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**Datasheet for the decision
of 4 December 2009**

Case Number: T 1755/07 - 3.3.09

Application Number: 97935661.5

Publication Number: 0920381

IPC: B32B 27/36

Language of the proceedings: EN

Title of invention:

Polymeric film

Patentee:

Dupont Teijin Films U.S. Limited Partnership

Opponent:

Mitsubishi Polyester Film GmbH

Headword:

-

Relevant legal provisions:

EPC Art. 56, 112

Relevant legal provisions (EPC 1973):

-

Keyword:

"Inventive step - no"

"Referral to Enlarged Board of Appeal - no"

Decisions cited:

-

Catchword:

-



Case Number: T 1755/07 - 3.3.09

D E C I S I O N
of the Technical Board of Appeal 3.3.09
of 4 December 2009

Appellant: Dupont Teijin Films U.S. Limited Partnership
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 8 August 2007
revoking European patent No. 0920381 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: J. Jardón Álvarez
Members: N. Perakis
W. Sekretaruk

Summary of Facts and Submissions

I. The grant of European patent No. 0 920 381 in respect of European patent application No. 97935661.5 in the name of Dupont Teijin Films U.S. Limited Partnership, which had been filed on 7 August 1997 as International application PCT/GB97/02105 (WO - 98/06575), was announced on 24 November 2004 (Bulletin 2004/48) on the basis of 9 claims. Independent Claims 1, 7, 8 and 9 read as follows:

"1. A polymeric film comprising a polyester film substrate comprising in the range from 0.1 to 10% by weight, relative to the weight of the polyester, of at least one UV absorber, and a heat-sealable layer on a surface of the substrate, wherein the UV absorber comprises a triazine compound.

7. A method of producing a polymeric film which comprises forming a substrate by extruding a layer of molten polyester comprising in the range from 0.1 to 10% by weight, relative to the weight of the polyester, of at least one UV absorber, quenching the extrudate, orienting the quenched extrudate in at least one direction and forming a heat-sealable layer on a surface on the substrate, wherein the UV absorber comprises a triazine.

8. A use of a polymeric film comprising a polyester film substrate comprising in the range from 0.1 to 10% by weight, relative to the weight of the polyester, of at least one UV absorber, and a heat sealable layer on a surface of the substrate, as a protective coating

layer on a metal sheet, wherein the UV absorber comprises a triazine.

9. A laminated metal sheet comprising (i) a metal sheet, (ii) an optional primer layer, (iii) a paint layer, and (iv) a polymeric film comprising a polyester film substrate comprising in the range from 0.1 to 10% by weight, relative to the weight of the polyester, of at least one UV absorber, and a heat-sealable layer on a surface of the substrate, the heat-sealable layer being in contact with the paint layer, wherein the UV absorber comprises a triazine."

Claims 2 to 6 were dependent claims.

II. A Notice of Opposition was filed against this patent by Mitsubishi Polyester Film GmbH on 23 August 2005. The Opponent requested the revocation of the patent in its entirety. The opposition was based on the grounds of Article 100(a) EPC, namely lack of inventive step.

During the opposition proceedings *inter alia* the following documents were cited:

D1: EP - A - 0 581 970

D3: US - 5 288 788

D6: TINUVIN 1577 provisional Product information
(October 1994)

D7: Die Angewandte Makromolekulare Chemie 247 (1997)
pages 213 - 224, and

D15: Comparative data showing the advantages of triazine-containing films over benzoxazinone-containing films in terms of optical properties. Data was filed by the Patent Proprietor with letter dated 26 April 2007 as "DOCUMENT D8".

III. By its decision announced orally on 28 June 2007 and issued in writing on 8 August 2007 the Opposition Division revoked the patent.

This decision related to a main request corresponding to the maintenance of the patent as granted and a first auxiliary request filed with letter of 7 August 2006.

Compared to the claims of the main request, the subject-matter of the claims of auxiliary request 1 was limited to the preferred hydroxyphenyltriazines of the Formula 1 as given on paragraph [0017] of the specification, wherein R is C₁-C₁₂ alkyl or benzyl, and R' is hydrogen or methyl.

The Opposition Division, starting from the disclosure of D1 as the closest prior art document, formulated the problem to be solved by the patent in suit as the provision of a pure alternative to the UV-stabilized films of D1. The skilled person would look into documents D3, D6 or D7 which address the same problem of providing stabilized films with high resistance to weathering. The skilled person would then be lead to the use of triazines by these documents which recommended the use of triazine UV absorbers in polymers like polyesters.

The subject-matter of the claims of the auxiliary request lacked inventive step essentially for the same reasons as for the main request. The same hydroxy-phenyltriazines covered by the limited claims were disclosed in D6 for the same use.

IV. On 4 October 2007 the Patent Proprietor (Appellant) lodged an appeal against the decision of the Opposition Division and paid the appeal fee on the same day.

With the Statement of Grounds of Appeal filed on 18 December 2007, the Appellant requested that the decision be set aside and the patent be maintained in accordance with the main request (patent as granted) or in accordance with auxiliary request 1 filed on 7 August 2006 before the Opposition Division.

It also filed the following documents:

D20: US - 4 446 262,

D21: US - 5 251 064,

D22: US - 5 264 539,

D23: US - 5 480 926,

D24: "Next generation UV Absorbers for Plastics", R.D. Cody *et al.*, paper presented at the Worldwide Additives and Polymer Modifiers conference in Basel on 5th and 6th April 1995 ("AddCon '95").

By letter dated 25 February 2008, the Appellant filed an additional prior art document in support of its arguments:

D25: English translation of JP - A - 07/11231

- V. The Opponent withdrew the Opposition by letter dated 8 April 2008 and therefore ceased to be a party to the appeal proceedings as far as the substantive issues were concerned.
- VI. The Board in a Communication dated 5 March 2009 expressed the preliminary opinion that the appeal was likely to be dismissed.
- VII. By letter dated 15 May 2009, the Appellant filed new arguments in support of its case. It further requested that in case the Board of Appeal was minded to dismiss the appeal, the following questions be put to the Enlarged Board of Appeal:
- "1. Given that Article 56 EPC explicitly requires that inventive step be assessed with respect to the "state of the art", which is defined in Article 54(2) EPC as "everything made available to the public", is it appropriate necessarily to assess inventive step by reference to a single closest prior art document?
2. If the answer to question (1) is no, is it the case that the plurality of documents must be closely related in accordance with the "exceptional" circumstances of T 176/89?

3. If the answer to question (1) is no, and in situations where the true "state of the art" is not represented by a single disclosure taken in isolation but by a plurality of documents which together teach the true "state of the art" at the priority date, should inventive step instead be assessed by reference to that plurality of documents?"
- VIII. On 9 July 2009 the Board dispatched a summons to attend oral proceedings on 4 December 2009.
- IX. During the oral proceedings before the Board the Appellant withdrew its main request and maintained as its only request the set of claims of auxiliary request 1 (see above point III).
- X. The arguments presented by the Appellant in its written submissions and at the oral proceedings may be summarized as follows:
- The Appellant maintained that the prior art selected by the Opposition Division as closest prior art represented an artificial and arbitrary starting position for the assessment of inventive step. The Opposition Division relied upon knowledge of the claimed solution and ignored other documents which provided equally valid and objective starting points for the assessment of inventive step.
 - It argued that in the present case no single document represented "the closest prior art", instead what should be considered for the purposes of inventive step was "the state of the art" as a

whole. The Appellant summarized that the collective teaching of the state of the art to be considered in the present case, namely documents D20, D1, D21, D22, D3, D6, D25, D24, D23 and D7, was the knowledge that both benzoxazinones and triazines were superior UV-absorbers than benzophenones and benzotriazoles.

- Compared to this prior art the patent in suit taught that triazine-containing polyester films exhibit improved stability when compared to films containing benzoxazinone, as demonstrated by the experimental data of D15. The objective technical problem solved by the patent was, therefore, the provision of improved UV-absorber resistance over time in polyester films.

- The superior performance for the hydroxyphenyltriazine-containing polyester films in both the thermal degradation test and the weathering test could not be derived from the prior art and justified the presence of an inventive step.

XI. The Appellant requested that the decision under appeal be set aside and the European patent No. 0 920 381 be maintained in accordance with auxiliary request 1 filed on 7 August 2006.

It further requested that the questions as formulated in the letter of 15 May 2009 (see point VII above) be referred to the Enlarged Board of Appeal.

Reasons for the Decision

1. The appeal is admissible.

AUXILIARY REQUEST 1

2. *Inventive step (Article 56 EPC)*
 - 2.1 The subject-matter of Claim 1 is directed to polymeric films comprising:
 - (a) a polyester film substrate, comprising
 - (a1) from 0.1 to 10% by weight of at least one hydroxyphenyltriazine UV absorber, and
 - (b) a heat sealable layer on a surface of the substrate.
 - 2.2 Closest prior art
 - 2.2.1 The closest prior art for assessing inventive step is normally a prior art document disclosing subject-matter conceived for the same purpose or aiming at the same objective as the claimed invention and having the most relevant technical features in common, *i.e.* requiring the minimum of structural modifications.
 - 2.2.2 As acknowledged in paragraphs [0004] and [0005] of the specification, it was already known to increase the stability of polymers such as polyesters to UV light by the incorporation of an UV absorbing material. Some UV absorbers have relatively high volatility and/or thermally degradability which can cause problems including reduction in effectiveness.
 - 2.2.3 The prior art acknowledged in paragraph [0006] of the patent already recognizes the use of benzophenones,

triazoles, indoles and inorganic metal oxides as UV-absorbers to increase the stability of polyester films. The further documents cited in the proceedings teach that benzoxazinones and triazines were also known as UV-absorbers. In particular the use of hydroxyphenyltriazines was already disclosed in documents D3, D6 and D7.

- 2.2.4 The Board regards the teaching of document D3 or D6 as representing the closest prior art. Both documents were published shortly before the filing date of the patent in suit and disclose the use of hydroxyphenyltriazines for stabilising thermoplastic polymers against damage by light, oxygen and heat (see D3, Claim 1 and D6, first page, left column).

The polymers stabilized in D3 are said to show good fastness to weathering and in particular a high degree of resistance to UV light, retaining their mechanical properties and their colour over a long period of time, even when used outside (column 10, lines 56 - 61). The polymers to be stabilized include polyesters such as polybutylene terephthalate (see example 7). The stabilised polymer compositions can be converted into shaped articles such as films and sheets (column 10, lines 18-23) and the polymer compositions can be used for the preparation of multi-layer systems (column 10, lines 45 - 51). Thus D3 discloses films showing features (a) and (a1) of Claim 1 of the patent in suit for the same use.

The disclosure of D6 is similar to that of D3. It discloses the use of ®TINUVIN 1577, a hydroxyphenyltriazine, as a UV absorber of very low

volatility and good compatibility with a variety of polymers (see first paragraph of D6). It is said to be particularly suitable for achieving high UV-screen performance and minimising sublimation through vents (page 1, left column, last paragraph). The examples in D6 show the advantages of this hydroxyphenyltriazine over three known benzotriazoles.

In the following reference is made to D3 but the Board would arrive at the same conclusion if D6 was regarded as the closest prior art document.

2.3 The objective problem to be solved and its solution

2.3.1 The distinguishing feature of Claim 1 with respect to the closest prior art D3 is therefore the presence in the polymeric film of a heat sealable layer on a surface of the polyester film substrate (feature (b)).

2.3.2 The technical problem to be solved by the patent in suit in relation to D3 can be formulated as being to apply these known UV-absorbers for the protection of further polyester films.

2.3.3 It is not in dispute that this problem is credibly solved by the films of Claim 1 comprising a polyester film with a hydroxyphenyltriazine as UV absorber and a heat sealable layer.

2.4 Obviousness

2.4.1 It remains to be decided whether it would have been obvious for the skilled person to solve this technical problem by the means claimed, namely by using a

multilayer polymeric film including a heat sealable layer.

2.4.2 In the Board's judgement it would indeed have been obvious to use the claimed films to solve the above problem from the teaching of D3 alone. This document indicates that the polymer compositions therein claimed are used for the preparation of multi-layer systems with the outer layer being stabilized with hydroxyphenyltriazines (column 10, lines 45 - 51). The additional heat sealable layer merely allows the film to be applied to a metal sheet. This is conventional in the field and cannot contribute to an inventive step.

2.4.3 This has not been disputed by the Appellant and therefore no further comments are needed.

3. *The arguments of the Appellant*

3.1 The Appellant did not dispute that starting from D3/D6 the claimed subject-matter lacked inventive step. The Appellant, however, maintained that the selection of D3/D6 as closest prior art would lead to an assessment of inventive step which was artificial and arbitrary.

3.2 The Appellant argued that the documents relating to hydroxyphenyltriazines as UV-absorbers (D3, D6 and D7) do not represent the true teaching of the state of the art. It argued that the problem and solution approach must, in the present case, be applied carefully and with proper consideration of the "whole state of the art". The consideration of the collective teaching derivable from the whole state of the art represents the objective state of the art at the priority date of

the patent and would in its opinion result in a different definition of the objective problem to be solved by the invention and would result in a different assessment of inventive step.

3.3 In the Appellant's view the teaching of the complete picture of the state of the art as represented by documents D20, D1, D21, D22, D3, D6, D25, D24, D23 and D7 was that both benzoxazinones (cf. D20 to D25) and hydroxyphenyltriazines (D3, D6 and D7) had individually been demonstrated superior to benzophenones and benzotriazoles as UV-absorbers.

3.4 The experimental evidence (D15) submitted during the opposition proceedings showed that hydroxyphenyltriazine containing polyester films exhibit improved stability over all four tested optical properties when compared to films containing benzoxazinones. The Appellant then defined the problem to be solved as the provision of improved UV-absorber resistance over time in polyester films and concluded that there was no teaching or suggestion in the prior art that hydroxyphenyltriazines might provide an improvement over benzoxazinones.

3.5 These arguments cannot be accepted by the Board:

3.5.1 The Board agrees with the Appellant that for the establishment of the closest prior art, the whole state of the art should be considered. The Board also agrees with the Appellant that in the present case the teaching of the prior art at the priority date can be summarized as including the superiority of benzoxazinones and hydroxyphenyltriazines over

benzophenones and benzotriazoles as UV-absorber for polyester films.

- 3.5.2 The Board however disagrees with the definition of the technical problem given by the Appellant. This definition ignores the teaching of D3, D6 and D7 which already use hydroxyphenyltriazines as UV-absorbers for stabilizing polyesters against damage by light, oxygen and heat.
- 3.5.3 According to the EPO practice, in situations like the present where two documents (here two groups of documents) belonging to the same technical field as the claimed invention might be used as starting points the closest prior art is the one which would most easily have enabled the skilled person to make the invention. In the Board's judgement this document is undoubtedly the document (or documents) relating to hydroxyphenyltriazines. By proceeding in this manner the further relevant state of the art is not disregarded by the Board because EPO jurisprudence requires that for the assessment of inventive step the closest prior art is to be evaluated in the context of the entire knowledge of the skilled person. This knowledge includes the fact that further documents exist from which it emerges that hydroxyphenyltriazines are one class of UV-absorbers for polyesters among others, including benzoxazinones.
- 3.5.4 The finding by the Appellant that hydroxyphenyltriazines are actually superior to benzoxazinones is however not a finding that can justify the presence of an inventive step. In a case like the present where it was obvious from the state of

the art, here D3/D6, that a certain measure, here the use of hydroxyphenyltriazines would bring about an improvement of a certain property, here protection against weathering, the unforeseeable degree of this improvement (a better protection than with benzoxazinones) cannot make this *per se* obvious measure non-obvious.

In other words the knowledge that hydroxyphenyltriazines are superior to benzoxazinones would not lead the skilled person to do something which would not have been done without knowing the content of the patent. Consequently it cannot justify the presence of an inventive step.

4. For these reasons the subject-matter of Claim 1 of auxiliary request 1 does not involve an inventive step.

This conclusion is arrived at by taking account of the "entire" state of the art as requested by the Appellant.

5. *Referral to the Enlarged Board of Appeal*

- 5.1 The Appellant requested the questions under point VII above to be put to the Enlarged Board of Appeal if the Board were to come to the conclusion that the appeal should be dismissed.

- 5.2 As mentioned in Article 112(1) EPC, in order to ensure uniform application of the law, or if an important point of law arises, the Board of Appeal shall, during proceedings in a case and either of its own motion or following a request from a party to the appeal, refer any question to the Enlarged Board of Appeal if it

considers that a decision is required for the above purposes.

In the present case the main question the Appellant wishes to refer to the Enlarged Board is whether it is appropriate necessarily to assess inventive step by reference to a single closest prior art document.

- 5.3 As explained above, the reason behind this question is the opinion of the Appellant that by taking account of the "collective teaching of the state of the art" as closest prior art instead of the teaching of a single document, a different conclusion would be achieved in relation to inventive step.

Whether for the purposes of Article 56 EPC the closest prior art is a single document or the "collective teaching of the prior art" is a question which, for the Board in this case, turns essentially on the view taken of the facts of this particular case, and not on any point of law, and is thus a question which is to be answered by the Board. The Board sees no question of law that needs to be referred to the Enlarged Board of Appeal in order to decide on inventive step.

The questions proposed by the Appellant do not relate to any uniform application of the law either, as this Board does not take any view of the law different to the established case law of the Boards of Appeal. It is doubtful whether they are questions of law at all, and concern in the first place the assessment of evidence, a matter which does not lend itself to questions of a general legal nature.

5.4 For these reasons, the Board does not consider it appropriate to refer the question of the Appellant to the Enlarged Board of Appeal.

Order

For these reasons it is decided that:

1. The request concerning the referral of questions to the Enlarged Board of Appeal is rejected.
2. The appeal is dismissed.

The Registrar:

The Chairman:

G. Röhn

J. Jardón Álvarez