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**Datasheet for the decision
of 31 January 2019**

Case Number: T 1889/15 - 3.3.03

Application Number: 06787952.8

Publication Number: 1907430

IPC: C08F10/02, C08F2/34, C08F4/24,
C08F4/69, C08F210/02,
C08F210/16

Language of the proceedings: EN

Title of invention:
BLOW MOLDING POLYETHYLENE RESINS

Patent Proprietor:
Univation Technologies, LLC

Opponent:
Total Research & Technology Feluy

Relevant legal provisions:
RPBA Art. 12(4)
EPC Art. 100(b), 111(1)

Keyword:
Sufficiency of disclosure - (yes)
Late submitted material - evidence admitted (no) - should have
been filed in opposition
Remittal to the department of first instance

Decisions cited:

T 0016/87, T 0182/89, T 0063/06



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Case Number: T 1889/15 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 31 January 2019

Appellant: Univation Technologies, LLC
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Decision under appeal: **Interlocutory decision of the Opposition**
Division of the European Patent Office posted on
16 July 2015 concerning maintenance of the
European Patent No. 1907430 in amended form.

Composition of the Board:

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

Summary of Facts and Submissions

- I. The appeal of the patent proprietor lies against the interlocutory decision of the opposition division posted on 16 July 2015 according to which it was held that European patent number 1 907 430 could be maintained in amended form on the basis of the fifth auxiliary request, filed at the oral proceedings held on 24 June 2015.
- II. The patent was granted with a set of 24 claims, whereby claim 1 read as follows:
- "A continuous fluidized-bed gas-phase polymerization process for making a high strength, high density polyethylene copolymer, comprising: contacting monomers that include ethylene and optionally at least one non-ethylene monomer with fluidized catalyst particles in a gas phase in the presence of hydrogen gas at an ethylene partial pressure of 689 kPa (100 psi) or more and a polymerization temperature of 120 °C or less, wherein oxygen is present in the range of from 10 to 600 ppbv based on the ethylene feed rate, to produce a polyethylene copolymer having a density of 0.945 g/cc or more and an ESCR Index (defined as the measured ESCR, based on ASTM D1693, condition B, using 10% Igepal CO-630 in water, divided by the product of 0.0481 and (Density)^{-1.42}, wherein Density values are based on ASTM D1505) of 1.4 or more wherein the catalyst particles are prepared at an activation temperature of 700 °C or less, and wherein the catalyst particles consist essentially of silica, chromium, and titanium."
- 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), Article 100(b) and Article 100(c) EPC was requested.

One of the matters addressed in the notice of opposition with respect to sufficiency of disclosure was that examples 17 and 20 of the patent, although falling within the scope of claim 1 did not result in products having the required properties, in particular ESCR.

IV. The decision of the opposition division was based on a set of claims filed on 17 March 2014 as main request, three sets of claims filed with letter 23.04.2015 as first to third auxiliary requests, a set of claims as fourth auxiliary request submitted with letter of 15 June 2015 and a set of claims - fifth auxiliary request- submitted during the oral proceedings on 24 June 2015.

It is not necessary for the purposes of this decision to give details of the modifications made to the claims of the main and first to fourth auxiliary requests.

Claim 1 of the fifth auxiliary request, i.e. that on the basis of which the patent could be maintained, and which has not been challenged on appeal, differed from all higher ranked requests by requiring that the polymerisation was conducted in the presence of trialkyl aluminium.

According to the decision, the main request and first to third auxiliary requests did not meet the requirements of sufficiency of disclosure. This finding was based on the evidence of examples 17 and 20 (see section III, above) and the absence from the patent of

any explanation for these results. The patent provided only very general indications of possible process modifications, but these did not suffice to provide the necessary information to allow the skilled person to understand how to make suitable adjustments of examples 17 and 20.

The fourth auxiliary request - specifying a value of ESCR index of 1.5 or higher i.e. above that of the main request - was not admitted to the procedure on the grounds that it did not overcome the objections raised against the higher ranked requests.

Regarding the fifth auxiliary request the inclusion in claim 1 of trialkyl aluminium overcame the objections of insufficiency of disclosure. This feature was also material to the reasoning of the opposition division in reaching its findings in respect of novelty and inventive step. Further details of this reasoning are however not necessary for the purposes of the present decision.

- V. Together with the statement of grounds of appeal the patent proprietor (appellant) submitted a declaration and an experimental report directed to elucidating the reasons behind the outcomes of examples 17 and 20. The requests as submitted during the opposition proceedings were refiled.

A further written submission was made.

- VI. The opponent (respondent) replied, requesting *inter alia* that the newly filed declaration and experimental report not be admitted to the procedure.

VII. The Board issued a summons to oral proceedings and a communication.

In the provisional view of the Board, the newly filed declaration and data were not to be admitted to the procedure pursuant to Article 12(4) RPBA since these related to issues which had been raised in the notice of opposition.

VIII. The appellant made a further written submission dated 28 November 2018 arguing in favour of admittance to the procedure of the declaration and experimental report.

IX. Oral proceedings were held before the Board on 31 January 2019.

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

(a) Admittance of the declaration and experimental report

Although examples 17 and 20 had been invoked in the notice of opposition the opponent had neither developed an argument in respect of sufficiency of disclosure on this basis nor discharged the burden of proof in respect of the objection. Consequently no response thereto was made. Subsequently, in view of the preliminary opinion of the opposition division, and the absence of any dissenting view by the opponent, there had been no reason to provide this information earlier, i.e. during the written opposition proceedings.

However at the oral proceedings the division departed from their preliminary opinion.

During preparation of the oral proceedings before the opposition division the original documentation had been consulted and the source of the anomalous results identified and this was explained orally before the opposition division.

The submission of the declaration and experimental report had to be seen as a direct response to this change of view by the opposition division which formed the basis of the decision on sufficiency of disclosure. The experimental report also addressed one aspect of the decision with respect to inventive step, namely whether triethyl aluminium (TEAL) was necessary in the process.

(b) Main request - sufficiency of disclosure

The decision failed to reflect the comments made by the appellant at the oral proceedings concerning the apparent discrepancies between examples 17 and 20 and the remaining inventive examples.

The patent specification provided adequate instructions on how to modify the process in order to arrive at the required result, not only in the description but by means of the large number of examples demonstrating the effects of variations of the relevant reaction parameters. In the light of this information it would be possible, with a reasonable number of experiments, to identify the conditions required to arrive at the claimed products. In particular a low activation temperature and a low polymerisation temperature were clearly indicated in the description (paragraph [0017]) as the key parameter to obtain the desired effect.

The respondent had provided no proof in the form of experimental evidence or other verifiable facts in support of its allegations that the information in the patent was deficient or defective such that the skilled person faced an undue burden in attempting to put the teaching into practice beyond the specific examples.

XI. The arguments of the respondent can be summarised as follows:

(a) Admittance of the declaration and experimental report

The objection of insufficiency in respect of examples 17 and 20 had been raised in the notice of opposition. The report submitted with the statement of grounds of appeal could and should have been provided at that stage or, at the very latest, in response to the preliminary position of the opposition division. There was no justification for providing the report only with the statement of grounds of appeal.

(b) Main request - sufficiency of disclosure

The anomalous results of examples 17 and 20 demonstrated that following the teaching of the patent did not necessarily make it possible to replicate the invention.

There were many parameters to vary, even if only a limited subset was specified in the claims. There were multiple variations between the examples meaning that it was not possible to extrapolate from these to identify, isolate and understand the

influence of the various parameters. Thus neither the examples nor the general description provided any assistance in arriving in a structured way at the desired result. Even paragraph [0017] of the patent, invoked by the appellant, provided little more than a catalogue of parameters which could be varied with no guidance as to how to proceed.

- XII. The appellant requested that the decision under appeal be set aside and the case be remitted to the first instance for further prosecution on the basis of the main request filed with letter dated 17 March 2014, or in the alternative, on the basis of one of the first, second or third auxiliary requests filed with letter dated 23 April 2015, or on the basis of the fourth auxiliary request filed with letter dated 15 June 2015 if the requirements of sufficiency of disclosure were found to be met by one of the main request or first to fourth auxiliary requests.
- XIII. The respondent requested that the appeal be dismissed, or, in the case that the main request or any of the first to fourth auxiliary requests was found to meet the requirements of sufficiency of disclosure that the case be remitted to the first instance for further prosecution. It further requested that the declaration and the experimental report filed with the statement of grounds of appeal not be admitted into the proceedings.

Reasons for the Decision

1. Admittance of the declaration and experimental report submitted with the statement of grounds of appeal

In the notice of opposition the opponent raised an objection of insufficiency of disclosure which was based on the observation that Examples 17 and 20 did not result in polymers having the required ESCR values. The submissions in respect of example 17 were as follows:

Furthermore, Example 17 (Table 2 on pages 14-15) describes a polymerisation process in accordance to the features of claim 1 whereby the molar ratio of Al/Cr is 0.22. However, an ESCR Index of 1.4 or more is not achieved. Neither is it obvious to the person skilled in the art why the desired ESCR Index is not obtained or how it can be remedied. This leads to conclude that other essential features of the process of claim 1 are not disclosed and that consequently the invention disclosure lacks enablement.

This statement clearly drew attention to the apparent defect with example 17 and the lack of any indication in the patent as to the cause.

In the light of this submission the patent proprietor would have had a reason to provide in opposition the information submitted with the statement of grounds of appeal relating to example 17. In the letter of 28 November 2018 reference was made to the original experimental data which was reviewed. This statement indicates that the information which would have served to answer this objection was available to the appellant and could have been provided in the response to the notice of opposition, i.e. during the opposition proceedings.

It is therefore clear that all evidence was in the hands of the proprietor and that it was a deliberate choice not to provide it during opposition proceedings.

In this respect it is not relevant that the opposition division changed their minds at the oral proceedings as the objection was clear as of the filing of the notice of opposition and the evidence was available.

It is therefore considered that the proprietor should have filed the evidence in opposition if it was intended that it should be evaluated so that it is appropriate for the Board pursuant to Article 12(4) RPBA not to admit the declaration and experimental report provided with the statement of grounds of appeal to the procedure.

2. Main request - sufficiency of disclosure

As noted above, two examples in the patent - 17 and 20 - do not provide polyethylene copolymers having the required ESCR.

The patent contains 21 examples. In examples 1-10 the catalyst had been activated at a temperature of 825°C (paragraph [0086] and Table 1) and hence above the maximum of 700°C specified in operative claim 1.

Examples 11-21 comply with the process features of claim 1. All of these examples provide copolymers having the required density and, with the exception of examples 17 and 20, result in copolymers meeting the requirements of ESCR.

It is true, as observed by the respondent, that due to multiple variations of reaction parameters, it is not possible on the basis of the examples to isolate the effect of any individual reaction parameter on the properties of the resulting product.

However in paragraph [0017] of the patent the effects of various reaction parameters, in particular activation temperature of the catalyst and reaction temperature are discussed with respect to the ESCR, stating that using a lower activation temperature i.e. 600°C or less allows higher polymerisation temperatures to be employed whilst maintaining excellent ESCR and ESCR index. Moreover it is indicated in the same paragraph which further process conditions should be controlled and in which manner if it is desired to obtain the defined ESCR and ESCR index (in particular high ethylene partial pressure and low polymerisation temperature).

The findings of the decision in respect of lack of sufficiency of disclosure relied solely on the results of examples 17 and 20 and on the above-noted limited comparability of the examples, concluding that the information in paragraph [0017] represented little more than an outline for a research programme.

However, the burden for proving lack of sufficiency rests with the opponent (T 16/87, OJ EPO 1992, 212; T 182/89, OJ EPO 1991, 391).

The question of how this burden can be discharged was addressed and developed in decision T 63/06 (24 June 2008, not published in the OJ EPO).

In section 3.3 of T 63/06 the board explained that following grant of a patent there is a presumption of validity. The weight of submissions required to rebut this presumption depends on its strength.

The board then distinguished between two cases:

- "strong presumption" which exists in the situation where the patent contained detailed information on how to put the invention into practice including test results relating to a particular property. In this case detailed information or evidence e.g. in the form of comparative tests was required to establish a lack of sufficiency (T 63/06, section 3.3.1(a));

- "weak presumption" in the case that the patent did not contain detailed information. In this case less substantial submissions were required - it was adequate to raise serious doubts e.g. by comprehensive and plausible arguments (T 63/06, section 3.3.1(b)).

In the present case, as noted above, there are several examples indicating variations of the reaction conditions and a general discussion of how certain of the reaction parameters affect the outcome, in particular the single critical parameter (the ESCR index, above 1.4) the obtaining of which is contested by the respondent.

Thus, applying the above indicated approach there exists a strong presumption of validity in respect of sufficiency of disclosure in the present case, and a commensurately high standard of proof is required on the part of the respondent to demonstrate that this is not the case, e.g. in the form of comparative tests showing that following the teaching of the patent does not make it possible to obtain reliably the defined ESCR index

The respondent has however provided no detailed arguments, let alone verifiable evidence, e.g. in the form of experimental results, to demonstrate any deficiency in the disclosure beyond referring to two examples, which by the - undisputed - submission of the appellant were defective.

Under these circumstances, in particular with reference to the established approach developed in the Case Law the Board can identify no grounds to conclude that the case of lack of sufficiency of disclosure has been proven.

3. Remittal

In the present case the opposition division addressed the issues of novelty and inventive step only for a process which was limited to the presence of trialkyl aluminium during polymerization, whereby this feature, which is not present in claim 1 of the main request, was material to the reasoning of the opposition division in reaching its findings. This means that novelty and inventive step were not addressed for the operative main request in the decision under appeal.

In view of this and considering that both parties requested remittal in case sufficiency were acknowledged, the Board finds it appropriate to exercise its discretion under Article 111(1) EPC by remitting the case to the department of first instance for further prosecution.

Order

For these reasons it is decided that:

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

The Registrar:

The Chairman:



B. ter Heijden

D. Semino

Decision electronically authenticated