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**Datasheet for the decision  
of 21 January 2021**

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**Language of the proceedings:** EN

**Title of invention:**  
POLYURETHANE COATINGS WITH IMPROVED INTERLAYER ADHESION

**Patent Proprietor:**  
PRC-DESOTO INTERNATIONAL, INC.

**Opponent:**  
Axalta Coating Systems Germany GmbH

**Headword:**

**Relevant legal provisions:**  
EPC Art. 56  
RPBA Art. 12(2), 12(4)  
RPBA 2020 Art. 13(2), 25(2)

**Keyword:**

Inventive step - closest prior art  
Admittance - claim requests  
Admittance - late filed allegation of fact (no)

**Decisions cited:**

T 0967/97, T 1705/07, T 1742/12

**Catchword:**



**Beschwerdekammern**  
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Case Number: T 0261/19 - 3.3.02

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.02**  
**of 21 January 2021**

**Appellant:** Axalta Coating Systems Germany GmbH  
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**Decision under appeal:** **Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
8 November 2018 concerning maintenance of the  
European Patent No. 2 195 360 in amended form**

**Composition of the Board:**

**Chairman** M. O. Müller  
**Members:** P. O'Sullivan  
M. Blasi

## Summary of Facts and Submissions

I. The appeal of the opponent (appellant) lies from the decision of the opposition division according to which the patent in amended form according to the first auxiliary request was found to meet the requirements of the EPC.

II. European patent 2 195 360 was opposed under Article 100(a) (novelty and inventive step) and (b) EPC.

III. The following documents *inter alia*, cited in opposition proceedings, were invoked by the parties in written appeal proceedings:

D1: US 6,472,493 B1  
D4: WO 00/39184 A1  
D5: US 2006/0004139 A1  
D6: Evonik datasheet, "Adhesion Resin LTW"  
dated February 2008  
D7: Respondent's "Test Report"

IV. With the reply to the statement of grounds of appeal the respondent (patent proprietor) filed the following document:

D10: Degussa datasheet, "Adhesion Resin LTW",  
dated August 2002

V. Requests

The appellant requested that the contested decision be set aside and that the patent be revoked in its entirety. It also requested that the auxiliary requests

submitted by the respondent with the reply to the statement of grounds of appeal not be admitted into the appeal proceedings.

The respondent requested that the appeal be dismissed, implying maintenance of the patent in the form considered allowable by the opposition division (main request), or alternatively, maintenance of the patent in amended form on the basis of one of the sets of claims of the first to twentieth auxiliary requests submitted with the reply to the statement of grounds of appeal.

VI. The independent claims of the main request read as follows:

*"1. A polyurethane coating composition which is a two component composition comprising:*

- a) an isocyanate component comprising an aliphatic isocyanate and an aromatic isocyanate, and*
- b) a polyol component comprising an acrylic polyol and a polyester polyol wherein the coating composition cures at room temperature,*  
*wherein the aromatic isocyanate comprises 1 to 30 weight percent of the total solids weight of the isocyanate component and the aliphatic isocyanate comprises 70 to 99 weight percent of the total solids weight of the isocyanate component.*

*9. A method for treating an aged polyurethane surface comprising: applying the polyurethane coating composition of Claim 1 to at least a portion of the aged polyurethane surface; applying a second polyurethane coating to at least a portion of the polyurethane coating composition of Claim 1; and curing the second polyurethane coating.*

14. *An aged polyurethane surface treated according to the method of claim 9."*

The text of the independent claims of the first to seventeenth auxiliary requests, where relevant to the present decision, is set out in the reasons for the decision, *infra*.

The independent claims of the eighteenth auxiliary request read as follows:

*"1. A method for treating an aged polyurethane surface comprising: applying a polyurethane coating composition to at least a portion of the aged polyurethane surface; applying a second polyurethane coating to at least a portion of the polyurethane coating composition; and curing the second polyurethane coating, wherein the aged polyurethane surface is not mechanically sanded or solvent stripped prior to application of the polyurethane coating composition and the polyurethane coating composition is a two component composition comprising:*

- a) an isocyanate component comprising an aliphatic isocyanate and an aromatic isocyanate, and*
- b) a polyol component comprising an acrylic polyol and a polyester polyol wherein the coating composition cures at room temperature,*

*wherein the aromatic isocyanate comprises 1 to 30 weight percent of the total solids weight of the isocyanate component and the aliphatic isocyanate comprises 70 to 99 weight percent of the total solids weight of the isocyanate component.*

5. *An aged polyurethane surface treated according to the method of claim 1."*

- VII. With the communication of the board pursuant to Article 15(1) RPBA the board set out its preliminary opinion. In particular, the board expressed the opinion that *inter alia* D4 could serve as a starting point in the assessment of inventive step.
- VIII. With the letter of 21 December 2020 the respondent stated that it would not be attending oral proceedings scheduled in accordance with the corresponding requests of the parties.
- IX. On 21 January 2021, oral proceedings were held in the respondent's absence.
- X. The arguments of the appellant, insofar as relevant to the present decision, may be summarised as follows:

Main request

The subject-matter of claims 1 and 9 lacked inventive step starting from D4 as closest prior art.

First to eighth auxiliary requests

The first to eighth auxiliary requests were late filed, divergent, and excessive in number, and were not to be admitted into the proceedings.

Furthermore, the subject-matter of the respective claim 1 of each request lacked inventive step. With regard to claim 1 of the second auxiliary request, the term "enhanced adhesion" lacked clarity and was consequently not limiting. With regard to claim 1 of the third auxiliary request, the use of soft and hard acrylic polyols was known from D1. The selection of the weight

percentages thereof recited in claim 1 of that request was not linked to a technical effect and was therefore to be seen as arbitrary.

#### Ninth to fourteenth auxiliary requests

Claim 1 of each of these requests was directed to the use of a polyurethane coating composition. The filing of said requests represented the first time in the proceedings that claims were filed directed to a new category related to the use of the composition. Consequently, said requests were not to be admitted into the appeal proceedings.

#### Fifteenth to seventeenth auxiliary requests

The fifteenth to seventeenth auxiliary requests should not be admitted into the appeal proceedings.

Claim 1 of the fifteenth auxiliary request was essentially identical to claim 9 of the main request and its subject-matter lacked inventive step for the same reasons.

Despite the amendments to claim 1 of the sixteenth, seventeenth and eighteenth auxiliary requests, the subject-matter of the respective claim 1 lacked inventive step over D4.

#### Eighteenth auxiliary request

The eighteenth auxiliary request should not be admitted into the appeal proceedings. Furthermore, the subject-matter of independent claim 1 lacked inventive step starting from D4 as closest prior art.



XI. The arguments of the respondent, insofar as relevant to the present decision, may be summarised as follows:

Main request - inventive step

D5 was the closest prior art. Starting at D5, the subject-matter of the main request involved an inventive step. *Inter alia* D4 was concerned with a different purpose to that of the patent. Starting the assessment of inventive step from this document could only be motivated by an inadmissible *ex post facto* view.

D4 failed to disclose both that the composition thereof was a "two component" composition, and that it comprised both an acrylic and polyester polyol as required by claim 1, component b). Furthermore, D4 was directed to primer compositions having an improved sanding behaviour. Accordingly, a skilled person would not have consulted D4 when trying to avoid any kind of sanding. Hence, the subject-matter of claim 1 involved an inventive step starting from D4.

Furthermore, there was no evidence on file to support the appellant's argument that the effect of improved adhesion could not be achieved over the whole scope of claim 1. The argument was thus unfounded.

With regard to claim 9, D4 failed to disclose the presence of a polyurethane surface, let alone an aged polyurethane surface, below the coating to be applied, nor the application of a further polyurethane coating over said coating, and therefore did not teach the subject-matter of claim 9.

### Auxiliary requests

Claim 1 of the first, fourth and seventh auxiliary requests was amended to specify the use of the composition "as a tie-coat". Claim 1 of the second, fifth and eighth auxiliary requests was further amended to specify the purpose of the tie-coat. The purpose of these amendments was to further disqualify *inter alia* D4 as possible closest prior art.

Claim 1 of the third to fifth auxiliary requests was further defined to include specific amounts of specific hard and soft acrylic polyols. This mixture was not disclosed in *inter alia* D4, thus even further limiting the claimed subject-matter from the prior art.

Claim 1 of the sixth to eighth auxiliary requests further specified the amount of polyester polyol in component b).

The same amendments as set out above were included in the ninth to fourteenth auxiliary requests in which the product claims were reworded as use claims.

The respective method claim 1 of the fifteenth, sixteenth and seventeenth auxiliary requests included the compositions as defined in claim 1 of the main, third, and sixth auxiliary requests, respectively.

The method claim of the eighteenth auxiliary request corresponded to that of the fifteenth auxiliary request and further specified that the aged surface was not mechanically sanded or solvent stripped prior to application of the coating composition recited.

## **Reasons for the Decision**

Respondent's non-attendance at the oral proceedings

The respondent was duly summoned but chose not to attend the oral proceedings as communicated to the board by letter dated 21 December 2020.

In accordance with Rule 115(2) EPC and Article 15(3) RPBA 2020, the board decided to continue the proceedings in the respondent's absence and to treat the respondent as relying on its written case. By absenting itself from the oral proceedings, the respondent waived the opportunity to make any further submissions on relevant aspects of the case. Hence, the board was in a position to announce a decision terminating the appeal proceedings at the conclusion of the oral proceedings in accordance with Article 15(6) RPBA 2020.

Main request - Inventive step (Article 56 EPC)

1. Introduction
- 1.1 The statement of grounds of appeal submitted by the appellant relates solely to inventive step pursuant to Article 56 EPC.
- 1.2 In particular, the appellant argued that the subject-matter of composition claim 1 and method claim 9 lacked inventive step over either D1 or D4 as closest prior art. The finding of the opposition division in the contested decision that the subject-matter of said claims involved an inventive step if D5 were taken as

the starting point for the assessment of inventive step was not disputed.

1.3 The respondent submitted that only D5 could be considered as the closest prior art and, in agreement with the contested decision, that D1 and D4 were not suitable starting points in the assessment of inventive step. Considering either of those documents as closest prior art would be motivated by an inadmissible *ex post facto* approach.

1.4 In view of the conclusions of the board in the following that D4 is a suitable starting point, and that the subject-matter of claims 1 and 9 lacks inventive step starting from this document, there is no need for the board in the following to address the suitability of D1 as a starting point in the assessment of inventive step.

2. Suitability of D4 as a starting point in the assessment of inventive step

2.1 The contested patent is concerned with the application of a polyurethane topcoat to an aged polyurethane surface without first removing the aged coating (patent, paragraph [0006]). It is stated that adhesion of a new polyurethane coating to an aged coating may be poor. To facilitate adhesion, the aged surface can be mechanically abraded (sanded) or solvent stripped (paragraphs [0005] and [0007]). This process is said to be costly, time-consuming and potentially (environmentally) harmful (paragraph [0007]). The solution according to the patent is to provide a specific polyurethane coating composition for application to an aged polyurethane surface which

avoids the need for mechanical sanding or solvent stripping (paragraphs [0008] and [0011]).

2.2 Patent document D4 discloses polyurethane coating compositions for use in the repair painting of motor vehicles (page 1, lines 3-5). According to D4, a problem with primer compositions is that when they are sanded down, chipping tends to occur around the edge of the coating (page 2, lines 3-5). The object of D4 is therefore to overcome this issue by providing a primer having a specific polyurethane composition (page 3, lines 8-12).

2.3 The respondent argued that D4 was not a suitable starting point for the assessment of inventive step since the present invention set out to avoid sanding, while D4 is directed to primers having improved sanding behaviour. Thus, the skilled person would not have consulted D4 when trying to avoid any kind of sanding.

The board notes however that the problem of sanding addressed in D4 (page 3, lines 1-9) relates to sanding of the composition to be applied itself, and not to the sanding of the underlying surface to which it is to be applied. In consequence, this argument is not relevant in determining whether D4 represents a suitable starting point in the assessment of inventive step.

2.4 The board further notes that similarly to the patent, D4 is concerned with polyurethane coating compositions, at least for uses related to that set out in the patent. Furthermore, that the polyurethane coating of D4 should have suitable adhesion properties to the underlying layer is implicit in its definition as a "primer", for which suitable adhesion properties are a necessity, whether explicitly mentioned in D4, or not.

D4 therefore relates to a purpose similar to that of the patent and is consequently a suitable prior art disclosure for the assessment of inventive step.

- 2.5 In any case, under Article 56 EPC, in order for an inventive step to be acknowledged, the claimed invention must not be obvious to a skilled person having regard to the state of the art, i.e. any prior art disclosure with the exclusion of documents under Article 54(3) EPC. The determination of the "closest prior art" within the problem-solution approach is an efficient way to address the available prior art disclosures because if inventive step of a claimed invention can be acknowledged when starting the assessment having regard to the "closest" prior art, this will apply all the more so when starting the assessment from a prior art disclosure which is more remote and, hence, such further assessments can be dispensed with. On the other hand, inventive step has to be denied if, having regard to a particular prior art, the claimed solution was obvious to the skilled person. In such a case, the choice of that prior art as the starting point for the assessment of inventive step needs no specific justification as the claimed invention must, as a general rule, be non-obvious having regard to any prior art (see also in this context T 1742/12, points 6.3 and 6.6 of the reasons and T 967/97, point 3.2 of the reasons).

Therefore, although D5 may relate to the *same purpose* as the patent (D5, paragraph [0008]), this does not disqualify disclosures relating to a *similar purpose* such as D4 being considered as a valid starting point in the assessment of inventive step.

2.6 D4 is consequently a suitable starting point in the assessment of inventive step of the claimed subject-matter.

3. Claim 1

3.1 Distinguishing features over D4

Claim 1 of the contested patent is directed to a polyurethane coating composition which is a two component composition comprising:

- a) an isocyanate component comprising an aliphatic isocyanate and an aromatic isocyanate, and
- b) a polyol component comprising an acrylic polyol and a polyester polyol wherein the coating composition cures at room temperature, wherein the aromatic isocyanate comprises 1 to 30 weight percent of the total solids weight of the isocyanate component and the aliphatic isocyanate comprises 70 to 99 weight percent of the total solids weight of the isocyanate component.

3.1.1 D4 discloses in claim 1 a coating composition comprising i) a polyisocyanate comprising a mixture of an aliphatic polyisocyanate and diphenylmethane diisocyanate (an aromatic diisocyanate) and ii) a hydroxyl functional polymer. Preferred hydroxyl functional polymers are polyesters and acrylic addition polymers (D4, page 4, lines 25-26).

The appellant submitted that the subject-matter of contested claim 1 was distinguished from the disclosure in D4 only in that the latter did not explicitly mention that the composition thereof was a two-component composition.

According to the respondent, contested claim 1 was distinguished from the disclosure in D4 by the presence of a two-component composition, and by the presence of component b) of claim 1, namely a polyol comprising an acrylic polyol and a polyester polyol.

3.1.2 In the communication sent in preparation for oral proceedings, the board expressed doubt as to whether the "two component" feature could be considered to limit the scope of contested claim 1 at all. This was not contested by the respondent. Indeed, since the composition of claim 1 is a mixture of two components a) and b), the specification in claim 1 that there are "two components" in the composition does not further characterise it. On the other hand, the term also cannot be interpreted as a limitation in the sense that one "component" is not mixed with the other "component", since that interpretation would also lie in contradiction with the definition of the subject-matter of the claim as a composition, i.e. a mixture.

The term "two component" therefore does not limit the scope of claim 1 and as such does not distinguish the subject-matter thereof from the disclosure in D4.

3.1.3 On the other hand, the board agrees with the respondent that D4 does not disclose a composition comprising both an acrylic polyol and a polyester polyol as required by contested claim 1, component b). As noted by the appellant, D4 indeed discloses that acrylic polyols (claim 5) could (optionally) possess ester groups as side chains of the acrylic polyol (D4, page 4, lines 27-29 and page 5, lines 8-11). However, contested claim 1 requires that the polyol component b) comprises two separate and distinct polyol compounds, namely an



acrylic polyol and a polyester polyol. The requirements for component b) are therefore not fulfilled by a single polyol compound possessing both acrylic and polyester moieties as alleged by the appellant. Furthermore, the skilled person would understand a "polyester" as a compound comprising ester bonds in the backbone, rather than in the side chains thereof. Hence, acrylic polyols with ester-containing side chains, disclosed as an optional feature in D4, cannot also be considered as polyesters in the sense of contested claim 1.

3.1.4 Thus the distinguishing feature of the subject-matter of claim 1 over D4 is the presence of component b) comprising both an acrylic polyol and a polyester polyol.

3.2 Problem solved

3.2.1 The compositions of the example in the patent (table 3, test 3) as well as those prepared in D7 (table 6, tests 3, 5-7) were tested for their adhesion to an aged polyurethane surface. The "Whirling Arm Test" (c.f. patent, paragraph [0029]) was used to evaluate the adhesion performance of the samples. It was demonstrated by a "pass" result that a composition according to contested claim 1 may be used to coat an aged polyurethane surface and achieve adequate adhesion thereto without the need for mechanical sanding.

3.2.2 However, there is no data on file comparing the compositions of D4 with that of the patent. Specifically, there is no evidence on file demonstrating an effect, such as improved adhesion, linked to the distinguishing feature over the compositions of D4, namely the presence of component b)

of contested claim 1 comprising both an acrylic polyol and a polyester polyol.

In this regard, the board agrees with the position of the appellant, submitted in particular during oral proceedings (citing Case Law of the Boards of Appeal, 9th edition 2019, I.D.4.2), that alleged advantages to which the respondent merely referred, without offering sufficient evidence to support the comparison with the closest prior art, cannot be taken into consideration in determining the objective technical problem underlying the claimed invention and therefore in assessing inventive step.

As submitted by the appellant, the primer composition of D4 is by definition implicitly considered to display adequate adhesion. According to D4, it can be employed to provide adhesion to a substrate, which may be an existing primer (i.e. a previously applied primer onto which the primer of D4 is applied; D4, page 1, lines 5-7).

3.2.3 In view of this, the objective technical problem underlying the subject-matter of claim 1 is the provision of a further polyurethane coating composition displaying adequate adhesion.

3.3 Obviousness

3.3.1 The skilled person wishing to solve this problem is taught in D4 that in order to prepare a suitable primer composition, *inter alia* a "hydroxyl functional polymer", i.e. a polyol, preferably a polyester or an acrylic polymer, may be employed (page 1, lines 13-15); page 4, lines 25-26). Suitable acrylic polyols and polyester polyols are described in detail (D4, page 4,

line 27 - page 6, line 12; page 6, line 15 - page 7, line 8). Thus, seeking to provide a further polyurethane coating composition providing adequate adhesion, the skilled person would have included in a coating composition both an acrylic polyol and a polyester polyol in order to solve the problem. There would have been no reason for the skilled person not to expect a coating composition comprising both types of polyol not to display adequate adhesion in the same way as a coating composition comprising one or the other. In so doing, the skilled person would have arrived at the subject-matter of contested claim 1.

The subject-matter of contested claim 1 consequently does not involve an inventive step pursuant to Article 56 EPC.

4. Claim 9

Claim 9 concerns a method for treating an aged polyurethane surface comprising applying the polyurethane coating composition of claim 1 to at least a portion of the aged polyurethane surface; applying a second polyurethane coating to at least a portion of the polyurethane coating composition of claim 1; and curing the second polyurethane coating.

4.1 Starting point for the assessment of inventive step

The appellant submitted that D4 represented a suitable starting point for the assessment of inventive step. The board agrees, for the same reasons as set out for claim 1, above.

#### 4.2 Distinguishing features

According to D4, the compositions thereof are useful as refinishing primers for motor vehicles (page 9, lines 21-23). The substrate can be for example metal, plastic, wood or glass (page 9, lines 21-22). However, the use of the primer coated is not limited to said substrates: it is also stated that the substrate for the primer can be an existing primer or topcoat or a mixture of these depending on the repair (page 1, lines 5-7). Furthermore, D4 discloses that over the primer, a topcoat is applied (page 1, lines 11-12).

In the view of the board, the fact that the primer coating of D4 may be applied to an existing coating, in the context of repair painting, indicates implicitly that said existing coating to be repaired in D4 may be considered as a "aged surface" in the context of contested claim 9, in particular since "aged" is a relative term, and may thus be understood to mean any coating which is not "new". Furthermore, since the surface to be coated in D4 is to be repaired, it must also be considered to have physical or chemical properties degraded compared to those of a new surface, which corresponds to the definition for "aged" provided by the respondent in the reply to the statement of grounds of appeal (page 8, penultimate paragraph).

The subject-matter of contested claim 9 is thus distinguished from the method disclosed in D4 in that the latter does not specify:

- the same composition (see 3.1.4, above);
- that the aged surface to be treated with the composition recited is a polyurethane;

- that the topcoat to be applied to the coating composition recited is a polyurethane; and
- the curing of the second polyurethane coating.

#### 4.3 Problem solved

In view of the above differences, the objective technical problem underlying the subject-matter of claim 9 is to provide a suitable composition, a suitable underlying (aged) and a suitable overlying (topcoat) coating composition for use in the method of D4.

#### 4.4 Obviousness

As set out above, the subject-matter of claim 1 lacks inventive step starting from the disclosure in D4. Hence, the method of claim 9 cannot derive an inventive step from the nature of the composition of claim 1.

The board is furthermore of the view that if the skilled person had to apply the polyurethane primer of D4 to an aged surface, a polyurethane surface would have been considered as the most suitable surface since the skilled person would have expected it to bind best to a similar layer (the primer). For the same reasons, the skilled person would also as a matter of preference have chosen a polyurethane topcoat as the most suitable. Polyurethane primers and topcoats were well known to the skilled person (e.g. D4, page 1, lines 13-17). Furthermore, it is to be assumed as part of the common general knowledge that any polyurethane coat would be cured after application. This view is in line with the submissions of the appellant in particular during oral proceedings, and was not contested by the respondent.

Consequently, in the absence of any evidence or credible argument to the contrary, the board comes to the conclusion that the subject-matter of contested claim 9 lacks inventive step.

It follows that the subject-matter of claim 9 of the main request does not involve an inventive step pursuant to Article 56 EPC.

4.5 The main request is consequently not allowable.

First to eighth auxiliary requests - Admittance

5. The appellant requested that *inter alia* the first to eighth auxiliary requests not be admitted into appeal proceedings. Pursuant to Article 12(4) RPBA 2007, the board decided to admit these requests into the proceedings. Since as set out in the following the board found none of said requests to be allowable, it is not necessary for the board to provide its reasons on admittance.

First auxiliary request

6. Claim 1 of the first auxiliary request differs from claim 1 of the main request in that it is directed to the polyurethane coating composition "*for use as a tie-coat*".

The respondent stated that this amendment more clearly disqualified D4 as possible closest prior art disclosure.

According to established case law of the boards of appeal, the term "for" in this context is to be

interpreted as "suitable for" (see Case Law of the Boards of Appeal, 9th edition 2019, I.C.8.1.5).

As set out above, it is stated in D4 that the substrate for the primer can be an existing primer or topcoat or a mixture of these depending on the repair (page 1, lines 5-7). Furthermore, D4 discloses that over the primer, a topcoat is applied (page 1, lines 11-12). Therefore, in this embodiment, D4 implicitly discloses the use of the coating thereof as a tie-coat, or at the very least, the suitability of the coating thereof as a tie-coat.

The feature "for use as a tie-coat" therefore neither renders D4 unsuitable as a starting point in the assessment of inventive step, nor further distinguishes the coating composition of claim 1 of the first auxiliary request from the composition disclosed in D4.

It follows that the subject-matter of claim 1 of the first auxiliary request does not involve an inventive step over D4.

In consequence, the first auxiliary request is not allowable.

#### Second auxiliary request

7. Claim 1 of the second auxiliary request differs from claim 1 of the first auxiliary request in that it is specified that the use of the tie-coat is "*to provide enhanced adhesion between an underlying aged surface and a subsequently applied second coating*", and wherein it is further specified that "*both the aged surface and the second coating comprise polyurethane*".

The added text of claim 1 compared to claim 1 of the first auxiliary request finds basis in paragraph [0023] of the patent. However, as noted by the appellant during oral proceedings, the term "enhanced adhesion" lacks clarity: it is not specified with regard to what specifically the adhesion should be "enhanced", nor how said enhancement should be measured. As a consequence of said lack of clarity, the term "enhanced adhesion" does not limit the scope of claim 1 compared to claim 1 of the first auxiliary request.

It follows that for the same reasons as provided for claim 1 of the first auxiliary request, the subject-matter of claim 1 of the second auxiliary request does not involve an inventive step pursuant to Article 56 EPC.

In consequence, the second auxiliary request is not allowable.

#### Third auxiliary request

8. Claim 1 of the third auxiliary request differs from claim 1 of the main request in that it is further specified that

*"the acrylic polyol comprises a mixture of hard acrylic polyol and soft acrylic polyol, wherein the hard acrylic polyol has a  $T_g$  above 20°C, the soft acrylic polyol has a  $T_g$  below 20°C, the hard acrylic polyol comprises 40 to 80 weight percent of the total solids weight of the polyol used in the polyol component and the soft acrylic polyol comprises 10 to 40 weight percent of the total solids weight of the polyol used in the polyol component".*



8.1 The respondent submitted that this feature further limited the claimed subject-matter from the cited prior art, specifically with regard to D1.

However, although also a further distinguishing feature with respect to D4, the board agrees with the appellant that no technical effect linked to this technical feature has been demonstrated by the evidence on file, nor had the respondent based its arguments on any such effect based on said feature.

8.2 The objective technical problem underlying the subject-matter of claim 1 therefore remains as for claim 1 of the main request, namely the provision of a further polyurethane coating composition displaying adequate adhesion.

8.3 The appellant submitted that the solution to the problem was obvious in view of D4 in combination with D1. D1 demonstrated that the use of two different types of acrylic polyol in polyurethane coatings was well known in the art. The specific weight ratios thereof recited in claim 1 were arbitrarily selected.

8.4 D1 is a patent document and discloses polyurethane coating compositions for the purpose of automotive refinishing (column 1, lines 8-11; column 2, lines 7-8). The coating may also be applied to previously painted substrates (column 8, lines 45-47). Similarly to D4 therefore, D1 is concerned with subject-matter related to that of the present patent.

In example 1 of D1, a mixture of a hard acrylic polyol ( $T_g$  of about 40°C, i.e. above 20°C as required by contested claim 1: column 10, lines 18-20) and a soft

acrylic polyol ( $T_g$  of about  $-70\text{ }^\circ\text{C}$ , i.e. below  $20\text{ }^\circ\text{C}$  as required by contested claim 1: column 10, lines 39-41) was employed, albeit not in the weight percentages recited in claim 1. Nevertheless, D1 demonstrates that the simultaneous use of a hard and a soft acrylic polyol in a polyurethane coating composition was already known to the skilled person. Consequently, in the absence of any unexpected effect linked to said mixture, the use of such an acrylic polyol composition as recited in claim 1 is to be considered as routine for the skilled person. Similarly, the relative weight percentages employed in claim 1, in the absence of any specific effect linked thereto, can only be seen as an arbitrary selection.

It follows that the subject-matter of claim 1 of the third auxiliary request does not involve an inventive step pursuant to Article 56 EPC over D4 in combination with D1.

In consequence, the third auxiliary request is not allowable.

#### Fourth auxiliary request

9. Claim 1 of the fourth auxiliary request comprises the amendments, compared to claim 1 of the main request, of claim 1 of the first and the third auxiliary requests.

For the same reasons as set out above for those requests, the subject-matter of claim 1 of this request lacks an inventive step pursuant to Article 56 EPC.

Fifth auxiliary request

10. Claim 1 of the fifth auxiliary request comprises the amendments, compared to claim 1 of the main request, of claim 1 of the second and the third auxiliary requests.

For the same reasons as provided for those requests, the subject-matter of claim 1 of this request lacks an inventive step pursuant to Article 56 EPC.

Sixth auxiliary request

11. Claim 1 of the sixth auxiliary request corresponds to claim 1 of the third auxiliary request with the additional specification that the polyol component comprises "*5 to 30 weight percent of a polyester polyol*".

As set out above with regard to claim 1 of the main request, D4 does not disclose feature b) of claim 1, namely the presence in the composition of a polyol component b) comprising both an acrylic polyol and a polyester polyol, and thus also does not disclose a polyol component comprising the weight percentages of a polyester polyol recited in claim 1 of the sixth auxiliary request. However, in the absence of an effect linked to the specific range recited, the latter can only be considered as an arbitrary selection from the the disclosure of a polyester polyol in D4 as set out above, which thus would have been obvious to the skilled person seeking to provide a further coating composition providing adequate adhesion, as set out for the respective claim 1 of the main request and the third auxiliary request, above.

It follows that the subject-matter of claim 1 of the sixth auxiliary request lacks inventive step pursuant to Article 56 EPC.

#### Seventh auxiliary request

12. Claim 1 of the seventh auxiliary request corresponds to a combination of claim 1 of the first auxiliary request and claim 1 of the sixth auxiliary request.

For the same reasons as provided for the respective claim 1 of those requests, the subject-matter of claim 1 of the seventh auxiliary request lacks an inventive step pursuant to Article 56 EPC.

#### Eighth auxiliary request

13. Claim 1 of the eighth auxiliary request corresponds to a combination of claim 1 of the second auxiliary request and claim 1 of the sixth auxiliary request.

For the same reasons as provided for the respective claim 1 of those requests, the subject-matter of claim 1 of the eighth auxiliary request lacks an inventive step pursuant to Article 56 EPC.

#### Ninth to fourteenth auxiliary requests - admittance

14. Claim 1 of the ninth auxiliary request corresponds to claim 1 of the main request, reworded as follows:

*"Use of [text of claim 1 of the main request], as a tie coat."*

Claim 1 of the tenth auxiliary request corresponds to claim 1 of the main request, reworded as follows:

*"Use of [text of claim 1 of the main request], as a tie coat to provide enhanced adhesion between an underlying aged surface and a subsequently applied second coating, wherein both the aged surface and the second coating comprise polyurethane."*

Claim 1 of the eleventh auxiliary request reads as follows:

*"Use of [text of claim 1 of the third auxiliary request], as a tie coat."*

Claim 1 of the twelfth auxiliary request reads as follows:

*"Use of [text of claim 1 of the third auxiliary request], as a tie coat to provide enhanced adhesion between an underlying aged surface and a subsequently applied second coating, wherein both the aged surface and the second coating comprise polyurethane."*

Claim 1 of the thirteenth auxiliary request reads as follows:

*"Use of [text of claim 1 of the sixth auxiliary request], as a tie coat."*

Claim 1 of the fourteenth auxiliary request reads as follows:

*"Use of [text of claim 1 of the sixth auxiliary request], as a tie coat to provide enhanced adhesion between an underlying aged surface and a subsequently applied second coating, wherein both the aged surface and the second coating comprise polyurethane."*

14.1 The sets of claims of the ninth to fourteenth auxiliary requests were filed with the respondent's reply to the statement of grounds of appeal. As set out above, the respective claim 1 of said requests was amended in such a way that the category of the claim was changed from a product claim to a use claim.

14.2 With the filing of said requests, an independent claim directed to the use of a polyurethane coating composition was introduced into the proceedings for the first time. With the reply to the statement of grounds of appeal, while identifying the nature of the amendments to the respective claim 1 of these requests, the respondent did not provide any substantive arguments concerning the requests at issue. More specifically, no arguments were submitted as to why the subject-matter of said requests would overcome a potential conclusion of lack of inventive step with regard to the hierarchically higher ranking requests comprising product claims, nor was any such argument self-evident.

Under Article 12(4) RPBA 2007 (applicable to the present case pursuant to Article 25(2) RPBA 2020) the board, without prejudice to the power to hold inadmissible certain facts, evidence or requests, takes into account everything presented by the parties in the statement of grounds of appeal and the reply if and to the extent it relates to the case under appeal and meets the requirements under Article 12(2) RPBA 2007.

Article 12(2) RPBA 2007 stipulates *inter alia* that the reply shall contain a party's complete case and set out clearly and concisely why the decision under appeal be amended or upheld and should specify all the facts,

arguments and evidence relied on.

Since the relevance of the amendment of the respective claim 1 of each request to an independent use claim was not substantiated, the respondent failed to submit its complete case in accordance with this provision and, hence, the board did not need to take these requests into account in the appeal proceedings under Article 12(4) RPBA 2007.

By not substantiating said requests in writing, neither in the reply to the appeal nor at a later stage, and by not attending the scheduled oral proceedings, the respondent effectively transferred the task of defending the subject-matter thereof to the board. In particular in *inter-partes* proceedings, it is not the task of the board to examine or defend new claim requests for which no line of defence has been presented.

14.2.1 Furthermore, the fact that the ninth to fourteenth auxiliary requests comprise independent claims of another category, namely use claims, means that they relate to fundamentally different subject-matter. Consequently, admitting them into the proceedings would have meant that the matters in dispute would have been fundamentally different from a substantive point of view, from matters addressed in opposition proceedings.

14.3 In view of the foregoing, the board decided not to admit the ninth to fourteenth auxiliary requests into the appeal proceedings in accordance with Article 12(2) and (4) RPBA 2007.

Fifteenth to seventeenth auxiliary requests - Admittance

15. The appellant requested that the fifteenth to seventeenth auxiliary requests not be admitted into the proceedings *inter alia* on the basis that the method claims were directed to fundamentally different subject-matter to that addressed in the decision of the opposition division.

The board decided to admit these requests into the proceedings within the meaning of Article 12(4) RPBA 2007. Since as set out in the following the board found none of said requests to be allowable, it is not necessary for the board to provide its reasons on admittance.

Fifteenth auxiliary request

16. Inventive step - Article 56 EPC

In this request, claims directed to a polyurethane coating composition were deleted. Independent claim 1 is thus identical to independent method claim 9 of the main request, with the exception that therein the subject-matter of claim 1 of the main request is written out in full.

It follows therefore that for the same reason as provided above for claim 9 of the main request, the subject-matter of claim 1 of this request does not involve an inventive step pursuant to Article 56 EPC.

The fifteenth auxiliary request is consequently not allowable.



Sixteenth auxiliary request

17. Inventive step - Article 56 EPC

Claim 1 of this request differs from claim 9 of the main request in that it includes claim 1 of the third auxiliary request, written out in full.

Since the composition of claim 1 of the third auxiliary request was found not to involve an inventive step (*supra*), it follows that this amendment, compared to claim 9 of the main request, cannot lead to an acknowledgement of inventive step for the subject-matter of claim 1 of this request.

The subject-matter of the sixteenth auxiliary request is consequently not allowable.

Seventeenth auxiliary request

18. Inventive step - Article 56 EPC

Claim 1 of this request differs from claim 9 of the main request in that it includes claim 1 of the sixth auxiliary request, written out in full.

Since the composition of claim 1 of the sixth auxiliary request was found not to involve an inventive step (*supra*), it follows that the inclusion of the subject-matter of claim 1 of the sixth auxiliary request, compared to claim 9 of the main request request, cannot lead to an acknowledgement of inventive step for the subject-matter of claim 1 of this request.

The subject-matter of the seventeenth auxiliary request is consequently not allowable.

## Eighteenth auxiliary request

19. Claim 1 of this request differs from claim 9 of the main request in that the subject-matter of claim 1 of the main request is written out in full, and it is further specified that *"the aged polyurethane surface is not mechanically sanded or solvent stripped prior to application of the polyurethane coating composition"*.

### 19.1 Admittance

The appellant requested that the eighteenth auxiliary request not be admitted into appeal proceedings. Referring to T 1705/07, the appellant argued that the claims were now directed to fundamentally different subject-matter. If they were admitted, the case should be remitted to the opposition division, since this subject-matter had never been discussed before. Furthermore, the number of requests submitted with the reply to the grounds of appeal was excessive.

The board notes that claim 1 of this request, with the exception of the amendment thereto as set out above, is essentially identical to claim 9 of the main request, written out in full. In contrast to the respective claim 1 of the ninth to fourteenth auxiliary requests addressed above, claim 9 of the main request was present in the request found allowable by the opposition division (claims 9-13). In the case underlying decision T 1705/07, cited by the appellant, the situation was different to the present case, since that appeal lay from a decision of the opposition division to revoke the patent for the reason that the process claims did not involve an inventive step: the

product and use claims were not considered by the opposition division.

In the present case, the patent was found allowable as amended according to the then first auxiliary request (the present main request). This request comprises product claims, and method claim 9. In its decision, the opposition division concluded that the subject-matter of this request involved an inventive step (contested decision, page 12, penultimate paragraph). The contested decision does not explicitly refer to method claim 9, but this is not surprising since that method comprised the application of the (inventive) composition of claim 1, and was therefore also inventive by virtue of the inventive composition. Hence, method claim 9 was implicitly considered by the opposition division in the contested decision, and therefore cannot be considered as being directed to fundamentally different subject-matter.

Since method claim 1 of the present request differs from claim 9 of the main request only in the above amendment, the same conclusion applies to it in so far as the appellant's arguments concerning T 1705/07 are concerned.

Regarding specifically the amendment to claim 1 compared to claim 9 of the main request, the appellant argued that the opposition proceedings had concentrated on the nature of the composition, and the subject-matter of the amendment had been arbitrarily chosen from among the dependent claims. Furthermore, the issue of sanding had not been addressed in the opposition proceedings.

The board notes that the feature added to claim 1 of this request was present in both dependent claim 11 of the main request as well as dependent claim 12 as granted. Furthermore, the issue of sanding or solvent stripping, more specifically, the avoidance thereof, was characterised in the patent as a central issue underlying the invention (paragraphs [0007] and [0008]) and formed the basis for a comparative example (patent, table 3). These issues were also central in the parties' appeal submissions (for example, statement of grounds of appeal, 4.1.4; 4.4.1, final paragraph; reply, page 3, second paragraph; page 5, first and second paragraphs; page 6, 2.4, first paragraph). Said amendment to claim 1 therefore cannot be characterised as a mere arbitrary insertion of features from a dependent claim which had not previously been addressed by the parties (i.e. a fresh case), but rather represents a focusing of the method claim on the central issues underlying the invention, addressed during the appeal proceedings.

The board therefore saw no reason to exclude the eighteenth auxiliary request from the proceedings pursuant to Article 12(4) RPBA 2007.

## 19.2 Inventive step - Article 56 EPC

### 19.2.1 Starting point for the assessment of inventive step

The appellant's objections submitted during oral proceedings before the board related solely to independent claim 1, and concerned an alleged lack of inventive step starting solely from the disclosure in document D4.

The board agrees that D4 represents a suitable starting point for the assessment of inventive step, for the same reasons as provided for claim 9 of the main request.

#### 19.2.2 Distinguishing features

As set out for claim 9 of the main request, the subject-matter of claim 1 is distinguished from the method disclosed in D4 in that the latter does not specify:

- the same composition (see 3.4.1, above)
- that the aged surface to be treated with the composition recited is a polyurethane;
- that the topcoat to be applied to the coating composition recited is a polyurethane; and
- the curing of the second polyurethane coating.

Compared to claim 9 of the main request, claim 1 comprises the additional feature that *"the aged polyurethane surface is not mechanically sanded or solvent stripped prior to application of the polyurethane coating composition"*.

Although in the example of D4 the steel substrate to which the composition of the invention is to be applied is "pre-scuffed" with sanding paper (D4, page 10, line 19), this cannot be understood as a general teaching in D4 that sanding should necessarily be performed. On the other hand, it is not explicitly nor implicitly indicated anywhere in D4 that the surface to be coated is not sanded or solvent stripped, let alone that specifically an aged polyurethane surface is not sanded or solvent stripped, as required by the additional feature set out above. Therefore, the additional

feature of claim 1 compared to claim 9 of the main request further distinguishes claim 1 of this request from the disclosure in D4.

#### 19.2.3 Problem solved

As set out above with regard to claim 1 of the main request, there is no data on file comparing the compositions of D4 with that of the patent. However, also as set out above, it has been demonstrated by the example in the patent (table 3, test 3) as well as in D7 (table 6, tests 3, 5-7) that coating a composition according to claim 1 of the main request (i.e. the composition used in the method of present claim 1) onto an aged polyurethane surface that had not been sanded resulted in adequate adhesion thereto.

The claimed method thus allows dispensing with the need to mechanically sand or solvent strip an aged polyurethane coating, which can only be seen as advantageous.

Consequently, the objective technical problem underlying the subject-matter of claim 1 in view of D4 is the provision of an improved method for treating a suitable aged surface to which a polyurethane coating composition is to be applied, and the application of a suitable topcoat, to be applied onto said coating composition.

#### 19.2.4 Obviousness

The appellant argued that although D4 stated in example 1 that the metal surface to which the primer thereof was applied was "pre-scuffed", i.e. sanded before application, there was no teaching that sanding was an

absolute requirement of the method according to D4. Therefore, the limitation in claim 1 according to which sanding was not to be performed could not serve as the basis for acknowledging inventive step.

However, in the view of the board, the subject-matter of claim 1 was not obvious to the skilled person in view of D4. Specifically, in order to arrive at the subject-matter of contested claim 1, the skilled person would have been required to make a combination of several choices. Firstly, the choice to amend the composition of D4 to include both an acrylic and a polyester polyol as set out for component b) of claim 1 of the main request, *supra*. Secondly, the choice of an aged polyurethane layer as the aged substrate to which the coating composition of D4 is to be applied. Thirdly, the choice of a polyurethane coating as a topcoat to be applied to the composition of D4. Finally, fourthly, the skilled person would also have been required to implement the thus modified method of D4 without sanding or solvent stripping of the chosen aged polyurethane coating prior to application of the composition recited.

With regard to this final step, the board is of the view that in choosing an aged polyurethane layer as a substrate in D4, the skilled person, in particular in the absence of any instruction to the contrary in D4, would have chosen to sand or solvent strip said substrate before application of a further polyurethane layer. In particular, in the absence of such a step, he would not have expected to obtain adequate adhesion to said further layer. Indeed, sanding or solvent stripping an old coating before application of a new coating thereto would have been a standard step for the skilled person. That the skilled person in a method for

treating an aged polyurethane surface would not have sanded or solvent stripped, in combination with the choices required to arrive at claim 1 as outlined above, is not derivable from the disclosure of D4.

Further arguments submitted by the appellant

- 19.2.5 First, the appellant submitted that the sole example in the patent did not fall within the scope of contested claim 1. Specifically, in table 1 on page 5 of the contested patent, the base component of the exemplified coating composition contained three types of acrylic resin, including in particular "Synthetic Resin LTW", stated to be an "acrylic resin solution from Degussa Corporation", but lacked a polyester polyol as an ingredient, and hence did not comprise a polyol component as required in contested claim 1, component b). Since the polyol component according to D7 was the same as that shown in table 1 of the patent, the same applied to the tests of D7. Consequently, any technical effect attributable to the exemplified compositions of the patent or D7 could not be considered to extend to the claimed compositions.

This argument is relevant to present claim 1 since the acknowledgement of inventive step, *supra*, is based in part on the observation, taken from the example in the patent and D7, that the compositions recited therein exhibited adequate adhesion to an aged polyurethane coating, without the need for sanding or solvent stripping.

The board notes that paragraph [0016] of the patent addresses the different types of polyester polyol which may be employed in the composition and includes "ADHESION RESIN LTW ... commercially available from



*Degussa Corporation*". In contrast, the parts of the description directed to the nature of the acrylic polyol (paragraphs [0013] - [0015]) lack a reference to a resin of any kind with "LTW" as part of the name, or reference to the Degussa Corporation as the commercial supplier. Furthermore, data sheets D6 and D10 for "Adhesion resin LTW" both indicate that this resin is a polyester resin, the latter, dated before the priority date of the contested patent, originating from the Degussa Corporation. Although table 1 of the patent refers to "Synthetic Resin LTW" rather than "Adhesion resin LTW", there is no reason to doubt that the latter was intended, and the designation in table 1 of this resin as an acrylic resin was in error. This applies all the more so because paragraph [0028] of the patent explicitly states that the following examples are illustrative of the invention. In the absence of any evidence to the contrary therefore, such as, for example, proof that "Synthetic resin LTW" indeed corresponded to an acrylic resin solution from Degussa Corporation as recited in table 1 of the patent, the board concludes that the composition of the example in table 1 comprises a polyester polyol, and therefore falls within the scope of the composition recited in present claim 1.

- 19.2.6 Second, the appellant submitted that the breadth of contested claim 1 was not in accordance with the very specific exemplified composition of the patent (table 1). As a consequence, the technical effect of adequate adhesion to a non-sanded aged polyurethane coating, demonstrated in example 1 of the patent and D7, could not credibly be considered achievable across the breadth of claim 1.

During oral proceedings before the board, the appellant referred to D6 in support of its argument, specifically to page 3 of D6 concerning "Compatibility", in which it was stated that *"Adhesion Resin LTW is incompatible with other styrene-based, unsaturated polyester resins"*. Since component b) of the composition recited in claim 1 was defined openly to comprise an acrylic and a polyester polyol, it did not exclude the presence of further polyester polyols, such as those said to be incompatible with Adhesion Resin LTW according to D6. Thus, the appellant argued, "Adhesion Resin LTW" would not work for all compositions falling under the definition of the composition recited in claim 1.

D6 was filed by the respondent in opposition proceedings with the reply to the notice of opposition, to demonstrate that "Adhesion Resin LTW" was a polyester resin, and thus that the example of the patent comprised a polyester polyol.

As noted by the board and addressed during oral proceedings, the appellant's argument set out above based on the section of D6 concerning "Compatibility" represented a new allegation of fact, and constituted an amendment to the appellant's case, raised for the first time during oral proceedings before the board.

The summons to oral proceedings in the present case was issued with the letter dated 11 November 2020. Consequently, Article 13(2) RPBA 2020 applies to the late submitted allegation of fact based on D6. According to this provision, any amendment to a party's appeal case made after notification of a summons to oral proceedings shall, in principle, not be taken into account unless there are exceptional circumstances,

which have been justified with cogent reasons by the party concerned.

The appellant argued that the allegation of fact based on D6 was submitted in response to the opinion of the board set out in the communication pursuant to Article 15(1) RPBA 2020. Therein, the board stated that the burden of proof to show that the problem was not solved across the claimed scope lay with the appellant (communication, point 5.2). Consequently, the allegation of fact was not submitted late.

However, the argument that the appellant's position was not supported by evidence was already submitted by the respondent with the reply to the grounds of appeal (point 2.3). The board's communication, which thus merely reiterated a point made by the respondent, does hence not qualify as an exceptional circumstance under Article 13(2) RPBA 2020.

For this reason, the board decided not to admit the appellant's allegation of fact based on D6 into the appeal proceedings in accordance with Article 13(2) RPBA 2020.

In addition to the non-admitted submission with regard to D6 set out above, the appellant submitted that the breadth of contested claim 1 was not in accordance with the very specific exemplified composition of the patent (table 1). As a consequence, any technical effect achieved by the exemplified composition (and therefore by the composition recited in present method claim 1) could not credibly be considered achievable across the breadth of claim 1. However, as noted by the board in the communication sent in preparation for oral proceedings, that the scope of the composition recited

in claim 1 is significantly broader than the exemplified composition is not in itself sufficient reason to doubt the credibility of the effect, in particular in the absence of any specific credible reasoning or evidence. The burden of proof in this regard remains with the appellant.

- 19.3 Consequently, the subject-matter of claim 1, and, for the same reasons, dependent claims 2-4 of the eighteenth auxiliary request involves an inventive step.

It follows that the claims of the eighteenth auxiliary request meet the requirements of Article 56 EPC.

20. Since inventive step was the sole issue to be considered, the eighteenth auxiliary request is allowable.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent with the following claims and a description to be adapted thereto: claims 1 to 5 of the eighteenth auxiliary request filed with the reply to the statement of grounds of appeal.

The Registrar:

The Chairman:



N. Maslin

M. O. Müller

Decision electronically authenticated