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**Datasheet for the decision
of 5 July 2019**

Case Number: T 2104/16 - 3.3.03

Application Number: 09800007.8

Publication Number: 2307467

IPC: C08F10/06, C08J5/18, C08F110/06

Language of the proceedings: EN

Title of invention:
POLYPROPYLENE COMPOSITION WITH IMPROVED OPTICS FOR FILM AND
MOULDING APPLICATIONS

Patent Proprietor:
Borealis AG

Opponent:
Basell Poliolefine Italia S.r.l.

Relevant legal provisions:
EPC Art. 54, 100(b), 114(2)

Keyword:

Novelty - (yes)- not proven beyond all reasonable doubt
Sufficiency of disclosure - (yes) - objection raised in fact
one of clarity
Late submitted material - documents admitted (no)- no grounds
to overturn decision of opposition division
Remittal to the department of first instance - (yes)

Decisions cited:

G 0003/14, T 0793/93



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Case Number: T 2104/16 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 5 July 2019

Appellant I:
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Decision under appeal:

**Interlocutory decision of the Opposition
Division of the European Patent Office posted on
7 July 2016 concerning maintenance of the
European Patent No. 2307467 in amended form.**

Composition of the Board:

Chairman D. Semino
Members: M. C. Gordon
C. Brandt

Summary of Facts and Submissions

- I. The appeals of the patent proprietor and the opponent lie against the interlocutory decision of the opposition division posted on 7 July 2016 according to which European patent number 2 307 467 could be maintained in amended form on the basis of the second auxiliary request, filed with letter of 11 April 2016.
- II. The patent was granted with a set of 13 claims, whereby claim 1 read as follows:
- "A film comprising a polypropylene composition comprising a propylene homopolymer or a propylene random copolymer having at least one comonomer selected from alpha-olefins with 2 or 4-8 carbon atoms and a comonomer content of not more than 8.0 wt%, wherein the propylene homo- or copolymer is polymerized in the presence of a Ziegler-Natta catalyst, and the polypropylene composition has a MWD of 2.0 to 6.0 and an MFR (2.16 kg/230°C) of 4.0 g/10 min to 20.0 g/10 min determined according to ISO 1133, **characterized in that** the polypropylene composition has not been subjected to a vis-breaking step, has a haze of not more than 3.5 %, determined according to ASTM D 1003/92, when cast into a film with a thickness of 50 micrometers, and has a clarity of at least 96.0 %, determined according to ASTM D 1003/92, when cast into a film with a thickness of 50 micrometers."
- III. A notice of opposition against the patent was filed in which revocation of the patent on the grounds of Article 100(a) EPC (lack of novelty, lack of inventive step) and Article 100(b) EPC was requested.

IV. The decision of the opposition division was based on the claims of the patent as granted as main request and three auxiliary requests.

Claim 1 of the second auxiliary request differed from claim 1 of the patent as granted in that:

- the MWD was restricted to 3.5 to 5.0;
- the MFR (2.16kg/230°C) was restricted to 5 g/10 min to 10 g/10 min;
- the volatiles content was specified as 50 microgram C/g or less, determined according to VDA 277:1995;
- the film had a thickness of 20 to 400 µm.

V. According to the decision, the claims of the patent as granted met the requirements of sufficiency of disclosure.

Opponent's experimental reports:

D1: submitted with the statement of grounds of appeal;
D14o: submitted with letter of 14 April 2016,

showed that the influence of the measurement and film forming conditions on the determination of haze and clarity was not so great as to take these parameters outside the ranges defined in the claims.

The documents:

D16: A letter of the proprietor dated 16 October 2015
in respect of the opposition in case EP 2 432 809
D17: A technical report filed with said letter,

submitted by the opponent at the oral proceedings in support of the objection of lack of sufficiency of disclosure were not admitted to the procedure.

The claims of the patent as granted were held to lack novelty in view of the disclosures of examples of:

D6: EP-A-586 109 and

D7: US-A1-2004/0030050

on the grounds that in view of the reported values of film haze, the clarity of the resulting films would "inevitably" be in the claimed range.

The same conclusion applied to the first auxiliary request.

The claims of the second auxiliary request were held to satisfy the requirements of the EPC.

- VI. Both parties appealed against the decision, and filed submissions taking position on the statement of grounds of appeal of the respective opposing party.

- VII. Together with its statement of grounds of appeal, the patent proprietor (appellant I) filed three sets of claims as auxiliary requests. With letter dated 29 March 2017, i.e. the reply to the statement of grounds of appeal of the opponent (appellant II), the patent proprietor replaced the auxiliary requests filed with the statement of grounds of appeal with 1st to 6th auxiliary requests. The wording of these requests is not relevant for the decision.

The patent proprietor further submitted:

D14p: experimental report (with the statement of grounds of appeal).

VIII. The opponent resubmitted the non-admitted documents D16 and D17 (see above). Furthermore two experimental reports designated D15 and D18 were provided.

IX. The Board issued a summons to oral proceedings and a communication setting out its preliminary opinion on the case.

An objection of lack of sufficiency of disclosure with respect to the specified values of clarity of the film was found unconvincing and appeared to relate to a question of clarity of the claims.

Lack of novelty of the main request had not been established.

The findings on inventive step of the decision under appeal could not apply to the present main request (and first and second auxiliary requests) since this aspect of the decision relied on the content of volatiles, which feature was not present in said requests.

Accordingly in the case that the main request (or first or second auxiliary requests) were found to meet the requirements of novelty then the case would have to be remitted to the first instance.

X. Oral proceedings were held before the Board on 5 July 2019.

XI. The arguments of appellant I (patent proprietor) can be summarised as follows:

(a) Admittance of documents

D16 and D17 were submissions made in an unrelated case, and concerned different compositions, in particular in terms of the range of content of comonomer. Furthermore the measurement method the precision of which was the subject of discussion in said documents - infrared spectroscopy (IR) - was a different one to that employed in the examples of the patent in suit, namely Fourier transform infrared spectroscopy (FT-IR).

Explicitly no objections were raised to admittance of opponent's documents D15 and D18.

(b) Sufficiency of disclosure

The objections of the opponent related to the feasibility of ascertaining whether a given composition satisfied certain features of the claim (haze, co-monomer content). This however was a matter governed by Article 84 EPC and was not related to sufficiency of disclosure. It had not been shown that the patent did not provide enough information to obtain the claimed compositions.

When using a given extruder, the operating parameters would have to be adjusted to obtain the optimal results (slot die configuration, chill roll temperature, throughput etc.). This was a matter of routine and the parameters would be selected in order to obtain the best results for the purpose intended. This was confirmed by D15 which showed that it was within the normal abilities of the skilled person to identify the necessary operating conditions to obtain a film with the desired

properties.

In any case the patent provided detailed information about the conditions under which the measurements, in particular of clarity, were to be carried out.

(c) Novelty

The objections in respect of comparative example 1 of D6 and comparative example 2 of D7 relied on speculation and assumptions in respect of the value of clarity and in particular postulated a correlation between clarity and haze and film thickness. However no such correlation - either universal or within a specific limited groups of polymers - existed. This was evident from Table 1 of the patent itself. Furthermore experimental report D18 was, as conceded by the opponent, not a direct reproduction of D6 or D7. In particular D7 provided only very sketchy details of the preparation of the polymer meaning that it was impossible to repeat the example. Thus D18 could not constitute evidence of lack of novelty according to the high standard of "beyond all reasonable doubt" (following decision T 793/93). On that basis, novelty had to be acknowledged.

(d) The patent proprietor did not oppose remittal of the matter to the department of first instance in the case that novelty should be found for the main request.

XII. The arguments of the appellant II can be summarised as follows:

(a) Admittance of documents

It was not contested that the opposition division had correctly exercised its discretion not to admit D16 and D17 to the proceedings on the grounds that they had been filed late. These documents should however be treated as having been filed with the statement of grounds of appeal. They were relevant to the question of sufficiency of disclosure since they showed deficiencies and uncertainties in the determination of the comonomer content, which was one of the features of the claim.

(b) Sufficiency of disclosure

The subject-matter claimed was defined by parameters. The determination of the properties haze and clarity was defined only with reference to a standard, which standard did not provide complete details of the conditions of film preparation. As shown by D1, D14o and D15 the conditions under which the film was made exerted a considerable influence on these properties. The patent provided one possible set of parameters for film preparation in paragraph [0145] including one possible temperature to apply but no information was given with respect to the throughput and extrusion speed. It had been shown in D15 that both of these affected the outcome. Thus it was not possible unambiguously to establish whether a given film fell within the scope of the claims.

(c) Novelty

D18 did not relate to replications of the teachings of D6 and D7 - this was not possible due to

deficiencies in the disclosures of said documents and/or the non-availability of the specific equipment employed therein. Nevertheless these data confirmed the conclusions and assumptions underlying the decision of the opposition division that the compositions of D6 and D7 when formed into sheets of 50 micrometre thickness as required by the operative claim would have values of clarity in the claimed range. In particular this evidence showed that in the prior art compositions the haze was at such a low value that even a significantly thicker film than shown in the examples thereof would have a clarity in the claimed range. Regarding specifically D7, the film had been prepared at a chill roll temperature of 21°C and thus higher than that used in the patent. As confirmed by D1, D14o, and D15 higher chill roll temperature led to higher haze. Hence if the D7 example were to be carried out at a lower temperature the haze would be lower. The evidence of D18 overcame the doubts of the proprietor regarding the validity of the assumptions with respect to D6 and D7.

There was no information about visbreaking in the documents. This had to be interpreted as meaning that no visbreaking had been carried out.

Therefore the examples of D6 and D7 disclosed explicitly or implicitly all the features of operative claim 1 which was thus not novel.

- XIII. Appellant I requested that the decision under appeal be set aside and that the opposition be rejected, i.e., that the patent be maintained as granted, or, in the alternative, that the patent be maintained in amended

form on the basis of one of the sets of claims according to the first to sixth auxiliary requests as filed with letter of 29 March 2017.

- XIV. Appellant II requested that the decision under appeal be set aside and that the European patent No. 2307467 be revoked. It was further requested in the case that one of the main request or first or second auxiliary requests is found to meet the requirements of sufficiency of disclosure and novelty that the case be remitted to the department of first instance for further prosecution. It further requested that the auxiliary requests filed with the letter dated 29 March 2017 not be admitted into the proceedings insofar as these requests did not correspond to requests previously on file.

Reasons for the Decision

1. Admittance of documents

1.1 D16 and D17

These documents had been filed only during the oral proceedings before the opposition division. The documents were not admitted on the grounds that they had been filed too late, were not relevant and that the patent proprietor would have been taken by surprise and did not have the opportunity to prepare a proper response.

The opponent did not dispute that the opposition division had correctly exercised its discretion in deciding not to admit these documents, but argued that

the documents should be treated as having been submitted with the statement of grounds of appeal and admitted to the procedure.

The position of the opponent is contradictory. It is acknowledged that the opposition division was not in error in refusing to admit the documents to the procedure, which decision includes as one of its components the finding that the documents were not of *prima facie* relevance.

It is now being requested that these same documents be admitted to the proceedings in appeal. It has not been argued, let alone rendered credible, that these documents have somehow become relevant, e.g. as a result of amendments made to the claims. Thus the Board is being asked to overturn a decision of the opposition division which in substance has not been challenged in a situation where the facts leading to the decision have not changed.

For this reason alone the Board can identify no justification for reversing the decision of the opposition division.

For the sake of completeness, it is noted that D16 and D17 are correspondence from an opposition case with respect to a patent assigned to the present opponent. The purpose of citing these documents was to demonstrate that the determination of the comonomer content as set out in the patent in suit was defective (statement of grounds of appeal of the opponent, page 3, first complete paragraph).

The method referred to in D16/D17 was quantitative IR (section 4 of D16). However the patent in suit employs

a related but different method, namely FT-IR (patent paragraph [0115]) and provides details of how the measurement is to be carried out.

Under these circumstances, the relevance of D16/D17 to the present case is obscure and it is not apparent how these documents can serve to demonstrate deficiencies in respect of the method employed according to the patent.

Accordingly the Board can identify no grounds to reverse the decision of the opposition in respect of non-admittance of D16 and D17 to the proceedings. The documents are therefore not admitted into the proceedings.

- 1.2 As noted above, objections in respect of the admittance of the further documents D14p, D15 and D18 submitted by the parties were not raised.
The Board can identify no reason to exclude any of these documents from the procedure.

2. Main request

2.1 Sufficiency of disclosure

The objections raised under this heading relate to the feasibility of determining whether a given composition falls under the claims and the details of the measurement methods for haze and clarity.

This is however a matter governed by Article 84 EPC which, since the parameters were present in the granted claims, is not available to the opponent (G 3/14, OJ EPO 2015, 102, Order).

It has not been shown either that it is not possible to, or that there is an undue burden involved in, carrying out the invention in order to obtain the claimed films.

Regarding the haze, it is correct, as submitted by the opponent that in paragraph [0129] of the patent, only very sparse details, e.g. the appropriate standard to apply, are disclosed. However paragraph [0145] provides details of the film preparation in terms of the configuration and operating parameters of the extruder and the rolls. It has not been shown that this information is deficient such that adhering to the conditions indicated would not allow films with the required properties to be obtained.

Therefore it is concluded that the requirements of sufficiency of disclosure are met.

2.2 Novelty

Two disclosures were cited in respect of novelty.

D6, comparative example 1 and D7, comparative example 2, which relate to extruded films of polypropylene homopolymer and copolymer respectively.

It was not disputed that neither of these documents explicitly discloses the haze and clarity of a film of thickness 50 micrometres as required by the claim.

Instead the opponent argued it was possible to derive these values from the information that was given, in particular the haze values at different thicknesses.

Thus D6 defines in Table 1 the transparency (haze) of

comparative example 1 in % for films of different thicknesses and prepared with different cooling roll temperature:

30 micrometres/30°C haze 0.7
30 micrometres/70°C haze 11.1
70 micrometres/70°C haze 27

D7 discloses the haze of comparative example 2 for a film of 43 micrometres thickness in table 3 (1.8 %). Film formation is disclosed in paragraph [0240], however the temperature of the chill roll is not given.

The question to be answered is whether, given the haze for a film of a given thickness, it is possible unambiguously to ascertain what haze and clarity would be for a film of the same material constitution but of different thickness.

No replication of the teachings of D6 or D7 has been carried out. Indeed the opponent acknowledged during the oral proceedings that such a replication was not even possible (see XIII.(c), with respect to D18 above).

The data contained in Table 1 of the patent fails to provide support for the position of the opponent that a reliable correlation between haze and clarity of different film thicknesses as postulated in fact exists:

	Ex1				CE1			
<u>Polymer properties:</u>								
Mw [kg/mol]	340				358			
Mn [kg/mol]	80				89			
MWD	4.3				4.1			
MFR - start	6.8				2.8			
MFR - end	6.8				7.1			
Volatiles [µg C/g]	25				170			
<u>Film properties:</u>								
Thickness of film [µm]	30	50	80	300	30	50	80	300
SIT [°C]		132				132		
SET [°C]		140				140		
Gloss inside [%]	103.0	115.6	105.6	98.2	107.1	110.0	90.5	102.8
Gloss outside [%]	101.5	112.9	101.7	97.7	101.8	104.6	85.5	103.6
Transparency [%]	94.4	94.2	94.1	94.7	94.4	94.3	94.0	95.4
Haze [%]	3.4	3.2	4.8	30.2	3.3	3.6	7.0	28.4
Clarity [%]	96.8	97.0	96.9	92.2	97.1	97.3	96.6	96.5
Transparency [%] (121 °C, 30 min)		93.8				93.7		
Haze [%] (121 °C, 30 min)		5.8				7.3		
Clarity [%] (121 °C, 30 min)		96.5				96.7		
Gloss inside [%] (70 °C, 72 h)			105.2				96.9	
Gloss outside [%] (70 °C, 72 h)			100.3				89.3	
Transparency [%] (70 °C, 72 h)			94.0				93.9	

These data show film thickness varying by up to an order of magnitude. It is immediately apparent by comparison of the reported haze values for example 1 at 30 and 50 micrometres that in this case the haze does not increase with the thickness. Furthermore comparison of the values for films with 30, 50 and 80 micrometres thickness does not demonstrate any consistent, or direct link in the variation of haze and clarity with the film thickness. Furthermore the values for clarity are not demonstrated consistently to track or follow the values of haze. Thus comparing the values for haze and clarity for example 1 it is seen that increasing film thickness from 30 to 50 micrometres leads to a reduction in haze and an increase in clarity. When increasing the thickness to 80 micrometres, this trend is reversed, with the haze increasing by 50% and the clarity reducing by ca 1%. Comparing the values of the

30 and 80 micrometre films, the haze increases but by a lesser extent than between the 50 and 80 micrometre films, and clarity also increases, although the two properties are to an extent contrary to each other.

The values for the comparative example do by contrast show a consistent trend to the extent that as the film thickness increases the haze increases, but again the trend in the clarity values is not consistent: an increase is seen between 30 and 50 micrometres before a decrease at 80 and 300 micrometres.

In addition the data in D18 show that in some cases a variation in the thickness from 30 to 50 micrometres can result in a large variation of haze (see table, by a factor of over 4 for HOMO and a factor of almost 2 for RACO) and that films of the same thickness with similar haze may have quite different clarity (compare HOMO and RACO at 50 micrometre thickness).

The available data fail to support the position of the opponent that there is a general relationship between the properties of haze and clarity which would make it possible to derive the value of one of said properties given the other, even in the case that various other details of the film were known, in particular thickness.

This means that it is not possible on the basis of the values for haze reported in D6 comparative example 1 and D7 comparative example 2 reliably to derive or even approximately to estimate the haze and clarity values for a film of 50 micrometres thickness.

It is recalled that the organs of the EPO apply a very high standard in determining what is the inevitable

outcome of carrying out a given prior art teaching, namely "beyond all reasonable doubt" (T 793/93 of 27 September 1995, catchword). This standard is clearly not met in the present case.

Under these circumstances the case of lack of novelty of the claimed subject-matter has not been proven.

3. Remittal

The claims which were held by the opposition division to meet the requirements of the EPC specified the volatiles content. This feature was central to the findings of the decision with respect to inventive step.

The operative claims do not contain this feature, meaning that the findings of the decision in respect of inventive step cannot be applied. Nor did the decision of the opposition division contain any considerations in respect of the inventive step of the main request which did not contain this feature.

Under these circumstances the Board finds it appropriate to remit the case to the department of first instance for dealing with the issue of inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution.

The Registrar:

The Chairman:



B. ter Heijden

D. Semino

Decision electronically authenticated