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**Datasheet for the decision
of 13 August 2020**

Case Number: T 1154/16 - 3.2.07

Application Number: 08777456.8

Publication Number: 2169112

IPC: D21F3/02, C08G18/10, C08G18/48,
C08G18/76

Language of the proceedings: EN

Title of invention:
SHOE PRESS BELT FOR PAPER MAKING

Patent Proprietor:
Ichikawa Co., Ltd.

Opponent:
Voith Patent GmbH

Headword:

Relevant legal provisions:
EPC Art. 54, 56, 83, 100(a), 100(b)
RPBA 2020 Art. 15(1)

Keyword:
Grounds for opposition - lack of patentability (no)

Decisions cited:

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1154/16 - 3.2.07

D E C I S I O N
of Technical Board of Appeal 3.2.07
of 13 August 2020

Appellant:
(Patent Proprietor)

Ichikawa Co., Ltd.
14-15 Hongo 2-chome
Bunkyo-ku
Tokyo 113-0033 (JP)

Representative:

Flaccus, Rolf-Dieter
Flaccus · Müller-Wolff
Patentanwälte
Bussardweg 10
50389 Wesseling (DE)

Appellant:
(Opponent)

Voith Patent GmbH
Sankt Pöltener Straße 43
89522 Heidenheim (DE)

Representative:

Manitz Finsterwald
Patent- und Rechtsanwaltspartnerschaft mbB
Martin-Greif-Strasse 1
80336 München (DE)

Decision under appeal:

**Interlocutory decision of the Opposition
Division of the European Patent Office posted on
22 March 2016 concerning maintenance of the
European Patent No. 2169112 in amended form.**

Composition of the Board:

Chairman I. Beckedorf
Members: S. Watson
A. Pieracci

Summary of Facts and Submissions

- I. The appeal arises from the interlocutory decision of the opposition division to maintain European patent No. 2 169 112 in amended form on the basis of the then single auxiliary request. Both the opponent and the patent proprietor lodged an appeal in the prescribed form and within the prescribed period against the interlocutory decision.
- II. The opposition was directed against the patent as a whole and was based on Article 100(a) EPC (lack of novelty and lack of inventive step) and Article 100(b) EPC (insufficiency of disclosure).
- III. In the present decision reference is made to the following documents which were considered in the opposition proceedings:

- D1: WO 2007/128596 A1;
D8: EP 1 338 696 A1;
D9: "Para-Phenylenediisocyanate (PPDI) based polyurethanes for demanding applications", Ajaib Singh et al., Utech '94: Groundwork for growth, Conference Paper no. 43;
D15: sheet "Additional data", filed with patent proprietor's letter of 17 April 2013
D19: "PPDI for high performance polyurethanes", Wayne C. Whelchel, Rubber World, March 1992, pages 22-25.

Document D1 forms part of the state of the art according to Article 54(3) EPC.

- IV. In preparation for oral proceedings scheduled at the request of both parties, the Board communicated its preliminary assessment of the case by means of a communication pursuant to Article 15(1) RPBA 2020. The Board indicated that whilst the arguments presented by the patent proprietor regarding the incorrectness of the decision under review with respect to the inventive step of granted claim 1 could be considered to be convincing, the arguments presented by the opponent regarding sufficiency of disclosure (related to claim 2) and novelty of the subject-matter of claim 1, appeared not to be.
- V. With letter dated 9 June 2020 the patent proprietor responded to the communication and maintained its arguments regarding the main request.
- VI. With letter dated 9 July 2020 the opponent responded to the communication, also maintaining its arguments with respect to the main request.
- VII. With letter dated 7 August 2020, the patent proprietor responded to the letter of the opponent of 9 July 2020.
- VIII. Oral proceedings before the Board took place on 13 August 2020. At the conclusion of proceedings the decision was announced. Further details of the proceedings can be found in the minutes thereof.
- IX. The lines of argument of the parties are dealt with in detail in the reasons for the decision.

X. The final requests of the parties are as follows:

for the opponent:

that the decision under appeal be set aside and
that the patent be revoked;

for the patent proprietor:

that the decision under appeal be set aside and the
patent maintained as granted (main request) or, in
the alternative,

that the patent be maintained in amended form on
the basis of one of auxiliary requests 1 to 4 as
filed with the statement setting out the grounds of
appeal;

or auxiliary requests A, 1A, 2A, 3A, 4A as filed
with the reply to the statement of grounds of
appeal of the opponent, whereby claim 1 of
auxiliary requests 2 and 2A is modified by
replacing " $0.88 < H/NCO \leq 1.0$ " with " $0.88 < H/NCO < 1.0$ " as requested with letter dated 15 March 2017;

whereby auxiliary request 4 corresponds to the
version of the patent held by the opposition
division to meet the requirements of the EPC.

XI. Independent claim 1 according to the main request, *i.e.*
according to the patent as granted, reads as follows:

A shoe press belt (10) for papermaking, comprising a
reinforcing fiber base (6) and a polyurethane layer
which are integral with each other, said reinforcing
fiber base (6) being embedded in said polyurethane
layer, wherein

said polyurethane layer includes a polyurethane produced by curing a mixed composition of an urethane prepolymer (A) and a curing agent (B);
said urethane prepolymer (A) is obtained by reacting an isocyanate compound (a) comprising 55 to 100 molar % of a p-phenylene-diisocyanate compound with polytetramethylene glycol (b), and has a terminal isocyanate group; and
said curing agent (B) is selected from the group consisting of 1,4-butanediol, hydroquinone bis- β hydroxyl ethyl ether, 3,5-diethyltoluenediamine and 3,5-dimethylthiotoluenediamine.

Independent claim 2 according to the main request, *i.e.* according to the patent as granted, reads as follows:

A shoe press belt (10) for papermaking, comprising a reinforcing fiber base (6) and a polyurethane layer are integral with each other, said reinforcing fiber base (6) being embedded in said polyurethane layer, and an outer circumferential layer (2a, 21) and an inner circumferential layer (2b, 22) of said belt (10) being made of a polyurethane, wherein
said polyurethane of said outer circumferential layer (2a, 21) is produced by curing a mixed composition of an urethane prepolymer (A), obtained by reacting p-phenylene-diisocyanate with polytetramethylene glycol (b) and having a terminal isocyanate group, and curing agent (B) selected from the group consisting of 1,4-butanediol, hydroquinone bis- β hydroxyl ethyl ether, 3,5-diethyltoluenediamine and 3,5-dimethylthiotoluenediamine; and
said polyurethane of said inner circumferential layer (2b, 22) is produced by curing a mixed composition of an urethane prepolymer (A), obtained by reacting an isocyanate compound (a) selected from the group

consisting of 2,4-tolylene diisocyanate, 2,6-tolylene diisocyanate and 4,4'-methylene bis(phenyl isocyanate) with polytetramethylene glycol (b), and having a terminal isocyanate group, and a curing agent (B) selected from the group consisting of 3,5-dimethylthiotoluenediamine, hydroquinone bis- β hydroxyl ethyl ether, 3,5-diethyltoluenediamine and 1,4-butanediol; and wherein said reinforcing fiber base (6) is embedded in said inner circumferential layer (2b, 22).

XII. As the auxiliary requests do not form part of this decision, it is not necessary to reproduce them here.

Reasons for the Decision

Review of the contested decision

1. *Sufficiency of disclosure (Article 100(b) EPC and Article 83 EPC)*

In the contested decision (see point 4.1), the opposition division found that the subject-matter of claim 2 was sufficiently disclosed and that the objections of the opponent were based on an alleged lack of clarity of the claim.

1.1 The opponent has brought forward (reply to statement of grounds of the appeal of the patent proprietor, page 2, and statement of grounds of appeal, pages 2 to 6) that the contested decision was incorrect in finding that the requirements of Article 83 EPC were fulfilled. According to the opponent, the skilled person was not given sufficient information to carry out the invention

as claimed in independent claim 2 of the main request, as the claim had to be interpreted as a four component shoe press belt where the reinforcing fiber base was embedded in two different layers.

1.2 The established case law of the Boards of Appeal is that a finding of lack of sufficient disclosure should be based on serious doubts, substantiated by verifiable facts (Case Law of the Boards of Appeal, 9th edition 2019, C.II.9.). The burden of proof lies with the opponent to demonstrate that the patent does not provide sufficient information which enables the skilled person, when taking into account common general knowledge, to reproduce the invention.

1.3 The opponent's line of argument essentially is based on a particular interpretation of a feature of claim 2.

Already for this reason, the opponent's objection fails because it relates to clarity (Article 84 EPC) not sufficiency of disclosure (Article 83 EPC). As the set of claims as granted forms the main request, no examination for compliance with the requirements of Article 84 EPC can be carried out (G3/14, OJ EPO 2015, A102).

Apart from this, the Board further notes that even if the interpretation of the opponent were to be used, *i.e.* that claim 2 must be understood as being directed to a belt having (at least) four components (polyurethane layer, inner and outer circumferential layers, reinforcing fiber base), whereby the single reinforcing fiber base is present in both the polyurethane layer and the inner circumferential layer (see statement of grounds of appeal, II.3.), the

invention is sufficiently disclosed to be carried out by the skilled person.

- 1.3.1 The opponent's arguments rely on the word "embedded" (see statement of grounds of appeal, point II.4.) being understood as "completely enclosed" ("vollständig umschlossen"). However, as argued by the patent proprietor (see reply to the statement of grounds of appeal of the opponent, page 5, fifth paragraph), the term "embedded" does not necessarily mean "completely enclosed". The Board agrees with the patent proprietor (as indicated in the communication pursuant to Article 15(1) RPBA 2020 (point 9.1.5)), that the claim does not exclude the fibre base being embedded within and between two layers, as is shown in figure 1(B) of the contested patent. An embedded object must be firmly held but not necessarily be encapsulated.
- 1.3.2 The opponent also brought forward the arguments (statement of grounds of appeal of the opponent, paragraph bridging pages 2 and 3) that the patent specification allows the skilled person neither to carry out substantially all embodiments which fall within the scope of the claim nor to determine whether or not they were working in the "forbidden area" of the scope of the claim.

These arguments are not convincing for the following reasons.

First, as discussed above in point 1.3.1, even if the opponent's interpretation of the claim is used, the skilled person has sufficient information from figure 1B and the description in general with the support of the common general knowledge of the skilled person (see

patent proprietor's reply to the statement of grounds of appeal of the opponent, point 1.2) to carry out the invention in order to make a shoe press belt according to claim 2.

If, on the other hand, the interpretation of the patent proprietor is used, *i.e.* that claim 2 relates to a shoe press belt with (at least) three components: two polyurethane layers (inner and outer circumferential layers) and a reinforcing fiber base, where the fiber base is embedded in the inner circumferential layer, the contested patent also sufficiently discloses how to carry out the invention. As brought forward by the patent proprietor, figure 1B and the description disclose such a structure, and even if the term "embedded" were to be understood as "completely enclosing", the skilled person finds in the description the teaching of how to manufacture an intermediate layer 2c with a (fully) embedded reinforcing fiber base.

An embodiment where the same fiber base has to be completely embedded in two separate layers of the belt is clearly technically not possible. The Board concurs with the opposition division, (see contested decision, point II.4.1, final paragraph of page 4) that when faced with such an interpretation, the skilled person would take into account the whole disclosure of the patent in order to arrive at a technically feasible interpretation of the claim.

Second, as correctly indicated by the patent proprietor (see reply of the patent proprietor to the opponent's statement of grounds of appeal, point 1.3, pages 6 to 7), the concept of determining whether or not the skilled person is working within an area covered by the claim, relates directly to the scope of the claim and is therefore a matter of clarity (Article 84 EPC) and

not sufficiency of disclosure (Article 83 EPC) (see Case Law of the Boards of Appeal, *supra*, II.C.6.6.4 and II.C.8.2, with further references).

1.4 The skilled person understands from the patent specification that the claimed shoe press belt has a reinforcing fiber base and at least inner and outer circumferential layers having different compositions of polyurethane as set out in claim 2, and depending on the interpretation of the claim, the fiber base is embedded completely in one of the layers or between two layers. The skilled person would not need to carry out any undue experimentation to produce a press shoe belt which has an inner circumferential layer made of a first polyurethane, a fibre base (at least partially) embedded in the inner layer and an outer circumferential layer made of a second polyurethane, as required by claim 2. Paragraph [0026] describes, in general terms, how to produce the belt according to figure 1B. The patent specification (paragraphs [0031] to [0066]) further contains many detailed examples for producing a press shoe belt of the third construction type (having an intermediate layer) and the skilled person would have no difficulty in adapting these methods in order to make a belt without an intermediate polyurethane layer.

The opponent has provided no evidence substantiating any serious doubts that the skilled person is unable to carry out the invention as claimed in claim 2 and has therefore not convincingly argued that the contested decision is incorrect on this point.

2. *Novelty (Article 100(a) EPC in combination with Article 54 EPC)*

In the contested decision (see page 6, last paragraph to page 7, fourth paragraph), the opposition division found that the feature of claim 1 that "said curing agent (B) is selected from the group consisting of 1,4-butanediol, hydroquinone bis- β hydroxyl ethyl ether, 3,5-diethyltoluenediamine and 3,5-dimethylthiotoluenediamine" was not disclosed by document D1.

The opposition division found that this feature had to be understood such that only a single one of the curing agents selected from the group, not a mixture, is to be used. Document D1 discloses that the curing agent is a mixture of 1,4-butanediol and a diamine, therefore the opposition division found that the claimed feature is not disclosed in document D1.

2.1 The opponent has argued that this interpretation of the claim is too limiting and that the wording of the claim does not exclude the possibility that further curing agents are used (see reply to the proprietor's statement of grounds of appeal, pages 9 to 11, point II.4.a) and opponent's submission of 9 July 2020, point 1.2).

According to the opponent the feature, "a polyurethane produced by curing a mixed composition of a urethane prepolymer (A) and a curing agent (B)", does not exclude the presence of other components in the polyurethane, including further curing agents. In particular the opponent has argued that the term "a mixed composition" indicates that the polyurethane contains further components and the inclusion of a diamine and a catalyst in the hardener composition of D1 is not excluded by the wording of claim 1.

The patent proprietor, in line with the findings of the opposition division, maintains that the curing agent (B) is clearly defined through the feature "said curing agent (B) is selected from the group consisting of 1,4-butanediol, hydroquinone bis- β hydroxyl ethyl ether, 3,5-diethyltoluenediamine and 3,5-dimethylthiotoluenediamine", such that no further curing agent could be included.

- 2.2 The opponent has cited paragraphs [0014] and [0030] of the contested patent, as well as paragraph [0024] of the application as original filed, as support for its argument that a mixture of curing agents is covered by the wording of claim 1 (see pages 10-11 of opponent's reply to patent proprietor's statement of grounds of appeal and page 4 of opponent's submission of 9 July 2020).

In paragraph [0014] of the patent it is stated that the "curing agent should preferably comprise a compound selected from a group consisting of...". In paragraph [0030] it is stated that "It is possible for the shoe press belts 10 employing the laminated polyurethane layers as shown in figures 1(B) and 1(C) to incorporate other polyols, isocyanate compounds and curing agents...". The opponent has argued that these paragraphs indicate that the wording of claim 1 should be interpreted broadly with respect to the curing agent selection, such that further curing agents and mixtures also fall within the claim. However, as pointed out by the patent proprietor in its submission of 7 August 2020 (page 3, end of third complete paragraph), these paragraphs do not relate to the embodiment of the invention defined in claim 1 but to those of claims 2 and/or 3, in which polyurethane layers may have differing prepolymers.

Paragraph [0024] of the originally filed application, which stated that "The curing agent may be used in combination with other curing agents..." was amended at grant in order to avoid any contradiction with claim 1.

- 2.3 The opponent has also argued (reply to patent proprietor's statement of grounds of appeal, page 11, point II.4.b)) that D1 includes the possibility of using 0% diamine, as the curing agent of D1 includes "maximum 40 % diamine".
- A single specific example of a curing composition shown in D1, has a diamine content of 7.95 % (see D1, page 6, lines 1-2). A more general teaching of D1 (see D1, page 3, lines 22-24, and claim 10) is that the curing agent consists of 60 to 99% 1,4-butanediol, maximum 40% diamine and up to 1% of a catalyst. Whilst it is mathematically possible for the curing agent of D1 to contain no diamine, the Board concurs with the opposition division (contested decision, point 4.2, page 6, last paragraph, to page 7, first paragraph) that the teaching of the document as a whole (see D1, page 3, lines 22-27, and page 6, lines 4-22) discloses unambiguously that the diamine is essential in the curing mixture.
- 2.4 A further argument was made by the opponent in its submission of 9 July 2020 (point 1.2), that D1 implicitly discloses the existence of molecules formed only through the reaction of the prepolymer with the 1,4-butanediol of the hardener mixture (in particular as the 1,4-butanediol forms 92% of the mixture), as well as other, further molecules formed through reaction of the prepolymer with the other components of the hardener mixture. As the wording of claim 1 does not exclude further polyurethane molecules being

present in the polyurethane layer, the polyurethane formed in D1 anticipates the claimed polyurethane.

The Board agrees with the patent proprietor (submission of 7 August 2020, page 3, fourth paragraph) that this argument is speculative and unsubstantiated. There is no explicit disclosure in D1 that any particular percentage of the prepolymer reacts only with the 1,4-butanediol and it is not implicit that the reaction disclosed in D1 (mixing of a PPDI prepolymer with a curing agent comprising 92% 1,4-butanediol and 7.95% p-phenylenediamine) must inevitably lead to a polyurethane which has been produced by curing a mixed composition of a urethane prepolymer obtained by reacting 55 to 100 molar % of a p-phenylene-diisocyanate compound with polytetramethylene glycol and 1,4-butanediol alone. For a disclosure to be novelty destroying it must provide a direct and unambiguous disclosure that is beyond doubt (see Case Law of the Boards of Appeal, *supra*, I.C.4.1).

- 2.5 The Board is therefore not convinced by the arguments of the opponent and follows the decision of the opposition division that the claim is to be interpreted as having a single curing agent selected from the group consisting of 1,4-butanediol (BDO), hydroquinone bis- β -hydroxyl ethyl ether (HQEE), 3,5-diethyltoluenediamine (DETDA) and 3,5-dimethylthiotoluenediamine (DMTDA), whereas document D1 discloses a curing agent mixture containing BDO and a diamine.

Therefore, at least the feature of the hardener is not known from the disclosure of document D1.

The opponent has thus not convincingly shown why the contested decision is incorrect in finding that

document D1 does not anticipate the subject-matter of claim 1.

3. *Inventive Step (Article 100(a) EPC in combination with Article 56 EPC)*

The opposition division found that the subject-matter of claim 1 of the main request was not inventive over a combination of the disclosures of D8 and either D9 or D19 (see contested decision, point 4.2, pages 12 to 14).

- 3.1 The patent proprietor has brought forward (see statement of grounds of appeal, point 2 a), reply to opponent's statement of grounds of appeal, page 9, and patent proprietor's submission of 15 March 2017, page 8, first complete paragraph, and page 9, third paragraph), that the contested decision does not withstand a judicial review in appeal as
- (a) the objective technical problem used by the opposition division is incorrect;
 - (b) the skilled person would not have considered documents D19 or D9 as they are not from the same technical field as the contested patent (shoe press belts for papermaking), relate to experimental and/or hypothetical uses and do not address the same objective technical problem;
 - (c) without knowledge of the invention, the skilled person would not have replaced the TDI- or MDI-based systems of D8 with the PPDI/PTMEG/BDO systems of D9 and D19 as such a replacement would be in contradiction to the teaching of D8 which shows a two layer structure and the use of DMTDA as being essential to prevent cracking.

3.2 Objective technical problem

3.2.1 A shoe press belt for papermaking is known from document D8 which by common consent represents the closest prior art.

3.2.2 Both parties agree that the subject-matter of claim 1 differs from the known belt of D8 in that the urethane prepolymer (A) is obtained by reacting an isocyanate compound (a) comprising 55 to 100 molar % of a p-phenylene-diisocyanate (PPDI) compound.

3.2.3 The objective technical problem was regarded by the opposition division in the contested decision (see page 12) as being to provide an improved shoe press belt which has good mechanical properties in crack resistance, flexural fatigue resistance and wear resistance.

The patent proprietor has argued (statement of grounds of appeal, page 6, third paragraph) that the objective technical problem should be reformulated as providing flexural resistance (in the sense of resistance to crack development and growth under repetitive flexing) whilst maintaining or improving hardness values of press shoe belts.

In the opinion of the opponent, however, the maintenance or improvement of the hardness of the polyurethane layer does not form part of the objective technical problem as it is a mere bonus effect.

3.2.4 The established case law (Case Law of the Boards of Appeal, *supra*, I.D.4.3.2) indicates that an objective definition of the technical problem to be solved should normally start from the problem described in the contested patent, unless the problem has not been solved. In the present case the opposition division

used the problem as defined in paragraph [0012] of the contested patent. They reasoned that considering the examples given in the patent and the additional examples provided by the proprietor in document D15 the invention involved an advantageous technical effect related to the technical problem of providing a shoe press belt having improved crack resistance, flexural fatigue resistance and wear resistance over the whole range of claim 1.

The Board sees no reason to depart from the technical problem formulated in the contested patent.

3.3 Technical fields

The patent proprietor has argued that the skilled person would not consider documents D9 or D19 as they do not relate to the same technical field as the contested patent, *i.e.* shoe press belts for papermaking and do not address the same technical problem.

The opponent has argued that the skilled person would have been aware of documents D9 and D19 and would consider their disclosure as they form part of the state of the art in a non-specific general field and show general improvements in dynamic properties related to the use of a PPDI/PTMG/BDO polyurethane (see submission of 9 July 2020, points 2.1 and 2.2, pages 5-9).

The patent proprietor responded (submission of 7 August 2020, points 2.1 and 2.2, pages 5-7) by arguing that technical fields cannot be neighbouring if they relate to substantially different purposes and applications, and that documents D9 and D19 relate to different technical problems than the objective technical problem of the patent.

The Board finds that the disclosures of D9 and D19 in the present case cannot be considered to be in a neighbouring field to that of shoe press belts for papermaking, but that they do form part of a broader, general field, relating to the general use of polyurethanes in dynamic mechanical applications solving similar problems to the current case. Therefore the skilled person would consider the disclosure of both documents.

3.4 Replacement of curing agent in D8

In the contested decision (page 12, final two paragraphs to page 13, third paragraph) the opposition division reasoned that as document D19 discloses (page 23, penultimate line to page 25, 4th line) the advantages, particularly in dynamic performance properties, of replacing TDI/PTMG and MDI/PTMG prepolymers with a PPDI/PTMG prepolymer, using 1,4-butanediol (BDO) as the curing agent (D19, page 23, right-hand column, lines 19-23), and as D19 specifically suggests using the PPDI/PTMG prepolymer in "rolls, wheels, belts, seals..." (see D19, page 25, right-hand column, lines 3-6), that the person skilled in the art would have been motivated to combine the teaching of documents D8 and D19, exchanging the MDI and TDI based systems with the PPDI/PTMG/BDO system of D19 to improve flexural fatigue resistance and wear resistance.

The opposition division further reasoned in the contested decision (page 13) that D9 discloses that PPDI/PTMG prepolymers have excellent mechanical characteristics which are superior to TDI and MDI elastomers (D9, page 2, right-hand column, first two sentences) of similar hardness and that D9 further

discloses the suitability of PPDI/PTMG elastomers for rolls, due to their improved cut and tear resistance (figure 10).

The patent proprietor has argued that the skilled person would however not be prompted to modify document D8 with the teaching of D9 or D19 without knowledge of the invention, as they would be faced with conflicting disclosures.

D8 discloses the use of dimethylthiotoluenediamine (DMTDA) as the curing agent to be used in order to inhibit cracking in the outer surface of the shoe press belt, whereas both D9 and D19 teach the use of 1,4-butanediol (BDO) as the curing agent to use with the PPDI/PTMG prepolymer (see D9, paragraph titled "PPDI Elastomers - Key Properties PTMG Polyether PPDI Elastomer" and D19, page 23, right-hand column and figures).

The opponent has brought forward (see submission of 9 July 2020, point 2.2) that there is no conflict between the teachings of D8 and D19 as D8 does not contain a direct comparison of DMTDA and BDO. In addition, the opponent argues that in paragraphs [0006] and [0039] D8 does not mention that DMTDA improves crack resistance and whilst in paragraphs [0042], [0044], [0060] and [0063] crack resistance is mentioned, it is not disclosed that DMTDA always improves crack resistance or that other curing agents do not show such crack resistance.

The Board follows the arguments of the patent proprietor. It is established case law that to determine whether an invention starting from the closest prior art would be obvious to the skilled person, the question must be asked whether or not the

skilled person would have modified the teaching in the closest prior art document in the light of other teachings to arrive at the claimed invention, without hindsight knowledge of the invention (see Case Law of the Boards of Appeal, *supra*, I.D. 5. and 6.). The clear teaching of D8 is that to improve crack inhibition, the outer layer of the shoe press belt should be made from a polyurethane having DMTDA as the hardener. Paragraphs [0006] and [0039] do not specify why DMTDA should be used to form the polyurethane but both paragraphs disclose that it should be used to produce the polyurethane. The other paragraphs cited by the opponent all state that the use of DMTDA as the hardener inhibits crack formation in the outer layer of the belt.

Therefore, even if the skilled person were to be prompted by the disclosure of D9 and D19 to replace TDI/MDI urethane prepolymers in the shoe press belt of D8 with PPDI prepolymers, D9 and D19 clearly teach the use of PPDI prepolymers in combination with BDO as the curing agent. The skilled person, when starting from the teaching of D8, with the desire to improve crack resistance, and without knowledge of the invention, would see no reason to replace the curing agent which D8 teaches as being precisely the component which improves crack inhibition.

This already suffices to acknowledge that the claimed subject-matter involves an inventive step.

3.5 The patent proprietor has therefore convincingly shown that the contested decision was incorrect and that the patent may be maintained as granted.

Order

For these reasons it is decided that:

1. **The appeal of the opponent is dismissed.**
2. **The decision under appeal is set aside.**
3. **The patent is maintained as granted.**

The Registrar:

The Chairman:



G. Nachtigall

I. Beckedorf

Decision electronically authenticated