request while the remaining components (A1) of Modifier-11 and (B2) of Modifier-23 were additional components of the masterbatch as defined in claim 1 of the main request. The masterbatch was present in a calculated amount of 15 wt.-% in the composition of example 6 of D4 (the rest being base material-1), which corresponded to the thermoplastic polyolefin composition according to claim 1 of the main request.

(c) The total melt flow rate (MFR) and the flexural modulus of the masterbatch composition disclosed in example 6 were not explicitly disclosed in D4. The MFR of the masterbatch in example 6 of D4 could however be derived using information available in the patent in suit. The intrinsic viscosity of the xylene soluble fraction and the MFR of the masterbatch in example 2 of the patent in suit which was quite similar to the masterbatch of example 6 of D4 were 7.41 dl/g and 5.9 g/10 min respectively. Since a higher intrinsic viscosity meant a lower MFR, it could be derived from the slightly lower value of the intrinsic viscosity disclosed in example 6 (7.3 dl/g) that the MFR of the masterbatch had to be somewhat higher than 5.9 g/10 min, the value disclosed in example 2 of the

patent in suit. Also, the flexural modulus of the masterbatch of the example 6 could be deduced from D4 itself. Indeed, the flexural modulus of the base material-1 disclosed in Table 8 of D4 (1380 MPa) was identical to that of the composition in the presence of the masterbatch (Table 7) which could only mean that the flexural modulus of the masterbatch had to be close to 1380 dl/g.

(d) If it were not acknowledged that the MFR or the flexural modulus of the masterbatch of example 6 of D4 were according to claim 1 of the main request, it had anyway to be concluded that no effects had been shown to result from the choice of any of these two parameters in the ranges defined in claim 1 of the main request. The problem was therefore the provision of alternative thermoplastic polyolefin compositions.

(e) The ranges defining the MFR and the flexural modulus of the masterbatch in claim 1 of the main request were not special in any way and were not uncommon in these compositions. The selection of a masterbatch with an MFR and a flexural modulus in these ranges was therefore not inventive with the consequence that claim 1 of the main request lacked an inventive step.

XII. The respondent's arguments, insofar as relevant to the decision, may be summarised as follows:

Inventive step - Claims upon which the maintenance of the patent was based (Main Request)

(a) Claim 1 of the main request differed from the composition of example 6 of D4 in the total MFR and

the flexural modulus of the masterbatch.

(b) It had not been demonstrated that the total MFR of the masterbatch was within the range defined in claim 1 of the main request. Even if the MFR of the modified polyolefin composition was related to the MFR of its individual components by application of the Philippoff rule, the masterbatch comprised of Modifier-23 and Modifier-11 had to have a MFR of well above 23 in order to increase the MFR of the base material-1 (23 g/10 min) to 26.1 g/10 min as it was the case in the composition of example 6 of D4. Also, it was not shown that the masterbatch according to example 6 of D4 had a flexural modulus in the range defined in claim 1 of the main request. In particular, the appellant had not show that the flexural modulus of a composition could be deduced from the flexural modulus of its individual components. In fact, the respondent was not aware of the existence of that possibility. It had also not been shown how that calculation accounted for the presence of inorganic components in the modifiers. Finally, the flexural modulus in D4 and in the patent in suit were determined with different methods so that the values of this parameter could not be compared across documents.

(c) The problem was the provision of an alternative thermoplastic polyolefin composition.

(d) D4 did not teach a total MFR and flexural modulus of the masterbatch in the ranges defined in claim 1 of the main request. These ranges taken in combination were not arbitrary in claim 1 of the main request. In some respects, D4 taught in a different direction than the patent in suit, in particular since D4 taught the use of a combination of compositions while the patent

in suit used a single composition as masterbatch and also because D4 was directed to modifier compositions having an MFR of more than 10 g/10 min in order to provide modified compositions having an MFR of more than 10 g/10 min. The patent in suit by contrast was directed to thermoplastic polyolefin compositions having an MFR lower than 10 g/10 min. Claim 1 of the main request was thus inventive over D4.

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

XIV. The patent proprietor/respondent requested that the appeal of the opponent be dismissed.

Reasons for the Decision

Main request - Claims upon which the maintenance of the patent was based

1. Inventive step

1.1 Claim 1 of the main request is directed to a thermoplastic polyolefin composition suitable for injection molding comprising up to 30 wt.-% of a masterbatch composition comprising 74-86 wt.-% of a component (A) and 14-26 wt.-% of a component (B). Both the thermoplastic polyolefin composition and the masterbatch composition in claim 1 are defined by an open formulation using the expression "comprising" which is a standard formulation allowing for the presence of any other type of component in the thermoplastic polyolefin composition comprising the masterbatch or in the masterbatch composition alongside

the components (A) and (B) as defined in claim 1. Also, the formulation used in claim 1 of the main request for the definition of the amounts of components (A) and (B) only limits the amount of at least one component falling under component (A) (or similarly under component (B)) in the composition . Thus, a composition containing two components (A) as defined in claim 1 would only require that at least one of them be present in an amount of 74-86 wt.-% (with respect to the sum of (A) and (B) as agreed by the parties) for it to satisfy the condition set out in claim 1.

1.2 Besides, the opposition division already established in their decision that the term "masterbatch" as used in claim 1 was not known in the prior art to have a precise limiting meaning and that the patent in suit did not give any special definition of that term that could be seen as limiting claim 1 of the main request.

1.3 The Board does not see any reason to deviate from that conclusion especially as there is no evidence on file showing that the incorporation of components (A) and (B) as a masterbatch could in itself characterizes the produced thermoplastic polyolefin composition. That also implies that the documents which may be relevant for the assessment of inventive step are not necessarily limited to documents disclosing a masterbatch as such.

1.4 In that regard, the decision of the opposition division relied on example 6 of D4 as representing the closest prior art. In their rejoinder, the patent proprietor submitted that D12, which disclosed a composition indicated to be a masterbatch, was the closest prior art and that an inventive step could be acknowledged starting from D12. The respondent also argued that the

same conclusions on inventive step would also be reached starting from example 6 of D4.

1.5 With regard to example 6 of D4, the opposition division provided in their decision (point 16.3.2) a reasoning as to why it was considered as the closest prior art. In particular, D4 was directed to modifiers for improving injection moulding processability of polypropylene resins, namely reduce flow marks and voids (paragraphs 1, 3, 8, 20, 21 and 81 of D4) which was seen as relating to the same technical field as the patent in suit. Also, the composition of example 6 of D4 was seen as relevant to the patent in suit, claim 1 of the main request only differing from the composition of that example in the values of total MFR and flexural modulus of the masterbatch. On that basis, the decision of the opposition division established that example 6 of D4 was a reasonable starting point for the assessment of inventive step.

1.6 Since the decision under review relied on D4 as the closest prior art and the respondent did not provide in appeal a reason as to why the choice of D4 as closest prior art by the opposition division was an unreasonable one, an inventive step can be acknowledged by the Board only if the subject-matter of claim 1 is found to be inventive starting from that document as the closest prior art (and no different conclusion is reached starting from any other reasonable document). The assessment of inventive step is therefore first carried out from example 6 of D4 in appeal. Since it is concluded that claim 1 of the sole request maintained in appeal lacks inventive step starting from example 6 of D4 (point 1.21, below) there is no need to consider D12 as closest prior art nor is it necessary to decide on the admittance of that document in the appeal

proceedings.

1.7 The starting point within D4 is the thermoplastic polyolefin composition of example 6 of D4. That composition was injection moulded and its properties were measured in terms of distance to flow mark generated on molding and void characteristics (as defined on page 15, lines 37-53 of D4). The results reported in Table 7 on page 24 of D4 are judged to be satisfying. It follows that the thermoplastic polyolefin composition of example 6 of D4 can be seen as being suitable for injection molding.

1.8 Example 6 of D4 discloses a polyolefin composition having a flexural modulus of 1380 MPa and a melt flow rate (MFR) of 26.1 g/10 min (Table 7), said composition comprising 85 wt.-% of the base material-1, 10 wt.-% Modifier-11 and 5 wt.-% of Modifier-23. The base material-1, Modifier-11 and Modifier-23 were mixed in a Henschel mixer for 5 minutes and the resulting mixture was subsequently kneaded and granulated at 210°C in a twin-screw kneader to form a polypropylene resin composition (paragraphs 113 and 114).

1.9 That mixture, among other polymers, contains the following components in the following recalculated amounts:

- 74 wt.-% of a component being a crystalline propylene polymer having a melt flow rate of 57 g/10 min (230°C/2.16 kg) (component B1 of Modifier-23 as disclosed in Table 2) corresponding to component (A) in claim 1 of the main request and

- 26 wt.-% of a propylene-ethylene random copolymer with a 30 wt.-% ethylene content and an intrinsic

viscosity of 7.3 dl/g (component A2 of Modifier-11 as disclosed in Table 1) corresponding to component (B) in claim 1 of the main request,

1.10 These two components B1 and A2 may be considered to form, alongside the additional polymers of Modifier-23 (Propylene/Ethylene Random Copolymer B2) and Modifier-11 (Crystalline Propylene Polymer A1) (both in Tables 1 and 2 of D4) a composition corresponding to the masterbatch defined in claim 1 of the main request.

1.11 The composition of example 6 of D4 contains together with this masterbatch a base material-1 being a mixture of a crystalline polypropylene and a propylene/ethylene random copolymer (Component PP-1), talc (Talc-1), Tafmer A4050S, an ethylene/butene copolymer elastomer, (Elastomer-1) and the antioxidants Irganox 1010 and Irgafos 168 (paragraph 108 and Table 6 of D4), the masterbatch defined above being present in the composition of example 6 in an amount of 15 wt.-% .

1.12 This analysis is based on the assumption that the percentages of components (A) and (B) are referred to the sum of (A) and (B) as specified in paragraph 9 of the patent in suit, which assumption was not contested by the parties in appeal.

1.13 D4 does not explicitly disclose the total MFR and the flexural modulus of the composition corresponding to the masterbatch defined in claim 1 of the main request. In that regard, the appellant contended during the oral proceedings before the Board that both parameters could be derived from data contained in D4 and in the patent in suit.

1.13.1 In particular, the total MFR of the masterbatch could be estimated according to the appellant by comparing the MFR and intrinsic viscosities of the compositions of example 2 of the patent in suit with that of example 6 of D4. The appellant concluded from that comparison that the total MFR of the masterbatch composition of example 6 of D4 had to be higher than 5.9 g/10 min. That conclusion, however, does not imply that the parameter is within the closed range of 6-10 g/10 min defined in claim 1 of the main request since the range estimated by the appellant is open ended and a value of the total MFR above 5.9 g/10 min could well be above 10 g/10 min. Furthermore, it is doubtful whether observations regarding the intrinsic viscosities and MFRs of compositions according to the patent in suit can readily be applied to the compositions of D4 which were obtained under different polymerization conditions and contain different polymers. Evidence that that would be the case was not provided by the appellant in appeal. It cannot therefore be concluded that the total MFR of the masterbatch composition of example 6 of D4 is necessarily according to the range in claim 1 of the main request.

1.13.2 The appellant also submitted that since the flexural modulus of the base material-1 alone (1380 MPa, Table 8 on page 26) was the same as that of the composition comprising the base material-1 and the masterbatch of example 6 (1380 MPa, Table 7 on page 24), the flexural modulus of the masterbatch composition had to be close to the value of 1380 MPa as well. On that basis, it was concluded that the value of the flexural modulus of the masterbatch in example 6 of D4 necessarily belonged to the range of 950-2000 MPa as defined in claim 1 of the main request. The respondent contested the assumption that the flexural modulus of polymeric constituents of

a composition of polymers could be deduced from the flexural modulus of the whole composition. In their view, the assumption which formed the basis of the argument of the appellant was not part of the common general knowledge of the skilled person. The Board observes that the appellant did not provide evidence that could support their assumption. In the absence of supporting evidence, it is unclear whether the flexural modulus of the masterbatch composition in example 6 of D4 as such can be deduced from the flexural modulus of the whole thermoplastic polyolefin composition, especially since the masterbatch and the base material-1 of the composition are complex mixtures of polymers also containing an inorganic component (Talc-1) and antioxidants that are subsequently thoroughly blended and kneaded at 210°C in a twin-screw kneader to form the thermoplastic polyolefin composition. Under these circumstances, it cannot be concluded that the flexural modulus of the masterbatch composition of example 6 of D4 is necessarily according to the range in claim 1 of the main request.

1.14 Thus, the composition of claim 1 of the main request differs from the composition of example 6 of D4 in the values of the total MFR and of the flexural modulus of the masterbatch composition.

1.15 Both the appellant and the respondent formulated the problem to be solved starting from the composition of example 6 of D4 as the provision of alternative thermoplastic polyolefin compositions, in accordance with the problem formulated by the opposition division in section 16.3.4 of the contested decision. Since the patent in suit does not contain any example that could be seen as being representative of the composition of example 6 of D4, the patent in suit does not establish

the presence of an effect that could be attributed to any of the total MFR or flexural modulus of the masterbatch composition, or to their combination. The Board does therefore not see any reason to deviate from the problem as formulated by the opposition division in their decision.

1.16 Starting from D4, the question to be answered is therefore whether thermoplastic polyolefin compositions analogous to that of example 6 of D4 but containing a masterbatch having a total MFR in the range of 6-10 g/10 min and a flexural modulus in the range of 950-2000 MPa were obvious alternative thermoplastic polyolefin compositions in view of the available prior art.

1.17 Both total MFR and flexural modulus of the masterbatch compositions of the patent in suit are disclosed in its paragraph 8. Numerical ranges of higher than 4 g/10 min for the total MFR and 950-2000 MPa for the flexural modulus are mentioned. There is no indication in that paragraph that these ranges are in any way special or uncommon independently or in combination with one another.

1.18 The respondent considered that D4 taught away from compositions according to claim 1 of the main request because D4 aimed according to its paragraphs 19, 63 and 78 at thermoplastic polyolefin compositions having a MFR of higher than 10 g/10 min, while the patent in suit according to its paragraph 11 taught thermoplastic polyolefin compositions having a MFR of less than 10 g/10 min.

1.18.1 These passages of D4 however do not establish a general teaching against thermoplastic polyolefin compositions having a MFR below 10 g/10 min. In particular,

paragraph 19 of D4 is not representative of the whole teaching of D4 since it only concerns the tenth aspect of the invention for which a propylene resin composition as described in the fourth to ninth aspects has a MFR of 10 g/10 min or more and an IZOD impact strength at -30°C of 3 kg/cm^2 or more. It is apparent that paragraph 19 concerns only a very specific aspect of the invention disclosed in D4 which is not representative of its whole teaching. All the previously described aspects of D4 relating to the polypropylene resin composition (fourth to ninth aspects) in fact do not mention any limitation of the MFR of the polypropylene resin compositions produced. In that regard, paragraph 19 does not constitute a teaching against compositions having a MFR of below 10 g/10 min.

1.18.2 Paragraphs 63 and 78 were also cited by the respondent in order to show that the propylene/ethylene block copolymer (C) of D4 for use in the polypropylene resin composition excellent in molding appearance has preferably a MFR of 10 to 200 g/10 min and that also the modified composition excellent in molding appearance has preferably an MFR of 10 g/10 min or more. Paragraph 78 of D4, however, teaches in addition that the rate of change of the MFR caused by the blending of the modifier is within ±25% of the MFR of the unmodifed composition. It can therefore not be concluded from these passage, as was done by the respondent during the oral proceedings before the Board, that D4 teaches against modified polypropylene resin compositions having a modifier with an MFR below 10 g/10 min. In fact, even in case the final composition has an MFR of at least 10 g/10 min, this can result from a variation of -25% caused by the addition of the modifier which implies that the MFR of

the modifier can well be below 10 g/10 min. Therefore the argument of the respondent that D4 teaches away from values of the MFR of the modifier composition within the range according to claim 1 fails.

1.19 It is thus apparent from 1.18.1 and 1.18.2 above that D4 does not teach away from polypropylene resin compositions having a MFR below 10 g/10 min but that such compositions are actually encompassed by D4 and that the use of modifier compositions of MFR in the range of 6-10 g/10 min, as defined in operative claim 1, in these compositions of D4 is not excluded at all from that document. On the contrary, the use of a modifier of such low MFR is in fact within the teaching of D4.

1.20 The second characterizing feature of the masterbatch according to claim 1 of the main request is the value of its flexural modulus, defined as being in the range of 950-2000 MPa. There is no indication in the patent in suit that a value of the flexural modulus in that range is unusual or uncommon. On the contrary the range covers values which are found to be common according to D4. In fact, among the 37 compositions of the examples and comparative examples disclosed in Table 8 of D4 all but two (examples 16 and comparative example 7) display a flexural modulus in a range of 1010 to 1700 MPa. While these values of D4 concern whole polyolefin compositions and not the masterbatch alone, they nevertheless show that values of flexural modulus in the range of that disclosed for the masterbatch according to claim 1 of the main request are common values in that field. Since the composition of the masterbatch in D4 is based on the same type of polyolefins as those of the whole composition, the Board finds that providing a masterbatch according to

that of example 6 of D4 with a flexural modulus within the range according to claim 1 of the main request would be obvious. That also applies to masterbatch compositions additionally having a MFR in the range of 6-10 g/10 min since that range of MFR is also encompassed by D4.

1.21 Under these circumstances, the Board finds that the solution to the problem of providing alternative thermoplastic resin compositions, namely the selection of a masterbatch composition having a total MFR of 6-10 g/10 min and a flexural modulus of 950-2000 MPa, was obvious in view of D4 alone.

1.22 Claim 1 of the set of claims upon which the maintenance of the patent was based (main request) lacks therefore an inventive step over D4.

2. Reimbursement of the appeal fee

3. The patent proprietor withdrew their appeal at the beginning of the oral proceedings before the Board. Rule 103(4)(a) EPC, in its version as in force since 1 April 2020, provides for a reimbursement of the appeal fee at 25% if the appeal is withdrawn after expiry of the period under paragraph 3(a) (within one month of notification of a communication by the Board in preparation of oral proceedings) and before the decision is announced at the oral proceedings.

4. Since, in the present case the withdrawal occurred many months after notification of the communication, but before the decision was announced at the oral proceedings, the requirements of Rule 103(4)(a) EPC are met and the appeal fee paid by the patent proprietor is to be reimbursed at 25%.

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:

B. ter Heijden D. Semino

Decision electronically authenticated