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**Datasheet for the decision
of 7 December 2021**

Case Number: T 2555/19 - 3.3.05

Application Number: 14001366.5

Publication Number: 2792652

IPC: C03C25/32, C08J5/24, C03C25/26

Language of the proceedings: EN

Title of invention:
Reduced salt precipitation in carbohydrate containing binder compositions

Patent Proprietor:
Johns Manville

Opponent:
SAINT-GOBAIN ISOVER

Headword:
Reduced salt precipitation/Manville

Relevant legal provisions:
EPC Art. 54(3)
RPBA Art. 12(4)

Keyword:

Novelty - (no)

Late-filed request - request could have been filed in first
instance proceedings (yes)

Decisions cited:

G 0010/91, T 1009/18

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

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

Case Number: T 2555/19 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 7 December 2021

Appellant: Johns Manville
(Patent Proprietor) 717 Seventeenth Street
Denver, CO 80202 (US)

Representative: Dörr, Klaus
Dörr IP
Nordring 29
65719 Hofheim (DE)

Respondent: SAINT-GOBAIN ISOVER
(Opponent) Les Miroirs, La Défense 3
18, avenue d'Alsace
92400 Courbevoie (FR)

Representative: Cabinet Becker et Associés
25, rue Louis le Grand
75002 Paris (FR)

Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 19 August 2019
revoking European patent No. 2792652 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chair E. Bendl
Members: G. Glod
R. Winkelhofer

Summary of Facts and Submissions

I. The patent proprietor's (appellant's) appeal lies from the opposition division's decision to revoke European patent No. EP 2 792 652 B1.

The following documents cited in the impugned decision are of relevance here:

D1: EP 2 730 689 A1

D12: M. Kalbe, "Acrodur®: An acrylate based alternative to standard thermosets?" 22. Hofer Vliestofftage 2007 / Nov. 7/8

II. With the statement of grounds of appeal, the appellant filed auxiliary requests 1 to 4.

III. The respondent (opponent) filed the following document with their reply to the appeal:

D14: M.F.A. Rasyid et al, eXPRESS Polymer Letters, Vol. 13, No.6, 2019, pages 553-564

IV. In a further submission dated 30 August 2021, the respondent filed the following document:

D15: BASF product information sheet on "ACRODUR®", 01/2018

V. Oral proceedings took place on 7 December 2021 via videoconference.

VI. Claim 1 of the patent as granted reads as follows:

"1. An aqueous binder composition comprising

- (i) water,
- (ii) at least one sequestrant which forms a complex with one or more multivalent cations,
- (iii) at least one carbohydrate,
- (iv) at least one polymeric binder reactant and further
- (v) a reaction product of a urea compound and an aldehyde-containing compound."

Compared to claim 1 of the main request, claim 1 of auxiliary request 1 has been supplemented by the underlined features below:

"1. [...] a reaction product of a urea compound and an aldehyde-containing compound, said sequestrant ranges from 0.1 weight % to 2 weight % of the total amount of the aqueous binder solution."

Compared to claim 1 of the main request, claim 1 of auxiliary request 2 has been supplemented by the underlined features below:

"1. [...] a reaction product of a urea compound and an aldehyde-containing compound, the aldehyde-containing compound is chosen from acetaldehyde, butyraldehyde, acrolein, furfural, glyoxal, gluteraldehyde, and polyfurfuryl, said sequestrant ranges from 0.1 weight % to 2 weight % of the total amount of the aqueous binder solution."

Compared to claim 1 of the main request, claim 1 of auxiliary request 3 has been supplemented by the underlined features below:

"1. [...] a reaction product of a urea compound and an aldehyde-containing compound, the aldehyde-containing

compound is chosen from acetaldehyde, butyraldehyde, acrolein, furfural, glyoxal, gluteraldehyde, and polyfurfural, said sequestrant is a polyphosphonic acid compound or said sequestrant forms a chelate complex with one or more multivalent cations being present in the aqueous binder formulations, said chelate complex has two or more separate coordinate bonds between a polydentate ligand and the one or more multivalent cation, said chelate complex has a denticity of at least four (tetradentate) and said sequestrant ranges from 0.1 weight % to 2 weight % of the total amount of the aqueous binder solution."

Compared to claim 1 of the main request, claim 1 of auxiliary request 4 has been supplemented by the underlined features below:

"1. [...] a reaction product of a urea compound and an aldehyde-containing compound, the aldehyde-containing compound is chosen from acetaldehyde, butyraldehyde, acrolein, furfural, glyoxal, gluteraldehyde, and polyfurfural, said sequestrant is ethylenediaminetetraacetic acid (EDTA) or ethylenediaminetetramethylenephosphonic acid or a polyphosphonic acid compound, and said sequestrant ranges from 0.1 weight % to 2 weight % of the total amount of the aqueous binder solution."

VII. The appellant's arguments, as far as they are relevant to the present decision, can be summarised as follows:

D1 did not contain any disclosure about the nature of Acrodur[®] 950L. The only information it provided was that Acrodur[®] 950L was from BASF and had a Brookfield viscosity of 900-2500 mPa*s at 23°C.

D12 did not disclose that Acrodur[®] 950L consisted of a polycarboxylic acid and a polyalcohol. As described in slide 9 of D12, Acrodur[®] 950L had a molecular weight of 80 000 g/mol, which was an indication that it was the reacted polymer (polyester). Clear evidence of the composition of Acrodur[®] 950L in D12 was therefore lacking.

There was no evidence that Acrodur[®] 950L did not change its composition between 2007 (date of D12) and November 2013 (filing date of D1). Acrodur[®] 950L was presented in D12 as first-generation Acrodur[®], which indicated that there was further development of the product. This was confirmed by D14, which described Acrodur[®] 950L as an aqueous solution of a modified polycarboxylic acid with a polyalcohol. In addition, it was clear from the EPO's Guidelines that trademarks could change their composition over time while maintaining their name. Moreover, D15 showed that the composition of Acrodur[®] 950L changed over time.

The system of a polycarboxylic acid component mixed with a polyalcohol did not act as a sequestrant.

Auxiliary requests 1 to 4 were submitted as a reaction to the impugned decision and should form part of the appeal proceedings. The concentration range was included in claim 1 to distinguish the sequestrant from a binder. In view of the course of the proceedings before the opposition division, the representative had had no chance to discuss the late-filed document D12 with the applicant, and the opposition division did not objectively assess the disclosure of D1, nor did it objectively assess the changes made in the previous version of auxiliary requests 1 and 2. In addition, the

opposition division raised new arguments about the denticity of Acrodur® 950L.

VIII. The respondent's arguments that are relevant to the present decision are reflected in the reasoning below.

IX. The appellant has requested that the decision under appeal be set aside and that the opposition be rejected, or alternatively that the patent be maintained in amended form on the basis of one of auxiliary requests 1 to 4 submitted with the statement of grounds of appeal.

The respondent has requested that the appeal be dismissed.

Reasons for the Decision

Main request (patent as granted)

1. Article 100(a) in combination with Article 54 EPC

The requirements of Article 54 EPC are not met for the following reasons:

1.1 It is undisputed that D1 is state of the art under Article 54(3) EPC. As set out in the impugned decision (Reasons 4.1), Example 5 of D1 discloses a composition comprising Binder 2 and Acrodur® 950L from BASF. Binder 2 comprises water (component (i) according to claim 1 of the opposed patent), dextrose (component (iii)), the nitrogen-containing compounds $(\text{NH}_4)_2\text{SO}_4$ and $(\text{NH}_4)_2\text{HPO}_4$ as polymeric binder reactants (component (iv)) and glyoxal urea (component(v)) (paragraph [0077] of D1).

The point under debate was whether Acrodur[®] 950L qualified as a sequestrant (component (ii)) within the meaning of claim 1 of the patent as granted.

- 1.2 D12 explains on page 4 that Acrodur[®] solutions consist of two components dissolved in water, namely a polycarboxylic acid and a polyalcohol. These components react at temperatures above 130°C to form a polyester. D12 further discloses, on page 7, first-generation Acrodur[®] solutions and lists Acrodur[®] 950L as one of them. Acrodur[®] 950L is specified as having a viscosity in the range of 900 to 2500 mPa*s. Page 9, entitled "Reactive acrylic resins", shows a bottle labelled Acrodur[®] 950L which is filled with a solution, and lists the properties of Acrodur[®] 950L, including a viscosity of 1200 mPa*s and a molecular weight of ca. 80 000 g/mol.

The skilled person understands from D12 that Acrodur[®] 950L is a solution that consists of two components dissolved in water, namely a polycarboxylic acid and a polyalcohol. It is evident that Acrodur[®] 950L is not the reacted product (polyester), since such a product would no longer be water soluble and would not be presented as a solution. In addition, it is explicitly indicated on page 4 of D12 that the polymerisation reaction only takes place at temperatures above 130°C.

- 1.3 The appellant's argument that Acrodur[®] 950L may have changed over time is not corroborated by evidence. It is true that the exact composition of trade marks may not remain identical over time, but in the present case there is no indication that Acrodur[®] 950L was no longer a mixture of a polycarboxylic acid and a polyalcohol at the time of priority of D1. D14, which is dated 2019 and therefore post-dates the priority date of D1

(2012), confirms that Acrodur[®] 950L still has a viscosity in the range of 900 to 2500 mPa*s (Table 1) and is an aqueous solution of a modified polycarboxylic acid with polyalcohol as a crosslinking agent that creates a durable polyester thermoset material (chapter 2.1.1.). Although the polycarboxylic acid is indicated as being modified, it still has the ability to react with polyalcohol to form a polyester, so that the carboxylic groups are reactive. This information is not contradicted by D15, which also discloses that Acrodur[®] 950L is a solution polymer having a viscosity in the range of 900 to 2500 mPa*s. Thus, even if the composition has changed, there is no indication that it was no longer a mixture of a polycarboxylic acid and a polyalcohol at the time of priority of D1.

- 1.4 Claim 1 requires the presence in the composition of a sequestrant which forms a complex with one or more multivalent cations. There is no further specification of the sequestrant, such as its concentration, structure or binding affinity. It is established case law that the statement of purpose of a claimed product is to be interpreted as meaning that the product is suitable for the stated purpose (Case Law of the Boards of Appeal of the EPO, 9th edition, 2019, I.C.8.1.5). In the present case, the composition according to Example 5 of D1 contains a polycarboxylic acid as part of Acrodur[®] 950L. It is known to the skilled person that polycarboxylic acids are able to form complexes with multivalent cations, albeit of varying strength depending on the cation and the polycarboxylate. The fact that Acrodur[®] 950L was not envisaged as the sequestrant in the composition of D1 is irrelevant for the question of the novelty of the present composition claim. Acrodur[®] 950L qualifies as a sequestrant within the meaning of claim 1 and Example 5 of D1 anticipates

the novelty of the subject-matter of claim 1 of the patent.

The main request must fail.

Auxiliary requests 1 to 4

2. Article 12(4) RPBA 2007

In the present case, Article 12(4) RPBA 2007 applies (see Article 25(2) RPBA 2020).

According to Article 12(4) RPBA 2007, the board may hold inadmissible requests which could have been presented in the first-instance proceedings.

The auxiliary requests submitted with the statement of grounds of appeal were not submitted during the opposition proceedings.

- 2.1 In the case at hand, the appellant submitted auxiliary requests for the first time during the oral proceedings before the opposition division, although the novelty objection based on D1 and D4 had already been brought forward in the notice of opposition. The specific novelty objection based on Example 5 of D1 was only raised two days before the oral proceedings before the opposition division, but the novelty objection based on Example 6 of D4, which was submitted at the latest on 2 May 2019, was also part of the proceedings. The appellant waited until the opposition division had given its opinion on novelty during the oral proceedings before submitting auxiliary requests 1 and 2 (see the minutes of the oral proceedings before the opposition division, points 2.2.5 and 3).

Since these requests were not held allowable by the opposition division, the appellant submitted new auxiliary requests with the statement of grounds of appeal.

2.2 These new auxiliary requests could and should have been presented in the proceedings before the opposition division. It can be expected that a party will react to the other party's case before they learn the opposition division's position at the oral proceedings. It is standard practice for the opposition division to change its point of view during the oral proceedings, and a party should be prepared for this. The appellant was even given time for further submissions during the oral proceedings, but they indicated that they had no further requests (see the minutes of the oral proceedings before the opposition division, point 6). In the case at hand, the appellant's duty to submit their requests at an early stage of the proceedings and not to delay doing so until the appeal proceedings has not been fulfilled. The appellant refrained from filing any requests with indications of concentrations during the opposition proceedings, and therefore the board had to first deal with questions under Article 84 and 123(2) EPC, which should have been dealt with at the opposition stage. The amendment relating to the concentration of the sequestrant which is present in all of the auxiliary requests originates from the description. It is not *prima facie* recognisable whether this amendment is allowable.

2.3 The appellant's argument that the representative should have an opportunity to consult their client is not convincing, since during opposition proceedings even new grounds of opposition may be introduced at a late stage, if *prima facie* relevant (see G 10/91, Reasons

16). Therefore, the representative should be prepared to react even at such a stage of the proceedings. In the present case, the representative of the appellant contested the admission of D12, but did not request a postponement of the oral proceedings to further discuss the case with their client.

2.4 If the appellant is of the opinion that the opposition division incorrectly assessed the novelty of the patent and did not correctly consider its arguments with respect to the auxiliary requests, it is all the more inconsistent that these requests were not maintained at the appeal stage but were replaced by new ones.

2.5 This case is very similar to T 1009/18 (Reasons 3). In line with established case law (Case Law of the Boards of Appeal of the EPO, 9th edition, 2019, V.A.4.11.1), the auxiliary requests are not admitted and not considered.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



C. Vodz

E. Bendl

Decision electronically authenticated