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Datasheet for the decision of 23 October 2015

Case Number: T 1325/12 - 3.3.05

Application Number: 04712504.2

Publication Number: 1597214

IPC: C04B40/00, C04B28/02, C04B22/12

Language of the proceedings: EN

Title of invention:
ACCELERATOR ADMIXTURE

Patent Proprietor:
Construction Research & Technology GmbH

Opponent:
MAPEI S.p.A

Headword:
Accelerator admixture/Construction Research

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step -
main request and auxiliary requests 1 and 2 (no)
Inventive step -
effect not made credible within the whole scope claimed - obvious alternative
Inventive step - auxiliary request 3 (yes)

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Decisions cited:

Catchword:

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Case Number: T 1325/12 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 23 October 2015

Appellant: (Opponent)	MAPEI S.p.A Via Cafiero, 22 20158 Milano (IT)
Representative:	Nederlandsch Octrooibureau P.O. Box 29720 2502 LS The Hague (NL)
Respondent: (Patent Proprietor)	Construction Research & Technology GmbH Dr.-Albert-Frank-Strasse 32 83308 Trostberg (DE)
Representative:	Marschall, Stefan Elbpatent Marschall & Partner Patent- und Rechtsanwaltskanzlei mbB Bavariaring 26 80336 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 2 April 2012 rejecting the opposition filed against European patent No. 1597214 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	G. Raths
Members:	A. Haderlein
	M. Blasi

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal against the decision of the opposition division rejecting the opposition against European patent No. 1 597 214. The patent in suit concerns an accelerator admixture.

II. The opposition division held that the grounds for opposition mentioned in Article 100(a) in conjunction with Articles 52(1) and 54 and 56 EPC did not prejudice the maintenance of the patent as granted, having regard in particular to the following documents:

D1: EP 1 167 317 B1
D5: US 4 507 154 A
D7: Jawed, I. and Skalny, J., Alkalies in Cement: a Review, Cement and Concrete Research, Vol. 8, pages 37 to 52, 1978.

III. With its statement setting out the grounds of appeal, the appellant filed in particular the following document:

D9 : EFNARC European specification for sprayed concrete, Guidelines for specifiers and contractors 1999.

IV. With its reply to the statement setting out the grounds of appeal, the patent proprietor (respondent) filed first to third auxiliary requests as well as the following document:

E41: experimental data.

V. In the course of the appeal proceedings, the appellant filed also the following documents:

E42: experimental data
E43: comparative compositions.

VI. The board issued a communication setting out its preliminary view of the requests then on file.

VII. Under cover of its letter dated 23 September 2015, the respondent filed new first to sixth auxiliary requests.

VIII. Under cover of another letter dated 23 September 2015 and received by fax on 20 October 2015, the respondent filed the following document:

E44: experimental data.

IX. At the oral proceedings on 23 October 2015, the respondent filed an amended auxiliary request 3.

X. Claim 1 of the main request and auxiliary requests 1 and 2 reads as follows (amendments with respect to claim 1 of the main request underlined or struck through):

Main request (patent as granted)

"1. An accelerator composition adapted to be used with sprayed cementitious compositions, which is an aqueous solution or dispersion of a blend of the essential Components 1-3:
Component 1 - aluminium sulphate
Component 2 - at least one of an alkanolamine and an alkylene diamine or triamine
Component 3 - hydrofluoric acid
with at least one of Components 4-7, with the proviso that at least one of Component 4 be present:

Component 4 - at least one of sodium hydroxide, potassium hydroxide, lithium hydroxide, magnesium hydroxide, lithium carbonate, sodium carbonate, potassium carbonate, magnesium carbonate, sodium sulphate, potassium sulphate, magnesium sulphate and lithium sulphate;
Component 5 - C_1-C_{10} aliphatic mono- and dicarboxylic acids and their metal salts;
Component 6 - aluminium hydroxide;
Component 7 - at least one of phosphoric acid and phosphorous acid.[sic]
the ingredients being present in the following proportions (active ingredients by weight);
Component 1 - from 30 to 60%, calculated on the basis of 17% aluminium sulphate;
Component 2 - from 0.1 to 15%
Component 3 - from 0.2 to 8.0%
Component 4 - up to 15%
Component 5 - up to 15%
Component 6 - up to 15%
Component 7 - up to 5%."

Auxiliary request 1 (dated 23 September 2015)

"1. An accelerator composition adapted to be used with sprayed cementitious compositions, which is an aqueous solution or dispersion of a blend of the essential Components 1-3:
Component 1 - aluminium sulphate
Component 2 - at least one of an alkanolamine and an alkylene diamine or triamine
Component 3 - hydrofluoric acid
with at least one of Components 4-7, with the proviso that at least one of Component 4 be present:
Component 4 - at least one of sodium hydroxide, potassium hydroxide, lithium hydroxide, ~~magnesium~~

~~hydroxide,~~ lithium carbonate, sodium carbonate, potassium carbonate, ~~magnesium carbonate,~~ sodium sulphate, potassium sulphate, ~~magnesium sulphate~~ and lithium sulphate;
Component 5 - C_1-C_{10} aliphatic mono-and dicarboxylic acids and their metal salts;
Component 6 - aluminium hydroxide;
Component 7 - at least one of phosphoric acid and phosphorous acid.
the ingredients being present in the following proportions (active ingredients by weight);
Component 1 - from 30 to 60%, calculated on the basis of 17% aluminium sulphate;
Component 2 - from 0.1 to 15%
Component 3 - from 0.2 to 8.0%
Component 4 - up to 15%
Component 5 - up to 15%
Component 6 - up to 15%
Component 7 - up to 5%."

Auxiliary request 2 (dated 23 September 2015)

"1. An accelerator composition adapted to be used with sprayed cementitious compositions, which is an aqueous solution or dispersion of a blend of the essential Components 1-3:
Component 1 - aluminium sulphate
Component 2 - at least one of an alkanolamine and an alkylene diamine or triamine
Component 3 - hydrofluoric acid
with at least one of Components 4-7, with the proviso that at least one of Component 4 be present:
Component 4 - at least one of sodium hydroxide, potassium hydroxide, lithium hydroxide, ~~magnesium hydroxide,~~ lithium carbonate, sodium carbonate, potassium carbonate, ~~magnesium carbonate,~~ sodium

sulphate, potassium sulphate, ~~magnesium sulphate~~ and lithium sulphate;
Component 5 - C_1-C_{10} aliphatic mono-and dicarboxylic acids and their metal salts;
Component 6 - aluminium hydroxide;
Component 7 - at least one of phosphoric acid and phosphorous acid.
the ingredients being present in the following proportions (active ingredients by weight);
Component 1 - from 30 to 46%, calculated on the basis of 17% aluminium sulphate;
Component 2 - from 0.1 to 15%
Component 3 - from 0.2 to 8.0%
Component 4 - up to 15%
Component 5 - up to 15%
Component 6 - up to 15%
Component 7 - up to 5%."

XI. The claims of auxiliary request 3 (dated 23 October 2015) reads as follows (amendments with respect to the claims of the main request struck through):

"1. An accelerator composition adapted to be used with sprayed cementitious compositions, which is an aqueous solution or dispersion of a blend of the essential Components 1-3:
Component 1 - aluminium sulphate
Component 2 - at least one of an alkanolamine and an alkylene diamine or triamine
Component 3 - hydrofluoric acid
with at least one of Components 4-7, with the proviso that at least Component 4 be present:
Component 4 - at least one of ~~sodium hydroxide, potassium hydroxide, lithium hydroxide, magnesium hydroxide, lithium carbonate, sodium carbonate,~~

~~potassium carbonate, magnesium carbonate,~~ sodium sulphate, potassium sulphate, ~~magnesium sulphate~~ and lithium sulphate;
Component 5 - C_1-C_{10} aliphatic mono-and dicarboxylic acids and their metal salts;
Component 6 - aluminium hydroxide;
Component 7 - at least one of phosphoric acid and phosphorous acid.
the ingredients being present in the following proportions (active ingredients by weight);
Component 1 - from 30 to 60%, calculated on the basis of 17% aluminium sulphate;
Component 2 - from 0.1 to 15%
Component 3 - from 0.2 to 8.0%
Component 4 - up to 15%
Component 5 - up to 15%
Component 6 - up to 15%
Component 7 - up to 5%.

2. An accelerator according to claim 1, in which Component 4 ~~contains alkali metal and~~ is present to the extent that the alkali metal content is a maximum of 8.5% Na_2O equivalent.

3. A method of applying a cementitious composition to a substrate by spraying, comprising the steps of mixing a batch of fluid cementitious composition and conveying it to a spray nozzle, there being injected at the nozzle an accelerator according to claim 1.

4. A hardened cementitious layer applied to a substrate by spraying through a spray nozzle, there having been added at the nozzle an accelerator according to claim 1."

XII. The appellant argued essentially as follows:

Main request and auxiliary requests 1 and 2

D1 constituted the closest prior art. D1 did not disclose the presence of any of the compounds of component 4 of claim 1 in an amount of up to 15%. It was not credible that the problem of maintaining the compressive strength and decreasing shrinkage was indeed solved over the whole scope claimed. The compounds listed for component 4 in claim 1 were of different nature and comparative tests had been provided by the respondent with respect to sodium sulphate only.

It was not plausible that the difference in nature of the anions of the compounds listed for component 4 was not relevant when assessing the plausibility of the effect claimed. Alkalis resulted in the formation of ettringite, as mentioned in D7, page 39, last paragraph and page 45, last full paragraph. The formation of ettringite was however influenced differently by different anions such as the hydroxy anion or the sulphate anion. It was thus not plausible that the anion did not influence the compressive strength.

Similar considerations applied in view of D5. The respondent's contention that the use of alkalis would not lead to a decrease of compressive strength and would even lead to a decrease in shrinkage was not plausible in view of the teachings in the prior art such as D7.

Auxiliary request 3

While it was reasonable to assume that alkali sulphates

all act in a similar way, D7 taught that not all alkali sulphates acted in the same way. In the first paragraph on page 46 of D7 it was said that sodium sulphate caused greater strength loss than potassium sulphate. The evidence provided by the respondent showed an increase in compressive strength when sodium sulphate was used. But this evidence was not sufficient to show that all the alkali sulphates of component 4 in claim 1 of auxiliary request 3 would lead to the same effect. In example 7 of D5 sodium sulphate was used as an accelerator. D5 therefore taught that sodium sulphate could be used as an accelerator. It was therefore obvious to use sodium sulphate in the accelerator composition of D1.

XIII. The respondent argued essentially as follows:

Main request and auxiliary requests 1 and 2

D1 was the closest prior art. D1 did not disclose the presence of any of the compounds of component 4 of claim 1 in an amount of up to 15%.

The problem to be solved was to improve or at least maintain final strength and to decrease shrinkage. Comparative tests had been provided showing that for sodium sulphate an increase in final compressive strength was achieved. From D5, column 2, lines 13 *et seq.* it was apparent that an increase in compressive strength was accompanied by a decrease in shrinkage. This meant that an increase in compressive strength would normally also result in a decrease in shrinkage. Thus, the problem was successfully solved for sodium sulphate.

Although no comparative tests had been provided for the

other compounds to be used as component 4 in claim 1, it was plausible that these compounds acted in the same or a similar way to sodium sulphate. It was the alkali cation which was responsible for influencing the final compressive strength and not the anion of the alkali compound. This was evidenced by D7, page 38, second paragraph, page 40, second full paragraph, page 43, second full paragraph and page 45, second full paragraph, and was also supported by D5, column 2, lines 26 *et seq.* as well as by D9, section G5.5.3. E44 showed that all the compounds listed in claim 1 for component 4, when added to the composition of D1, resulted in an acidic composition. Thus, it was plausible that they acted in the same or similar way. It was not obvious to add any of the compounds listed for component 4 in claim 1 to the accelerator admixture known from D1 with a view to at least maintain final compressive strength and decrease shrinkage. The prior art taught in general that the use of alkalis as an accelerator decreased final compressive strength, as could be seen in particular from D9, page 8, section G5.5.3. and D7, page 43, section III. D5 disclosed sodium sulphate as prior-art accelerators and dealt with acceleration of setting but did not teach to use sodium sulphate in order to maintain or increase final compressive strength.

Auxiliary request 3

Sodium sulphate, potassium sulphate and lithium sulphate were similar compounds and it was plausible that they acted in a similar way. E41 and E42 showed credibly that the problem of increasing compressive strength was solved. It was therefore also plausible that this problem was solved for potassium and lithium sulphate. D5 disclosed the use of sodium sulphate but

the object of D5 was to improve the acceleration of the setting and hardening of cement and did not teach the use of any of the sulphates of component 4 in order to solve the problem of increasing the compressive strength.

XIV. Requests

The appellant requested that the impugned decision be set aside and that the patent be revoked.

The respondent requested that the appeal be dismissed, or alternatively that the patent be maintained in amended form on the basis of one of the sets of claims filed as auxiliary requests 1 to 6, auxiliary request 3 as filed at the oral proceedings before the board and the remaining requests as filed with the letter dated 23 September 2015.

Reasons for the Decision

1. Remark

The subject-matter of claim 1 of auxiliary request 2 is encompassed by the subject-matter of claim 1 of auxiliary request 1 and of the main request. Since the board, as set out below, arrives at the conclusion that the subject-matter of claim 1 of auxiliary request 2 lacks an inventive step, it is appropriate to first assess inventive step of the subject-matter of the latter request.

2. Auxiliary request 2 - inventive step

2.1 Invention

The invention concerns an accelerator admixture.

2.2 Closest prior art

The parties took D1 as the closest prior art document. The board can agree.

D1 (paragraph 0002) relates to an alkali-free set and hardening accelerator. Examples for binders whose setting and hardening can be accelerated are cement and hydraulic lime; examples for mixtures containing such binders are mortar and concrete.

The parties agree that the accelerator admixture of claim 1 differs from D1 only in that it contains at least one of sodium hydroxide, potassium hydroxide, lithium hydroxide, lithium carbonate, sodium carbonate, potassium carbonate, sodium sulphate, potassium sulphate, and lithium sulphate in an amount of up to 15%. The board notes in this context that, compared to the main request and auxiliary request 1, the upper limit of the content of component 1 is restricted to 46%. But in D1 an aluminium sulphate content of 32 % by weight, i.e. a value falling within the claimed range, is disclosed (see paragraph 0045).

2.3 Problem

According to the patent in suit (see paragraphs 0004 to 0006) and the respondent, the problem to be solved consisted in improving or at least maintaining the final compressive strength and in improving stability,

i.e. decreasing shrinkage.

2.4 Solution

As a solution to this problem, the patent in suit proposes an accelerator composition according to claim 1 of auxiliary request 2, characterised in that it contains at least one of sodium hydroxide, potassium hydroxide, lithium hydroxide, lithium carbonate, sodium carbonate, potassium carbonate, sodium sulphate, potassium sulphate and lithium sulphate in an amount of up to 15%.

2.5 Success of the solution

2.5.1 Component 4 of claim 1 encompasses a variety of compounds. These include alkali hydroxides and alkali carbonates, but also alkali sulphates. The comparative tests in the patent (examples 1 and 2) and those provided by the respondent in the course of the appeal proceedings (E41 to E43) only compare compositions according to claim 1 wherein component 4 is sodium sulphate with compositions not containing component 4.

The question thus arises whether it is credible that these tests allow the conclusion that the success of the solution is achieved over essentially the whole scope claimed, i.e. also if compounds other than sodium sulphate, and in particular sodium hydroxide or sodium carbonate, are used as component 4.

2.5.2 As correctly pointed out by the respondent, several passages in the prior art suggest that alkali compounds can lead to a decrease in final compressive strength. This is apparent from D7, page 38, second paragraph, page 40, second full paragraph, page 43, second full

paragraph and page 45, second full paragraph. Also the passage in section G5.5.3 of D9 suggests that alkali-containing accelerators would reduce final compressive strength.

2.5.3 From these passages, however, it is not possible to conclude that the effect of the alkali compounds on the final compressive strength is independent of the nature of its anion. In this respect, D5 teaches that "the strong alkali setting accelerators reduce the end stability" (see column 1, lines 46 *et seq.*; see also D1, paragraph 0007). For the skilled person, such accelerators clearly encompass compounds such as sodium hydroxide and sodium carbonate (cf. D5, column 1, lines 33 *et seq.*) whereas they would not encompass compounds such as sodium sulphate. Also D7 distinguishes between alkali sulphates and other alkali compounds. This is apparent from the introductory portion on page 38 of D7 (cf. "we... summarize the knowledge on the influence of alkali compounds, especially alkali sulfates, on the performance of cement and concrete"). Moreover, on page 40, third full paragraph, it is stated that the effect of alkali compounds on the hydration rate of calcium silicates depends on the kind of anion present (cf. "The observed increase in hydration rate was affected by the kind of anion present... Alkali sulfates increased the hydration in the acceleration period... Akali hydroxides remarkably reduced the acceleration period, but their effect on reaction rate was slight...").

The board concludes from the above that it is not credible that the effect of maintaining or increasing final compressive strength achieved by sodium sulphate as evidenced by documents E41 to E43 would also occur if alkali compounds such as sodium hydroxide or sodium

carbonate were used.

2.5.4 In this respect, the evidence submitted by the respondent as E44 is also not convincing.

First, this document clearly shows, as expected, that replacing sodium sulphate with sodium hydroxide or sodium carbonate (compare composition E7 with compositions E11b and E11g and also composition E6 with compositions E11d and E11i) leads to a significant increase in pH, i.e. sodium hydroxide and sodium carbonate act differently in terms of pH from sodium sulphate.

Second, the board notes that all experiments in E44 were carried out using 6% hydrofluoric acid, whereas the lower limit of the hydrofluoric acid called for in claim 1 is as low as 0.2% and claim 1 also encompasses the presence of up to 15% of strong alkaline compounds such as sodium hydroxide and sodium carbonate. The compositions of claim 1 thus encompass a wide range of pH and, for this reason too, it is not plausible that all compounds of component 4 act in the same or at least a similar way.

2.5.5 The board therefore concludes that it is not credible that the problem is successfully solved over the whole scope claimed.

2.6 Reformulation of the problem

The problem is therefore reformulated the provision of an alternative or a further accelerator admixture.

2.7 Obviousness

2.7.1 It has to be decided whether or not the accelerator admixture of claim 1 can be derived in an obvious manner from the state of the art.

2.7.2 The use of alkali sulphates in accelerator admixtures is known in the prior art (see D5, examples 7 and 8; cf. also D7, page 39, last paragraph). Moreover, D5 teaches that the combined use of sodium sulphate and aluminium hydroxide leads to a shorter setting time than if aluminium hydroxide alone is used (see Figure 7 and column 3, lines 3 *et seq.* of D5). The admixture of D1 contains significant amounts of aluminium hydroxide. With a view to providing an alternative or a further accelerator composition, it was therefore obvious to use alkali sulphates such as sodium sulphate in the admixture of D1.

2.7.3 The subject-matter of claim 1 of auxiliary request 2 does not meet the requirements of Article 56 EPC.

3. Main request and auxiliary request 1 - inventive step

As the subject-matter of claim 1 of auxiliary request 2 is encompassed by claim 1 of the main request and auxiliary request 1, these requests fail for the same reasons as auxiliary request 2, i.e. the subject-matter of their claim 1 does not involve an inventive step within the meaning of Article 56 EPC.

4. Auxiliary request 3 - amendments

Component 4 of claim 1 is now restricted to the three alkali sulphates disclosed in claim 1 as originally filed. The appellant has not objected to the amendments

under Article 123 EPC.

The board is satisfied that claims 1 to 4 of this request meet the requirements of Article 123(2) and (3) EPC.

5. Auxiliary request 3 - novelty

The appellant has not objected to auxiliary request 3 for lack of novelty.

The board notes that, in the statement setting out the grounds of appeal, the appellant had argued that the subject-matter of claim 1 of the patent as granted (main request) was not novel because a product comprising all the relevant features had been made available to the public prior to the effective date of the patent. The board further notes in this respect that according to the notice of opposition this product was considered by the appellant to be novelty-destroying because it allegedly contained sodium hydroxide as Component 4. Component 4 is now restricted to alkali sulphates and, hence, the subject-matter of the alleged public prior use is no longer relevant in the assessment of novelty.

The board is satisfied that the subject-matter of claims 1 to 4 is novel (Article 54(1),(2) EPC).

6. Auxiliary request 3 - inventive step

6.1 Invention and closest prior art, see at 2.1 and 2.2 *supra*.

6.2 Problem

According to the patent in suit (see paragraphs 0004 to 0006 and 0022 to 0026) and the respondent, the problem to be solved consisted in improving the final compressive strength.

6.3 Solution

As a solution to the problem, the patent in suit proposes an accelerator composition according to claim 1 of auxiliary request 3, characterised in that it contains at least one of sodium sulphate, potassium sulphate and lithium sulphate in an amount of up to 15%.

6.4 Success of the solution

6.4.1 The comparative tests (document E43, tests E11 to E14) provided by the respondent are representative for the closest prior art D1 because they concern compositions not containing alkali sulphates. The compressive strength obtained in these tests at 7 days is between 1.9 and 6.4 N/mm^2. According to documents E41 and E42, the compositions covered by claim 1 of auxiliary request 3, i.e. having a sodium sulphate content of 3% (compositions E7 and E8), 9% (E9 and E10) and 11% (compositions E1, E3, E5 and E6), result in a compressive strength at 7 days of between 9.2 and 47.2 N/mm^2. Hence, these tests show that compressive strength at 7 days is increased when sodium sulphate is used as component 4.

6.4.2 The appellant did not contest the validity of these tests but argued that from the results obtained for sodium sulphate it was not possible to conclude that

the same effect could be achieved when using potassium or lithium sulphate.

6.4.3 The board observes that, compared to claim 1 of auxiliary request 2, compound 4 of claim 1 of auxiliary request 3 is now restricted to sodium, potassium and lithium sulphates. Sodium, potassium and lithium are alkali metals. Compound 4 of claim 1 of auxiliary request 3 is therefore restricted to alkali sulphates. Alkali sulphates are a particular sub-class of alkali compounds discussed in D7 and comprise the same anion, i.e. the sulphate anion. They are not considered to be strong alkali compounds as mentioned in either D1 (paragraph 0007) or D5 (column 1, lines 46 *et seq.*). It is therefore credible that potassium and lithium sulphate act in a similar way as sodium sulphate when used in the accelerator composition of D1.

6.4.4 According to the appellant, D7 suggested in its paragraph bridging pages 45 and 46 that different alkali sulphates acted in a different way.

It is true that in said passage it is said that sodium sulphate caused a greater strength loss than potassium sulphate. This is a relative comparison between sodium sulphate and potassium sulphate. For the board, this is however not sufficient evidence to cast doubt on the assertion that these sulphates act in a similar way. Since these compounds are not identical they cannot normally be expected to act in an identical way, as shown by this passage. However, when compared to other alkali compounds such as sodium hydroxide or sodium carbonate, it is plausible that their interaction with the other compounds of the accelerator composition of D1 is similar.

6.4.5 The board thus concludes that the problem is successfully solved over the whole range claimed.

6.5 Obviousness

6.5.1 D5 discloses sodium sulphate (example 7; Figure 7) and potassium sulphate (example 8, Figure 8) as a component of an accelerator admixture. D5 deals with setting time (column 1, lines 7 *et seq.*; column 3, lines 10 *et seq.*), i.e. the acceleration of the setting of the concrete. But D5 does not give any hint to use alkali sulphates in order to increase final compressive strength.

6.5.2 The board notes that D7 discusses the influence of potassium sulphate on final compressive strength on page 45, second full paragraph. In this passage, it is said that there was a general trend that alkalis in clinker lead to a decrease in final compressive strength. This decrease is said not to be affected by the addition of potassium sulphate. In the same passage, the addition of potassium sulphate is once said to increase final strength of a specific clinker whereas with another specific clinker a decrease of the final strength was observed. It must therefore be concluded that D7 does not contain a clear pointer to use alkali sulphates in order to increase the compressive strength when using the accelerator admixture known from D1.

6.5.3 In view of this, the board concludes that it was not obvious to arrive at the admixture of claim 1.

The subject-matter of claim 1 meets the requirements of Article 56 EPC.

The accelerator according to claim 2 derives its patentability from claim 1 on which it depends.

Claim 3 is directed to a method of applying a cementitious composition, an accelerator according to claim 1 being injected at a spray nozzle.

Claim 4 is directed a hardened cementitious layer, an accelerator according to claim 1 having been added when applying the cementitious layer to a substrate.

So, the subject-matter of claims 3 and 4 derives its patentability from claim 1 to which they refer.

7. Since auxiliary request 3 is allowable, the board does not need to consider the remaining auxiliary requests.

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 in amended form on the basis of claims 1 to 4 of auxiliary request 3 filed during the oral proceedings before the board, and a description to be adapted thereto.

The Registrar: The Chairman:

C. Vodz G. Raths

Decision electronically authenticated