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**Datasheet for the decision
of 16 February 2024**

Case Number: T 0548/21 - 3.3.02

Application Number: 07832304.5

Publication Number: 2128208

IPC: C09D143/04, B05D7/24, C09D5/16,
C09D7/12

Language of the proceedings: EN

Title of invention:

STAIN-PROOF COATING COMPOSITION, METHOD FOR PRODUCTION OF THE
COMPOSITION, STAIN-PROOF COATING FILM FORMED BY USING THE
COMPOSITION, COATED ARTICLE HAVING THE COATING FILM ON THE
SURFACE, AND STAIN-PROOFING TREATMENT METHOD FOR FORMING THE
COATING FILM

Patent Proprietor:

Nitto Kasei Co., Ltd.

Opponent:

Jotun A/S

Relevant legal provisions:

EPC Art. 56
RPBA 2020 Art. 12(6)

Keyword:

Inventive step - (no)

Late-filed evidence - should have been submitted in first-
instance proceedings (yes)

Decisions cited:

T 0786/15



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Case Number: T 0548/21 - 3.3.02

D E C I S I O N
of Technical Board of Appeal 3.3.02
of 16 February 2024

Appellant: Jotun A/S
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 1 March 2021
rejecting the opposition filed against European
patent No. 2128208 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman L. Bühler
Members: P. O'Sullivan
A. Lenzen

Summary of Facts and Submissions

I. The appeal of the opponent (hereinafter appellant) lies from the decision of the opposition division to reject the opposition against European patent EP 2 128 208.

II. In earlier appeal case T 786/15 concerning the present patent, the deciding board ruled that the claimed subject-matter was sufficiently disclosed, and remitted the case to the opposition division for further prosecution.

III. The following documents *inter alia* were submitted during the course of opposition proceedings:

D1: WO 03/070832

D6: JP A 2001-106962

IV. According to the decision of the opposition division on which the present appeal is based, the subject-matter of independent claim 1 as granted (main request) was both novel and involved an inventive step over D1.

V. With the grounds of appeal the appellant submitted the following documents:

D22: declaration of Marit Dahling dated
30 June 2021

D23: declaration of Marit Dahling dated
28 June 2021

VI. With the reply to the grounds of appeal, the patent proprietor (hereinafter respondent) filed a set of claims of an auxiliary request and the following documents:

D24: Copy of Agilent GPC/SEC Polymer Standards - Internet website

D25: Experimental data - "Preparation of polymers having different Mw"

D26: "Additional experimental data"

VII. With letter dated 27 December 2023 the respondent submitted the following document:

D27: "Descriptions and Characteristics" for AQUALICTM L.H

VIII. With letter dated 06 February 2024 the respondent submitted the following document:

D28: Experimental data - Preparation of polymer C4 of D1

IX. A communication pursuant to Article 15(1) RPBA was sent to the parties in preparation for the oral proceedings.

X. Oral proceedings took place in person as scheduled on 16 February 2024.

XI. Requests relevant for the decision

The appellant requested that the decision under appeal be set aside, and that the patent be revoked in its entirety. The appellant also requested not to admit documents D24 to D28 into the proceedings.

The respondent requested dismissal of the appeal, implying maintenance of the patent as granted. Alternatively, it requested maintenance of the patent on the basis of the set of claims of the auxiliary request submitted with the reply to the appeal.

XII. For the text of the respective claim 1 of the main request and the auxiliary request, reference is made to the reasons for the decision, below.

XIII. For the relevant party submissions, reference is made to the reasons for the decision, below.

Reasons for the Decision

Main Request (patent as granted) - Articles 100(a) and 56 EPC

1. Background

1.1 The patent concerns antifouling coating compositions (patent, paragraph [0001]). Triorganosilyl ester-containing copolymers were developed as less toxic and less environmentally harmful alternatives to antifouling coating compositions comprising organic tin-containing copolymers. The triorganosilyl ester-containing copolymers, when used in combination with rosin, provided a coating film which dissolved stably over a long period of time, facilitating the design of the coating (patent, paragraphs [0002] - [0003]).

1.2 When using rosin in the manufacture of a coating material, a portion of the free carboxylic acid thereof reacted with a metal compound contained in the

antifouling coating composition, producing water together with a metal salt. When the coating material was stored for a long period of time, the triorganosilyl ester-containing copolymer was gradually hydrolysed by the produced water to form a salt with the metal contained in the coating material, causing the copolymers to cross-link with the metal, and hence, the viscosity of the coating material to increase. This ultimately led to difficulty in designing coating films capable of dissolving stably at a reduced hydrolysis rate (patent, paragraphs [0005] - [0006]).

1.3 To prevent the coatings from becoming brittle, cracking and/or peeling, conventional plasticisers were used. However, such plasticisers gradually leached from the coating films, causing performance problems and complicated and costly operations, such as the complete removal and re-formation of the coating film (patent, paragraphs [0009] - [0013]).

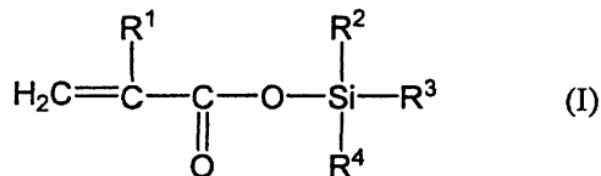
1.4 According to the patent, these problems are solved by providing a composition comprising a specific plasticiser as set out in the claims (patent, paragraph [0015]).

2. Independent claim 1 of the main request reads as follows

"1. An antifouling coating composition comprising:

(1) a polymeric plasticizer comprising an ethylenically unsaturated carboxylate polymer having a glass transition temperature of not greater than -20°C and a number average molecular weight of 500 to 20,000;

(2) a triorganosilyl (meth)acrylate copolymer, which is a copolymer of triorganosilyl (meth)acrylate monomer A represented by General Formula (I):



wherein R^1 represents a hydrogen atom or methyl group, and R^2 to R^4 may be the same or different independently and represent a branched alkyl group having 3 to 8 carbon atoms or phenyl group, with ethylenically unsaturated monomer B other than the monomer A, the triorganosilyl (meth)acrylate copolymer having a glass transition temperature of not less than 0°C and a number average molecular weight of 5,000 to 100,000; and

(3) an antifoulant."

3. Closest prior art

3.1 It was not disputed that D1 represented a suitable closest prior art disclosure.

3.2 Similarly to the patent, D1 describes the need for environmentally friendly antifouling coating compositions, in particular not comprising tin (D1, page 2, lines 1 - 14). More specifically, D1 relates to self-polishing antifouling paint compositions comprising a silyl ester copolymer (A), and homo- or co-polymers (B) and (optionally) (C) (page 5, line 16 - page 6, line 18).

4. Distinguishing features

4.1 The appellant submitted that claim 1 lacked novelty over D1. Specifically, polymer C4 (D1, table 3) was a polymeric plasticiser according to component (1) of claim 1, and copolymers A3 and A4 (D1, table 1) were copolymers according to component (2) of claim 1. Hence claim 1 was anticipated by the paint compositions M26, M28, M35, M37, M38 and M41 disclosed in table 4 of D1 (page 41), all of which comprised a combination of polymer C4 and one of copolymers A3 or A4, in addition to an antifoulant (component (3) of claim 1).

In the following, copolymer A3 is taken as representative of copolymers A3 and A4. Additionally, paint composition M26, which comprises copolymer A3 and polymer C4, is taken as representative of the paint compositions M26, M28, M35, M37, M38 and M41 in table 4 of D1.

4.2 In detail, polymer C4 in table 3 of D1 (page 38) is a polymer prepared from polymerisation of butyl methacrylate and butyl acrylate (D1, page 36, lines 4 - 15). According to table 3, polymer C4 has a Mw of 50,000 and a glass transition temperature (Tg) of -41°C. The Mn is not provided.

4.3 D1 also discloses copolymer A3 (table 1, page 36). The general preparation of this copolymer is disclosed on page 35, lines 12 - 23. According to table 1, copolymer A3 comprises as monomers triisopropylsilyl acrylate (MA1) and methyl methacrylate (MA7). Copolymer A3 is reported in D1 to have a Mw of 40,000. The Tg and Mn values of copolymer A3 are not reported in D1.

4.4 Claim 1 of the main request (set out above) however requires:

- for component (1) *inter alia* a Mn of 500 to 20,000;
- for component (2) a Tg of not less than 0°C and a Mn of 5,000 to 100,000.

4.5 Since D1 explicitly disclosed neither a Mn value for polymer C4 nor a Mn or Tg value for copolymer A3, the appellant submitted declaration D7 in opposition proceedings. The experiments of D7 describe the alleged repetition of the methods described in D1 for the preparation of the polymers C4, A3 and A4.

4.6 According to D7:

- polymer C4 has a Mn of 9,900 (D7, point 5, table 1),
- copolymer A3 has a Tg of 64°C and a Mn of 9,700 (D7, point 7).

The appellant argued that in view of the data in D1 and in the repetition of D7, polymer C4 was a plasticiser according to claim 1, component (1), and copolymer A3 was a copolymer according to claim 1, component (2). Since the paint composition M26 in D1 (table 4, page 41) also comprised an antifoulant corresponding to component (3) of claim 1, it was prejudicial to novelty.

4.7 The respondent referred to its experimental report D21 which showed that by following the method of D1 for preparing polymer C4, the product had a Mw of 38,300 (D21, table on page 2), i.e. much lower than the Mw value of 50,000 reported in D1 (table 3, page 38).

Additionally, by following the method disclosed in D1 for copolymer A4, the product had a Mw of 33,000 (D21, table on page 3), different from the Mw value of 51,000 reported in D1 (table 1, page 36).

4.8 On the basis of the discrepancy in Mw values reported in these results, the board concludes that the products resulting from the re-working of polymers C4 and A4 according to D7 are not directly and unambiguously identical to the polymers C4 and A4 reported in D1. Although the Mw for copolymer A3 was not measured in D21, the same discrepancy can be assumed, to the respondent's advantage.

4.9 Hence, neither polymer C4 nor copolymer A3 in D1 directly and unambiguously possess a Mn value within the range provided in claim 1 for components (1) or (2). Hence, the composition of claim 1 is distinguished from polymers C4 and A3 of D1, and therefore from composition M26 of D1 at least in the Mn ranges stipulated for components (1) and (2).

4.10 The claimed Tg value of component (2)

4.10.1 In addition to the claimed Mn ranges for component (1) and (2), the respondent argued that the claimed Tg value for component (2) of not less than 0°C was a further distinguishing feature of claim 1 over copolymer A3. D1 did not disclose a Tg value for the copolymer A3. The measured Tg of 64°C according to D7 (table 2) was not the Tg value of the copolymer A3 disclosed in D1. Specifically, as the board had concluded, the measurement in D7 was carried out on a copolymer, namely the re-worked copolymer A3 according to D7, which was not directly and unambiguously identical to the copolymer A3 reported in D1.

4.10.2 The board disagrees. The conclusion in relation to the Mn value for copolymer A3 reported in D7 does not apply in the same way to the reported Tg value of copolymer A3 prepared therein. Specifically, as conceded by the respondent, the Tg value of a copolymer is dependent on the nature and amounts of the monomers used. This means that the degree of polymerisation (i.e. the Mw or Mn value) is not relevant for the Tg. This is independently evident from D1, in which the Tg value reported for polymer C4 is calculated using the Fox Equation (page 32, lines 9-12). The Fox equation is described in D1 on page 19, line 30 - page 20, line 6. The equation demonstrates that the calculated Tg is dependent on the weight fraction and glass transition temperatures associated with the monomers included in the copolymer; the equation is absent a variable related to the extent of polymerisation. It was not disputed by the respondent that the nature of the monomers (and hence their associated Tg values) as well as the weight fractions thereof employed in the "A3 Protocol" experiments of D7 (points 6 and 7) were identical to that of D1. Hence, according to the Fox Equation, the Tg value for copolymer A3 prepared in D1 must be identical to the Tg of 64°C reported for copolymer A3 in D7.

4.10.3 Furthermore, this conclusion is supported by the fact that the Tg reported for polymer C4 in D1, D7 from the appellant and D21 from the respondent are all identical (-41°C), despite the extent of polymerisation being different, as reflected in the differing Mw values obtained.

4.10.4 For the sake of completeness, the board notes that the patent is silent on the method of calculating Tg. This

issue was addressed extensively in relation to the present patent in earlier decision T 786/15. Since no method is proposed in the patent, any technically reasonable method for determining whether the claimed Tg features are met is acceptable. As demonstrated by D1, the Fox equation is one such method.

4.10.5 Consequently, the Tg value of not less than 0°C for component (2) in claim 1 is not a distinguishing feature over D1.

4.11 Plasticising properties

4.11.1 In a further argument, the respondent submitted that polymer C4 of D1 was not a plasticiser as required by component (1) of claim 1 of the main request, since such a function is not attributed to it in D1.

4.11.2 The board disagrees. As stated by the appellant, the plasticiser of component (1) of claim 1 is defined as comprising an ethylenically unsaturated carboxylate polymer having a Tg of not greater than -20°C and a Mn of 500 to 20,000. The compound C4 of D1 does not meet this definition by virtue of the Mn feature not being directly and unambiguously disclosed. However, since claim 1 is a product claim, the functional definition of a component thereof as a plasticiser, which refers to its use, limits the products defined in the claim to those which are suitable for the indicated use. The suitability of component (1) as a plasticiser is determined by the structural and functional features in the claim. No further property of component (1) essential to a "plasticiser" can be derived by the skilled person from this term. Indeed, even if the description could be used to further define properties essential to a plasticiser, the patent does not

comprise a definition of the term "plasticiser" going beyond what is explicitly claimed, let alone a definition which would exclude the polymer C4 of D1, while including the claimed component (1). Hence the functional definition of component (1) in claim 1 as a plasticiser is not a further distinguishing feature over the disclosure of D1 in addition to the Mn value.

4.12 In summary therefore, the claimed subject-matter is distinguished from paint composition M26 of D1 in the Mn value of components (1) and (2).

5. Objective technical problem

5.1 Admittance - experimental report D26

5.1.1 With the reply to the statement of grounds of appeal the respondent submitted experimental report D26 as evidence of a technical effect linked to the distinguishing features of claim 1 over D1, namely the Mn range for components (1) and (2).

5.1.2 The appellant requested that D26 not be admitted into the proceedings.

5.1.3 The respondent's intention behind the experiments of D26 was to demonstrate that the specific Mn value of the plasticiser component (1) of claim 1 had a technical effect. According to the respondent, the experiments demonstrated that an antifouling composition comprising a plasticiser (1)-1B, having a Mn of 21,000, i.e. outside the claimed range for component (1), displayed inferior results in adhesion, solubility and antifouling tests (reply, pages 20 to 21) compared to plasticisers (1)-1C and (1)-1 having Mn

values within the claimed range (15,000 and 3,500, respectively).

- 5.1.4 The admittance of D26 into appeal proceedings is governed by Article 12(6) RPBA according to which the board shall not admit *inter alia* evidence which should have been submitted in the proceedings leading to the decision under appeal.
- 5.1.5 As stated by the appellant, the issue of the Mn values and the lack of any evidence linking them to a technical effect was first raised with the appellant's notice of opposition, point 41, at the very earliest stage of the opposition proceedings. There, the appellant referred to tabulated comparative examples presented in the application as filed.
- 5.1.6 In those examples, plasticiser compositions 1-1 to 1-4 were described as having a Tg within the claimed range for component (1), while *comparative* example 3 had a Tg outside the claimed range, namely 20°C. This example however had a Mn of 2,300, within the claimed range. The appellant therefore concluded that it was the Tg of component (1), and not the Mn, that appeared critical to the invention.
- 5.1.7 In the board's view, considering the appellant's observations, it should have been clear to the respondent, already at this early stage of the proceedings, that the patent itself did not provide evidence of an advantageous technical effect linked to the Mn ranges stipulated in claim 1.
- 5.1.8 With the notice of opposition the appellant also submitted that D1 explicitly disclosed a polymer C4 with a Tg of -41°C, i.e. within the claimed range.

Hence it was also clear already at this early stage of the proceedings that the Tg of component (1) of claim 1 was not a distinguishing feature over D1, and hence could not form the basis for the acknowledgement of inventive step over this document.

- 5.1.9 With the letter dated 27 November 2020, during the second opposition proceedings, subsequent to the issuance of T 786/15, the respondent submitted the present auxiliary request, claim 1 of which differs from claim 1 as granted (main request) by a limitation to the Mn range for component (1).
- 5.1.10 However, with said letter no reference was made to a technical effect linked to the Mn feature. Although the first opposition proceedings and the subsequent first decision of the board of appeal had focused on the issue of sufficiency of disclosure, it nevertheless provided the respondent with almost seven years during which evidence supporting a technical effect linked to the Mn values of component (1) could have been submitted.
- 5.1.11 As stated by the respondent, the patent comprises statements according to which the claimed Mn range for components (1) and (2) are associated with specific advantages (e.g. paragraphs [0020] and [0048]). However, it is established case law that alleged advantages to which the patent proprietor merely refers, without offering sufficient evidence to support the comparison with the closest prior art, cannot be taken into consideration in determining the problem underlying the invention and therefore in assessing inventive step.

5.1.12 Consequently, it should have been known to the respondent from the beginning of opposition proceedings that if it were to rely on a technical advantages or effects associated with the Mn ranges of claim 1, appropriate evidence of said effects would be required.

5.1.13 As a further justification for admittance the respondent argued that during opposition proceedings, the appellant had focused on the technical effect associated with the Tg feature of component (1) of claim 1, such that the proceedings had not focused on the Mn feature. It additionally argued that D26 could not have been submitted earlier than the reply to the statement of grounds of appeal for Covid-19-related reasons.

5.1.14 These arguments are not convincing. Firstly, if an alleged advantage over the closest prior art is to be relied on, it is the patent proprietor's responsibility to substantiate said effect by providing evidence in support of said advantage at the earliest possible stage of the proceedings. Additionally, since the notice of opposition was filed in 2013, even if it were assumed that the pandemic impeded the preparation of D26, there was more than adequate time before the beginning of the Covid pandemic for appropriate evidence to be prepared and submitted in opposition proceedings. It is not a reasonable time frame to wait seven years to substantiate a technical effect in reply to the notice of opposition.

5.1.15 For these reasons the board decided not to admit D26 into the appeal proceedings.

5.2 Consequently, there is no evidence supporting a technical effect of the Mn values in claim 1 over the

compositions of D1, in particular paint composition M26. Hence, the objective technical problem underlying claim 1 is as formulated by the appellant, namely the provision of an alternative antifouling coating composition to those disclosed in D1.

6. Obviousness

6.1 As set out above, D1 does not provide the Mn of the polymers C4 and A3. D1 does provide the Mw when characterising said polymers, but there is no indication anywhere in D1, that a specific Mw or Mw range is essential for the functioning of the invention. In particular, no limitation in Mw or Mn is indicated in the claims of D1, which define the matter for which protection is sought. Rather, D1 concerns an antifouling composition in which a (meth)acrylate polymer with a low Tg may be incorporated (D1, page 3, lines 27-31). In this regard, dependent claims 7-10 of D1 focus on the Tg of component (C) of claim 1, corresponding to component (1) of present claim 1.

6.2 As far as Mw is concerned, D1 indicates that polymer C4 has a Mw of 50,000 (table 3, page 38), while copolymer A3 has a Mw of 40,000 (table 1, page 36). The respondent referred to patent document D6 (paragraph [0040], in which it was stated that silyl ester copolymers such as those of claim 1, component (2) preferably displayed Mw/Mn values of 1.0 - 10.0. Taking the value of Mw for A3, this would give Mn values in the range of 4,000 to 40,000. Hence, it was not inevitable that the skilled person starting at the examples of D1 (e.g. A3) would arrive within the claimed Mn range for component (2).

- 6.3 The board disagrees. As stated above, there is nothing in D1 indicating a limitation in the Mw or Mn of either component. Therefore, the skilled person would work within standard Mn values.
- 6.4 In relation to the Mn range of the component (2) of claim 1, D6 merely serves to confirm that the Mn range of 5,000 to 100,000 provided in claim 1 for component (2) is conventional.
- 6.5 In relation to the Mn range of 500 to 20,000 provided for component (1) of claim 1, D1 does not set out any general requirements for component (C), neither in terms of Mn nor Mw. The Mw value reported for polymer C4 is 50,000. However, as argued by the appellant during oral proceedings, Mn values within the claimed range are conventional; that this would not be the case is not indicated in D1 nor elsewhere.
- 6.6 Hence, the skilled person, desiring to solve the above-mentioned problem starting from D1 and in the absence of any teaching away, would arbitrarily choose from within the bounds of Mn ranges conventional in the technical field, which include those claimed for components (1) and (2), and would thereby arrive at the solution proposed in contested claim 1.
- 6.7 The respondent's arguments to the contrary failed to convince the board.
- 6.7.1 First, as briefly noted above in relation to the admittance of document D26, the respondent referred to paragraphs [0020] and [0048] of the patent as evidence of a technical effect linked to the Mn ranges stipulated in claim 1 for components (1) and (2). As stated above however, without substantiating evidence,

these allegations cannot be taken into account in the assessment of inventive step.

6.7.2 Second, it was argued that although the objective technical problems underlying D1 and present claim 1 were similar, they were solved in a different way. Specifically, in contrast to the present patent in which high compatibility between the plasticiser component (1) and the triorganosilyl (meth)acrylate component (2) was desired (patent, paragraph [0026]), D1 was concerned with the incorporation of incompatible, phase-separating (meth)acrylate polymers in the paint composition thereof (e.g. page 3, lines 15-17). In D1, a polymeric plasticiser would provide compatibility between the components of the composition, and would therefore not be used. Hence, D1 taught away from the use of the polymeric plasticiser component (1) of claim 1.

6.7.3 The board notes that components (1) and (2) of contested claim 1 correspond to polymer A and optional polymer C of claim 1 of D1. As stated by the appellant however, D1 requires incompatibility between components A and B, and not between component A and C (D1, page 6, line 19; page 19, line 4). Hence the fact that incompatibility is not mentioned in the patent is not in contradiction with the disclosure of D1.

Furthermore, the board notes that contested claim 1 is formulated in an open manner and hence does not exclude the presence of a polymer B according to D1, claim 1. Hence, a composition with incompatible components in the sense disclosed in D1 is not excluded by contested claim 1, and D1 cannot be said to teach away from incorporating a polymeric plasticiser. Indeed, the board notes that paint composition M26 of D1, the

representative starting point for the assessment of inventive step as stated above, comprises polymers A, B, and C, and hence if anything teaches that the polymeric plasticiser can be present in combination with incompatible polymers A and B.

- 6.7.4 Three, the respondent in its arguments at oral proceedings referred to various different effects of the claimed compositions compared to the compositions of D1, for example that the cracking caused in coatings in D1 was on the surface thereof, while in the patent, the property of adhesion was related to the entire surface of the coating, not only the cracks.

These arguments are not relevant, not least because it has already been established above that there is no evidence of any advantageous, or even different effects attributable to the distinguishing features of claim 1 over the compositions of D1. Hence, these alleged effects cannot be taken into account in the assessment of inventive step.

- 6.7.5 Four, the respondent argued that the selection of polymer C4 from the other polymers in table 3 of D1 represented inadmissible hindsight. Specifically, polymer C4, having a Tg of -41°C was the only polymer in the table having a Tg meeting the requirement in claim 1 that component (1) has a Tg of no greater than -20°C .

The board disagrees. The representative composition M26 of table 4 of D1 comprises polymer C4. The existence of further suitable starting points within the disclosure of D1 does not exclude paint composition M26 as an equally valid starting point in the assessment of inventive step. Hence, there is no question of a

"selection" of polymer C4. Rather, the relevant starting point in D1 comprises polymer C4.

- 6.7.6 Five, the respondent argued that in order for the claimed subject-matter to be rendered obvious, D1 required a hint to modify the compositions thereof to prepare compositions comprising components having the claimed Mn ranges. Since there was no such hint in D1, the solution proposed in claim 1 must involve an inventive step.

The board disagrees. In the provision of an *alternative* composition to a known composition of the prior art, the selection of a particular solution, in this case the specific Mn ranges for components (1) and (2), does not need any particular justification, because the selection of any known alternatives requires no inventive step.

- 6.8 It follows from the above that claim 1 of the main request (patent as granted) lacks inventive step.

- 6.9 Consequently, the ground for opposition under Article 100(a) EPC in combination with Article 56 EPC prejudices maintenance of the patent as granted.

Auxiliary request - inventive step, Article 56 EPC

7. Claim 1 of the auxiliary request differs from claim 1 of the main request in that the Mn of the polymer of component (1) is restricted to the range of from 1000 to 10,000 (claim 1 of the main request: 500 - 20,000).

- 7.1 As for claim 1 of the main request, the subject-matter of claim 1 of the auxiliary request is distinguished

from representative composition M26 of D1 by the claimed Mn ranges for components (1) and (2).

- 7.2 The respondent referred to paragraph [0020] of the patent and argued that the restricted range for the Mn value of component (1) meant that the plasticising effect thereof was more reliable. Hence, less plasticiser was required to achieve the desired effect, leading to benefits in terms of cost efficiency.
- 7.3 However, as noted above in relation to claim 1 of the main request, there is no evidence supporting any technical effect of the Mn values in claim 1 over the compositions of D1, in particular representative paint composition M26.
- 7.4 Hence, the objective technical problem underlying claim 1 of the auxiliary request is the same as that for claim 1 of the main request, namely the provision of an alternative antifouling coating composition to those disclosed in D1.
- 7.5 The solution to this problem would have been obvious to the skilled person essentially for the same reasons as provided for claim 1 of the main request, above. The narrowing of the Mn ranges for component (1) is not associated with any technical effect. Hence, in the absence of a disclosure in D1 teaching away from Mn values within the claimed range, the skilled person would have arbitrarily chosen said ranges, and thereby would have arrived at the subject-matter of claim 1.
- 7.6 Consequently, the subject-matter of claim 1 lacks inventive step pursuant to Article 56 EPC. The auxiliary request is therefore not allowable.

8. Admittance - documents D24, D25, D27 and D28
 - 8.1 The respondent requested that D24, D25, D27 and D28 be admitted into the proceedings.
 - 8.2 D24 is a brochure concerning GPC polymer standards. It was submitted by the respondent in the context of novelty to show that the use of standards for GPC could resolve a difference in weight average molecular weight (Mw) of a few hundred atomic mass units (reply, page 14, third paragraph).
 - 8.3 D25 is an experimental report, submitted by the respondent in the context of novelty to show that the discrepancy between the Mw value reported in D1 for polymer C4 and obtained in the experiments of D7 for C4 was large (reply, page 15, first full paragraph).
 - 8.4 D27 was submitted by the respondent in the context of novelty as evidence of how much measured difference in the Mw of acrylic polymers is regarded as an actual difference (letter of 27 December 2023, page 5, central paragraph).
 - 8.5 Finally, D28 is an experimental report submitted by the respondent in the context of novelty to show that the Mn value obtained for the re-worked polymer C4 in *inter alia* D7 and D21 by following the procedure of D1, is not inevitably within the claimed range (letter of 6 February 2024, point 3.7).
 - 8.6 All of these documents were submitted in the context of novelty. Even when taken into account, none would have lead to a different conclusion in terms of the distinguishing features of claim 1 over D1. Therefore, none would have altered the considerations above in

relation to inventive step. Consequently, since they were not relevant for the decision, no decision on the admittance of D24, D25, D27 and D28 into the procedure, as requested by the respondent, was necessary.

9. Since none of the appellant's requests are allowable, the patent is to be revoked.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:



M. Schalow

L. Bühler

Decision electronically authenticated