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D E C I S I O N
of 28 October 1996

Case Number: T 0233/93 - 3.2.5

Application Number: 84302988.5

Publication Number: 0125112

IPC: D02J 1/22

Language of the proceedings: EN

Title of invention:

Improved process for annealing polyester filaments and new products thereof

Patentee:

E.I. DU PONT DE NEMOURS AND COMPANY

Opponent:

EMS-INVENTA AG
HOECHST Aktiengesellschaft Zentrale Patentabteilung

Headword:

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Relevant legal provisions:

EPC Art. 56

Keyword:

"Scope of appeal - defined by requests of appellant"
"Novelty and inventive step (yes)"

Decisions cited:

G 0009/92

Catchword:

If the appellant II withdraws his appeal but not his opposition, he falls back into the role of a party as of right in the sense of Article 107 EPC, second sentence and the scope of the appeal is defined by the request of appellant I, which the non-appealing party may not exceed (G 9/92, OJ EPO, 1994, 875). As appellant I only objected to those parts of the impugned decision which relate to product claims the Board is not authorised to question the patentability of the process claims.



Case Number: T 0233/93 - 3.2.5

D E C I S I O N
of the Technical Board of Appeal 3.2.5
of 28 October 1996

Appellant:
(Opponent)

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Other party:
(Opponent)

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Representative:

-

Respondent:
(Proprietor of the patent)

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Representative:

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Decision under appeal:

**Decision of the Opposition Division of the
European Patent Office posted 16 December 1992
rejecting the opposition filed against European
patent No. 0 125 112 pursuant to Article 102(2)
EPC.**

Composition of the Board:

Chairman: G. Gall
Members: W. D. Weiß
H. P. Ostertag

Summary of Facts and Submissions

- I. The two appellants (opponents) lodged appeals against the decision of the Opposition Division on the rejection of the opposition against the patent No. 0 125 112.

The oppositions were filed against the patent as a whole and based on Articles 100(a) (lack of novelty and inventive step) and (c) EPC.

The Opposition Division held that the amendments made during the examination procedure had not introduced added subject-matter and that the grounds for opposition mentioned in Article 100(a) EPC did not prejudice the maintenance of the patent unamended, having regard to the ten documents cited during the opposition procedure.

- II. According to his grounds of appeal, the Appellant I (EMS INVENTA AG) objected the decision under appeal only to the extent that it states that the subject-matter of the product claims 20 to 45 was novel and involved an inventive step with respect to document D3: US-A-4 195 051.

He filed a test report which was said to prove that the method disclosed in document D3 might result in products falling under the specification of the claimed products.

- III. Also Appellant II (Hoechst AG), in his grounds of appeal, submitted a test report arguing that the claimed products could have been produced by a person skilled in the art executing example 69 of document D3 a using a crimping process as disclosed in document

D12: US-A-3 835 510 (cited for the first time)

A report (document D11) of own tests has been filed as a back up for this submission.

IV. In a communication accompanying a summons for oral proceedings dated 14 August 1996, the Board expressed as its provisional opinion that the combination of properties used to define the products claimed according to the independent claims 20 to 22, in the light of document D5 (US-A-3 177 555), appeared to be a well known desideratum which, per se, could be considered to be obvious. According to the decision in case T 595/90 (OJ EPO 1994, 695), however, a product which could be envisaged as such with all the characteristics determining its identity, including its properties in use, i.e. an otherwise obvious entity, might become non-obvious and claimable as such, if there was no known method to make it and the claimed methods for its preparation were the first to achieve this and did so in an inventive manner.

V. Appellant I, by letter of 23 August 1996 withdrew his prior request for oral proceedings.

Appellant II, by letter of 4 September 1996, withdrew his appeal and declared that he would not participate at the oral proceedings.

The respondent informed the Board that his original request for oral proceedings should be interpreted to stand on an auxiliary basis.

Thereupon, the Board cancelled the oral proceedings.

VI. Appellant I (EMS INVENTA AG) requested that the decision under appeal be set aside and that the European patent No. 0 125 112 be revoked to the extent of the (product) claims 20 to 45.

Appellant II (Hoechst AG), in his statement setting out the grounds of appeal, requested that the decision under appeal be set aside and that the patent be revoked in its entirety.

The respondent requested that the appeals be dismissed.

VII. The independent claims 1, 20, 21, 22, and 25 read as follows:

"1. A continuous process for treating a tow of melt-spun polyester filaments, involving the steps of (1) drawing, (2) annealing, (3) crimping and (4) drying, characterized in that the annealing step is effected in a pressurized zone of saturated steam at a pressure of at least 1100 kPa.

20. A crimped filament of poly(ethylene terephthalate) having a relative viscosity of less than about 25 and comprised of at least about 97% by weight of dioxyethylene and terephthaloyl radical repeating units, the filament having an improved balance of dyeability and tensile properties comprising a T7 of at least about 1.5 gpd and a (T + T7) of at least about 7 gpd and less than about 10 gpd, wherein T7 is tenacity at 7% elongation and T is tenacity at break elongation,

a dry heat shrinkage at 196EC of less than about 10%, and a dyeability/orientation relationship characterized by a "D" number of less than about 3.8 and greater than about 1.8, wherein the "D" number =

$$\frac{e^{0.04(T + T_7)} \times (T + T_7)^{-1.06} \times e^{0.25(wmod)}}{RDDR}$$

wherein WMOD is the total wt.% of radical other than dioxyethylene and terephthaloyl radicals in the polymer chains and

$$RDDR = DDR (DPF/1,50)^{1/2}$$

wherein DDR is measured as described in US-A-4 195 051 and DPF = denier per filament.

21. A crimped filament of poly(ethylene terephthalate) having a relative viscosity of less than about 25 and comprised of at least about 93% by weight of dioxyethylene and terephthaloyl radical repeating units and containing at least about 3% of other neutral radicals but no more than about 0.3% radicals with ionic dye sites, the filament having an improved balance of dyeability and tensile properties comprising a T7 of at least about 1.1 gpd and a (T + T7) of at least about 5 gpd and less than about 7 gpd, wherein T7 is tenacity at 7% elongation and T is tenacity at break elongation, a dry heat shrinkage at 196EC of less than about 10%, a "D" number of less than about 3.8 and greater than about 1.8, and an RDDR of at least about 0.12, wherein the "D" number and RDDR are as defined in Claim 20.

22. A crimped filament of poly(ethylene terephthalate) having a relative viscosity of less than about 25 and comprised of at least about 93% by weight of dioxyethylene and terephthaloyl radical repeating units and containing at least about 1.3% of aromatic radicals containing a ionic dye site and about 4% of neutral organic radicals, the filament having an improved balance of dyeability and tensile properties comprising a T7 of at least about 1.2 gpd and a (T + T7) of at least about 5 gpd and less than about 7 gpd, wherein T7 is tenacity at 7% elongation and T is tenacity at break elongation, a dry heat shrinkage at 196EC of less than about 10%, a "D" number of less than about 3.8 and greater than about 1.8, wherein the "D" number is as defined in Claim 20.

25. A crimped filament of poly(ethylene terephthalate) having a relative viscosity of about 9 to about 14 and comprised of at least about 93% dioxyethylene and terephthaloyl radical repeating units, the filament having an improved balance of dyeability and tensile properties comprising a T7 of at least about 1.1 gpd and a (T + T7) of at least about 5 gpd and less than about 8 gpd, wherein T7 is tenacity at 7% elongation and T is tenacity at break elongation, a dry heat shrinkage at 196°C of less than about 10%, a "D" number of less than about 3.8 and greater than about 1.8, wherein the "D" number and RDDR are as defined in Claim 20."

Reasons for the Decision

1. *Position of the parties and requests*

Having withdrawn his appeal (but not the opposition), the former Appellant II (Hoechst AG) has fallen back into the role of a party as of right in the sense of Article 107 EPC, second sentence. Consequently, the former Appellant I (EMS-INVENTA AG) remains the only appellant.

According to the procedural principles governing the appeal proceedings before the Boards of Appeal of the EPO (e.g. G0009/92, OJ EPO 1994, 875) the scope of an appeal is defined by the appellant's requests, which the non-appealing parties are not allowed to exceed.

The appellant (EMS-INVENTA AG), in his grounds of appeal (page 1, second paragraph, and page 3) has expressed himself that he only objected to those parts of the decision under appeal which state that the product claims 20 to 45 are allowable and has requested that the patent be revoked in the scope of the claims 20 to 45. The Board is bound by this request and hence not authorised to question the patentability of the process claims 1 to 19 and to consider the arguments and requests of the party as of right in this respect. Therefore, only claims 20 to 45 are in dispute.

2. *Original disclosure*

The statements in the decision under appeal (see point 3) that and why the independent product claims 20 to 22 and 25 are based on the original disclosure have been contested neither by the appellant nor by the party as of right. The Board does not see a basis for

an objection either.

3. *Novelty*

The appellant contends that the subject-matter of Claim 20 lacks novelty with respect to document D3.

The Board concurs with the decision under appeal and the parties that example 69 disclosed in document D3 lies closest to the subject-matter of Claim 1.

It is undisputed that example 69 of document D3 discloses an uncrimped filament, whereas the claimed filaments are crimped. Consequently, the subject-matter of the product claims is not explicitly disclosed in document D3.

The appellant as well as the party as of right have submitted reports of tests said to reproduce example 69 of document D3 and aiming at demonstrating that additional crimping of the (uncrimped) filament of example 69 results in a product having tenacity and dry heat shrinkage values residing in the claimed ranges.

Either of these reports, however, fails to report the "D" numbers of the tested final products, which number is a salient feature of the claimed products.

Consequently, there is no proof that the teaching of document D3 indispensably results in products having a combination of properties as defined in the product claims of the patent in suit.

The subject-matter of the independent product claims 20, 21, 22, and 25 is, therefore, novel.

4. *Inventive step*

The patent in suit does not deny (see EP-B-0 125 112, page 2, lines 45 to 56), that the combination of properties defining the claimed products had been a desideratum which the skilled community had striven to achieve. These properties, however had been considered to be irreconcilable. According to the jurisdiction of the Boards of Appeal (see T 595/90, OJ EPO 1994, 695) such a desired product, which may appear obvious per se, may be considered non-obvious and be claimable as such, if there is no known method in the art to make it and the claimed methods for its preparation are the first to produce it and do so in an inventive manner.

The party as of right, in contrast to its alternative assertion (see point 3 above) that already the teaching of document D3 alone resulted in such products, submitted that it was obvious for a person skilled in the art wanting to preserve the combination of favourable properties of the uncrimped filament according to example 69 of document D3 to use a cold texturing method like the one disclosed in document D12.

The Board cannot follow this argumentation from the following reasons: Example 69 given in Table XII of document D3 relates to staple fibres which were prepared by cutting an adequately treated tow of continuous feed filaments. In contrast thereto, the jet screen texturing process disclosed in document D12 is particularly adapted to texture a yarn spun by twisting continuous filaments to increase its bulkiness. This different purpose makes it quite unlikely, that the process disclosed in document D12 is operational at all when applied to a tow of parallel filaments and, if so, that the staple fibres cut from such a tow of textured filaments would be in a condition to be spun to yarn.

In view of all these adverse aspects, the considerations above do not show an obvious method resulting in a claimed product. It has not even been proved that this hypothetical method would produce a product exhibiting the claimed combination of properties.

Consequently, the subject-matter of the independent product claims 20, 21, 22, and 25, and of the claims appended thereto, involves an inventive step.

5. Since the appeal is not based on pertinent grounds, it must fail.

Order

for these reasons it is decided that:

The appeal is dismissed.

The Registrar:



A. Townsend

The Chairman:



G. Gall

