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D E C I S I O N
of 19 January 2005

Case Number: T 0561/02 - 3.3.5

Application Number: 97103344.4

Publication Number: 0792849

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Title of invention:
Limestone filled Portland cements

Patentee:
ITALCEMENTI S.p.A

Opponents:
Heidelberger Zement Aktiengesellschaft
Verein Deutscher Zementwerke e.V.

Headword:
Cement/ITALCEMENTI

Relevant legal provisions:
EPC Art. 83, 84, 100(b), 56

Keyword:
"Inventive step (yes) "

Decisions cited:
T 0042/98, G 0010/91

Catchword:
-



Case Number: T 0561/02 - 3.3.5

D E C I S I O N
of the Technical Board of Appeal 3.3.5
of 19 January 2005

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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
25 March 2002 concerning maintenance of
European patent No. 0792849 in amended form.

Composition of the Board:

Chairman: M. M. Eberhard
Members: H. Engl
S. U. Hoffmann

Summary of Facts and Submissions

I. This appeal is from the interlocutory decision of the opposition division according to which European patent EP 0 792 849 B1, based on European application number 97 103 344.4, relating to limestone-filled Portland cements, in the amended form meets the requirements of the EPC. The decision was based on claims 1 - 7 filed during oral proceedings before the opposition division.

Independent Claims 1 and 5 read as follows:

"1. Limestone filled Portland cement wherein the fineness of limestone particles ranges from **6,000 to 10,000** Blaine and the fineness of clinker particles ranges from **1600 to 2500** Blaine, **having a limestone content of 20% to 25% by wt. in respect of cement, excluding gypsum and additives.**"

"5. Process for the preparation of limestone filled Portland cement as claimed in claims 1 to **4**, wherein clinker and limestone are ground separately and then homogenized."

The features in **bold** characters represent the differences between the granted claims and those amended during opposition procedure.

II. During the opposition procedure, the parties relied *inter alia* on the following documents:

L1: S. Sprung, and E. Siebel, ZKG (Zement - Kalk - Gips) International, Nr.1/1991, pages 1 - 11.

- L4: E. Siebel, S. Sprung, Beton 3/1991, pages 113 - 117.
- E10, part III:
H.-G. Ellerbrock et al, ZKG 1 /1990,
pages 13 - 19.
- A12: Forschungsbericht Nr. 10 (1990) of the Verein Deutscher Zementwerke e.V., Düsseldorf, "Eignung von Kalkstein als Zuschlagstoff für die Zementherstellung", dated 6 July 1994, pages 1 - 83 and Annexes thereto (pages 1 - 5 and Tables 2, 4 - 27 and 29)
- A13: J. Baron and C. Douvre, World Cement April 1987, pages 100 - 104.
- A14: André Conrady, "Diplomarbeit" at the Rheinisch - Westfälische Hochschule Aachen, Dec. 1994, pages 1 - 99 and Annex, pages I - III
- III. According to the contested decision, novelty was undisputed. With respect to inventive step, document L1 was considered to represent the closest prior art. Starting from said document, the object of the invention was seen to provide a cost-effective limestone-filled cement composition having substantially the same strength performance as the corresponding limestone - free Portland cement. The problem was, in the opposition division's view, solved in a non-obvious manner by a cement composition wherein the fineness of the clinker and the limestone satisfied the ranges as claimed in claim 1. Neither L1 nor any other piece of prior art, in particular A14, provided

an incentive to combine a coarse clinker component with amounts of limestone as high as from 20% to 25%.

- IV. With the statement of grounds of appeal, the appellant (opponent 02) filed experimental tests in support of its arguments concerning lack of inventive step. In a further letter dated 29 July 2003, the appellant cited a new document, E10, part I: K. Kuhlmann et al., "Korngrößenverteilung und Eigenschaften von Zement" ZKG Int., Nr. 4 (1985), pages 169 - 178. With its submissions of 27 December 2004, the appellant requested that three questions be referred to the Enlarged Board of Appeal. Oral proceedings took place on 19 January 2005 at which said request was not maintained.

The appellant requested that the decision of the opposition division be set aside and the patent be revoked. As an auxiliary request, the appellant requested that the case be remitted to the department of first instance, insofar as examination under Article 83 EPC is admitted.

The respondent (proprietor of the patent) requested that the appeal be dismissed.

The party as of right (opponent 01) did not present any requests at the appeal stage.

- V. The appellant argued that the amended claims maintained by the opposition division did not meet the requirements of Article 84 EPC. In particular, they were not supported by the description in that the claims literally excluded gypsum and additives, while

these components were mandatory in the description and the examples.

The appellant further argued that the patent lacked an inventive step because the alleged increased strength of the cement, after 2, 7 and 28 days, could not be reproduced by the appellant as shown by its experimental report.

In a later submission dated 29 July 2003, the appellant also raised an objection under Article 83 EPC. He argued that the patent did not disclose a particular source for the clinker to be used in the invention. The precise source of the clinker was however critical according to the patentee's own submission.

Furthermore, the appellant pointed out that cements having a narrow particle size distribution were known from E10, part I, to exhibit higher strength. It could therefore have been expected that the clinkers used in the patent, in particular CLK3, which exhibit a rather narrow particle size distribution, lead to high strength products.

During oral proceedings the appellant argued lack of inventive step based on the combined disclosures of documents L1, L4 and A12; or, in the alternative, of documents L1 and A13. In his submission, documents A12 and A13 would provide the skilled person with an incentive towards an increase in limestone content above 20%, because it is reported in A12 that this would neither significantly affect the consistence nor the chemical resistance of the cement composition and A13 teaches that limestone fillers have a positive

contribution to compressive strength. Strength after 28 days would also not be adversely influenced, as is taught by L4.

- VI. The respondent argued as follows: Document E10/part I, filed for the first time during appeal procedure, did not relate to limestone-filled cements and was thus not relevant. This document should therefore be disregarded.

The respondent also rejected the appellant's arguments under Article 83 EPC and denied that anything in the patent specification or the respondent's written submissions could suggest that the invention could be worked only with a specific clinker. He disagreed with the introduction of a fresh ground of opposition in the appeal procedure, in accordance with G 10/91.

With respect to inventive step, the respondent pointed to the "dilution effect" of limestone, reported in several documents, in particular in A14 and A12. According to these documents, increased amounts of limestone would decrease the standard strength of the cement, both after 7 and 28 days. Nothing in the prior art would suggest the surprising maintenance or even increase in standard strength obtained by adding limestone having the required degree of fineness to relatively coarse Portland clinker particles, in accordance with the patent in suit. In A13 limestone fillers were compared with inert fillers and the conclusion drawn was not in contradiction to the evidenced "dilution effect" of limestone.

The comparative tests carried out by the appellant were rejected by the respondent as inconclusive, as they had

been performed under borderline conditions as regards particle size, and with grades of cement clinker differing from those of the patent in suit.

Reasons for the Decision

1. The appeal is admissible.

2. *Amendments*

Amended claim 1 is based on original claims 1, 2 and 7. The range of fineness of the clinker particles is taken from the originally filed application documents, page 4, lines 13 - 16 (paragraph [22] of EP 0 792 849 B1). The amended ranges and thus the scope of the claims are narrower than in the claims as granted. The requirements of Article 123(2) and (3) EPC are thus met.

3. *Objections under Article 84 EPC*

The sole objection under Article 84 EPC maintained at the oral proceedings by the appellant concerns the amendment to claim 1 according to which the limestone filled Portland cement has a "limestone content of 20% to 25% by wt. in respect of cement, **excluding gypsum and additives**" (emphasis added by the board). The appellant read the exclusion of gypsum and additives as relating to the Portland cement composition itself. Noting that all of the examples of the patent in suit did contain gypsum, because the clinker was premixed with gypsum before grinding, the appellant concluded

that there was a discrepancy between claims and description, as well as lack of support of the claims.

In the opinion of the board it is clear that the passage in question in claim 1 refers to the way of calculating the amount of limestone. It is intended to mean, and will be understood so by the skilled person, that in calculating the amount of limestone, gypsum and any additives should not be counted. In case of doubts as to how to understand this exclusion, the description of the patent in suit confirms this construction since there is nothing in the patent in suit which would suggest that the cement compositions must be free of gypsum and additives. Therefore the appellant's interpretation of claim 1 is clearly in contradiction to the teaching of the patent in suit.

4. *Objection under Article 83 EPC*

- 4.1 This ground for opposition was invoked by the appellant for the first time in his letter dated 29 July 2003. The objection was not raised in the notice of opposition or later on before the opposition division, nor was it introduced by the opposition division on its own motion. The appellant's argument that an objection under Article 83 EPC had already been implicitly raised in the notice of opposition of opponent 02 on page 6, second paragraph, cannot be accepted for the following reasons: The statement in question appears in the context of the opponent's discussion of inventive step and contains essentially an argument on clarity. It raises the question whether the specific surface according to Blaine is defined above the value of approximately 6,000 Blaine, but does not question the

possibility of producing gypsum particles having such degree of fineness, thereby implying that parts of the patent in suit could not be reproduced by the skilled person. The objection under Article 83 EPC is thus to be considered a fresh ground of opposition.

Following the decision of the Enlarged Board of Appeal G 10/91 (item 18 of the reasons and point 3 of the opinion) (OJ 1993, 420), fresh grounds of opposition raised at the appeal stage can only be considered with the approval of the patentee. The respondent did not give such approval. However, the Enlarged Board of Appeal also observed under item 19 of the reasons that in case of amendments in the course of opposition or appeal proceedings, "such amendments are to be fully examined as to their compatibility with the requirements of the EPC (e.g. with regard to the provisions of Article 123(2) and (3) EPC)." According to decision T 0042/98 of 9 January 2001 (Reasons, point 5.1.), "this concerns the situation where an objection relating to a new ground of opposition was occasioned by an amendment of the claims during the appeal proceedings where the alleged problem causing the objection is found for the first time." Likewise the present board is of the opinion that if a new objection to the sufficiency of disclosure (Article 100(b) EPC) is raised against the amended claims and the objections does not arise out of the amendments, i.e. it is not occasioned by the amendment and could have been raised also against the granted claims, then approval of the patentee is needed in accordance with G 10/91. A different construction of item 19 of decision G 10/91 would not be in agreement with the essence of this decision since it would allow that a new ground of

opposition, such as sufficiency of disclosure, be considered without asking for the patentee's approval even in case of minor amendments having no influence on the sufficiency of disclosure. Therefore the question arises whether or not in the present case the objection raised by the appellant is occasioned by the amendments of claim 1.

Amended claim 1 is based on a combination of the features of claims 1, 2 and 7 as granted, with the upper limit of the Blaine surface of the clinker being restricted to 2,500 (paragraph [22]) of the patent in suit). The appellant argued that the introduction of these limitations into claim 1 would have changed the technical substance of the claimed subject matter to such an extent as to present a new technical teaching which justified the raising of new objections. The board cannot accept this argument for the following reasons: A range of 1,600 - 2,800 for the Blaine surface of the clinker particles is already stated in dependent claim 2 as granted **in combination** with the presently claimed range of 6,000 - 10,000 for the fineness of the limestone particles. Furthermore the amount of limestone introduced into claim 1 is already stated in granted claim 7 which makes reference not only to claim 1 but also to claim 2 as granted. Likewise no objection under Article 100(b) EPC was raised by the appellant against granted claims 1, 2 and 7, in the notice of opposition or during opposition proceedings. It is further observed that the preferred range of 1,600 to 2,500 covers a major part of the range 1,600 to 2,800 disclosed in granted claim 2 in combination with the presently claimed limestone fineness range and that the appellant's arguments in

support of the alleged insufficiency of disclosure of the claimed invention in fact apply analogously to granted claims 2 and 7, i.e. they do not result from the limitation to 2,500. It is therefore concluded that the amendments did not occasion the new ground of opposition under Article 83 EPC which is thus, in the absence of the patentee's approval, not to be considered by the board.

4.2 Irrespective of the above, the board also considers that, although the appellant formally argued under Article 83 EPC, most of the factual arguments presented by him are in their essence arguments concerning lack of inventive step (Article 56 EPC), as this can be inferred from section 6 below. As such, they will be considered in section 6 below.

5. *Novelty*

The subject matter of claim 1 is novel over the disclosure of the cited documents. As novelty was not disputed by the parties, further considerations in this respect are not necessary.

6. *Inventive step*

6.1 In the unanimous opinion of the parties and the board, the closest prior art is represented by document L1. Said document reports on investigations on limestone filled Portland cement (PKZ), at filler contents of 15% and 25% by wt. (see section 4). The Blaine fineness of the added limestone was varied between 1,000 and 10,000 cm²/g Blaine surface (see section 4.3.); however, the bulk of the limestone samples had a fineness between

4,930 and 6,970 Blaine (see Table 3). The clinkers had a specific fineness of between 2,700 (PZ 35 F-I) and 3,370 (PZ 45 F-A) Blaine (see Table 4). However, L1 does not disclose results on the relatively coarse cement PZ 35 F-I in combination with at least 20% of limestone having a fineness above 6,000 Blaine. PKZ obtained from various grades of PZ 35 F-A are disclosed in Table 4 as having a fineness of from 2,450 to 3,370 Blaine, and on average approximately 3,000 Blaine (see the sentence bridging pages 6 and 7. Figure 8 shows a decrease in standard compressive strength values upon addition of limestone relative to PZ 35 F-A; however, it is not stated which of the PZ 35 F-A cements reported in said Table 4 have been used. Addition of limestone of 6,970 Blaine (K 0) causes a decrease in compressive strength after 28 days (28d) of about 4% at 15 wt-% limestone addition and of about 23% at 25% addition (see section 4.2., Table 3 and Figure 8). The influence of the fineness of the limestone on 28 days strength is depicted in Figure 9 of L1 and turns out not to be marked over the full range of from 1,000 to 10,000 Blaine. The authors of L1 conclude that the generally observed loss in compressive strength caused by the addition of limestone to Portland cement (the so-called "dilution effect") can be partly compensated by a finer ground cement (see page 9, left hand column, first paragraph; page 10, left hand column, first paragraph; and Summary).

The subject matter of the patent in suit differs from this prior art in that high amounts of 20 to 25% of a fine limestone (6,000 to 10,000 Blaine) are combined with a coarser cement clinker (1,600 to 2,500 Blaine).

6.2 Starting from L1, the objective problem of the patent in suit is to provide a limestone filled Portland cement having a mechanical strength which is not substantially decreased with respect to that of the Portland cement without filler.

During oral proceedings before the board the appellant has formulated a broader technical problem which consists in providing Portland cement compositions whose properties do not deteriorate upon admixture of 20 - 25% limestone. He also criticized the formulation of the technical problem in the patent in suit which in his view contained inadmissible pointers to the solution.

The board does not share this opinion. The problem appearing in the patent in suit, paragraph 18, correctly states that under the conditions of the claim it has been found that the mechanical properties of the mixed cement are substantially the same as and sometimes even better than those of the Portland cement without filler. From the examples in the patent in suit (Table 3 and 4) it is apparent that the mechanical properties under consideration are the compressive strength after 2, 7 and 28 days, and the flow. The above formulation of the technical problem, as given by the board and the patentee, is therefore in line with the facts derived from the closest prior art document L1 and with the wording in the patent itself. The board is also convinced that there are no pointers towards the claimed solution in the formulation of the problem, given that it contains no mention of fineness of clinker or limestone and limestone content.

6.3 The board is also satisfied that the above defined technical problem is actually solved by the features of the independent claims, for the following reasons:

Tables 3 and 4 of the patent in suit provide data on clinkers CLK1, CLK3, CLK4 and CLK5 in accordance with the invention. Upon addition of 20% and 25% limestone, respectively, the standard mortar compressive strength (CS) after 28 days in N/mm² remains substantially the same for CLK1 and CLK3 (from 45.4 to 45.2 and from 51.2 to 51.4, respectively) at 20% addition levels. CS drops by approx. 10% for CLK3 when 25% limestone is added, while it remains constant or even improves slightly for CLK1 (46.3). Clinkers CLK4 and CLK5 exhibit a slight increase in compressive strength after 28 days, as evidenced by experimental data from Table 4. It was ascertained during opposition proceedings and accepted by the opponents that the figures of Table 4 (example 3) were obtained at a limestone addition level of 20%, although this value is not immediately derivable from the specification (see interlocutory decision, page 6). It follows that the experimental evidence in the patent in suit supports the patentee's claim that the technical problem is solved, a 10% decrease in CS in one single example (CLK3 at the highest level of limestone addition) still being acceptable and compatible with the formulation of the problem. Moreover, it should also be taken into account that the invention provides mortars having improved early compressive strength (i.e., measured after 2 and 7 days), an effect which is technically relevant as it allows a quicker recycling of the moulds in concrete fabrication. This has not been contested by the appellant.

The experimental evidence submitted by the appellant as an Annex to the letter dated 1 August 2002 is unsuited to reverse the above finding. While it is accepted that the 28d CS values reported by the appellant for PKZ1.1, and PKZ1.2 are lower than the CS values in the opposed patent, this might be due to the fact that different sources of clinkers have been used, as indicated by the respondent. It cannot be inferred therefrom that the 28d CS values of samples PKZ1.1 and PKZ1.2 would be substantially lower than those of the corresponding Portland cement without filler. It is significant that the experiments carried out by the appellant do not contain a reference sample consisting of the clinker used, without any addition of limestone. Therefore, a comparison of CS before and after limestone addition is impossible. It should be noted that the opposed patent does not aim at providing limestone filled Portland cements which are superior in absolute terms, but only which have strength performance not substantially decreased with respect to the unfilled cement. It follows therefrom that the appellant's experimental tests also do not show that a particular source of clinker is necessary to solve the technical problem or achieve the desired result.

6.4 It remains to be analyzed whether the claimed solution is obvious in the light of the cited prior art.

6.4.1 The appellant has referred in his oral submissions to documents L1, L4 and A12. The public availability of A12 was disputed by the respondent. In fact, A12 carries the date of 6 July 1994, together with the stamp of the library of the Verein Deutscher

Zementwerke. The respondent questioned the free admission of the public to said library. This question need not, however, be decided, because even assuming to the appellant's advantage that A12 was available to the public, the subject matter of claim 1 would still be considered to involve an inventive step for the reasons given hereinafter.

Document L1, which has been analyzed in some detail under point 6.1. above, discloses limestones as additives having a fineness of from 1,000 to 10,000 Blaine. The lowest value of Portland cement fineness reported in L1 (and L4) is PZ35 F-I having a surface of 2,450 Blaine. The claimed ranges are thus not outside the prior art's scope. The appellant referred to L4 (page 114, point 4.1.1.) to show that addition of up to 25% of limestone has been under consideration by the skilled person. The use of fine limestone was, in the appellant's view, suggested by L4 (page 116, left hand column, last sentence), stating that an increase of limestone fineness of from 3000 to 8000 cm²/g generally brings about a slight increase in 7d and 28d compressive strength. The appellant argued that there was no prejudice against such high amounts of limestone: A12 (page 74, point 7.1) reports that the consistence of PKZ was not affected by going from 15% to 25% limestone. A12 (page 9, second paragraph) states that the chemical resistance and the carbonation behaviour of PKZ containing up to 30% of limestone was not different from unfilled PZ, provided they have the same 28d strength. The appellant stressed that document A12 incorporated the disclosure of document L4 by way of reference (see page 117, reference [2]).

The board cannot follow this argumentation. The statement in L4 that finer limestone (3,000 to 8,000 cm²/g) generally brings about a slight increase in 7d and 28d compressive strength, is true for a (constant) limestone content of 15%, which is considerably below the claimed range. At higher levels of above 20%, loss of strength is reported which cannot be compensated for (page 116, left hand column, penultimate paragraph). Most significantly, however, there is no apparent recommendation that such compensation, if at all possible, could be effected by choosing coarser clinker. Rather to the contrary, both L1 and L4 clearly advocate the use of finer clinker, the more limestone is added.

Other arguments relating to chemical resistance and consistence are not relevant, as they do not relate to the technical problem of compressive strength. From A12, a statement was cited that PKZ was known to exhibit the same chemical resistance and carbonisation behaviour as Portland cement, at filler levels of up to 30%, provided they have the same 28d strength (page 9, middle paragraph). At page 74 it is reported that the consistence of the concrete is not changed by increasing limestone content from 15 to 25%. These arguments, however, are unrelated to the development of compressive strength of limestone filled Portland cement. In addition, it is observed that A12, like L1 and L4, teaches that the decrease in strength caused by limestone addition can in general be compensated for by using finer clinker (see page 74, bottom, and page 50, third paragraph). This goes directly against the teaching of the patent in suit.

6.4.2 In another line of argument, the appellant combined the disclosures of L1 and A13 to demonstrate obviousness. Still regarding L1 as closest prior art, the appellant argued that A13 suggested the concept of compensating any loss in strength, caused by limestone addition, by a finer clinker. He referred to the Figure in A13, page 102, left hand column, showing compressive strength (CS) in relationship to clinker fineness, from which it could have been inferred that even coarser clinker can lead to CS in the order of the 45 - 50 MPa, i.e., in the range of the patent in suit. Table 3 of A13 (page 102, right hand column) compares CS upon addition of limestone fillers and inert fillers. It is shown that for 20% limestone the strength ratio is approximately 1.1, that is, compared with an inert filler, limestone increases CS by about 10%. Finally, the Figure at A13, page 103, left hand column, exhibits 28d CS vs. clinker fineness, for limestone filler contents up to 30% and for two different clinker grades. It is seen that the decrease in CS is less pronounced for clinker H having the lowest Blaine surface (2,800 Blaine), compared with finer clinkers. This, in combination with the considerable energy saving reported in A13 (page 103, right hand column, paragraph four) would provide yet another incentive for the skilled person to combine limestone with clinker of moderate to low degree of fineness.

However, the board considers that these arguments, based on A13, are not convincing either, for the following reasons. The Figure at page 102 (right hand column, top) clearly shows a marked increase in strength for the finer clinkers; thus, while it is true that satisfactory strength could be obtained from

undiluted coarse cement clinkers, the skilled person would try to compensate for the dilution loss resulting from limestone addition using the finer, high strength cement clinkers. Only in comparison with completely inert filler can limestone increase the strength, as shown in Table 3 of A13; compared with pure cement, strength is always reduced. This finding is not in contradiction to the opinion prevailing in the art that limestone has a diluting effect. Finally, at page 103 of A13, left hand column, the paragraph between the Figures clearly states that "the more limestone added, the higher the clinker fineness should be", which is the opposite of what the appellant tries to read into the Figure above. As a matter of fact, the Figure shows that strength drops sharply for all clinker finenesses. Moreover, the coarsest clinker under investigation is 2,800 Blaine, well above the claimed limit of 2,500 Blaine.

6.4.3 Further arguments were advanced by the appellant based on document E10/part I, filed with letter of 29 July 2003. The appellant argued that the compressive strength of PKZ is, for a given limestone content, only dependent upon the particle size distribution of the clinker (page 169, Summary). E10/part I also reports that cements having the same specific surface, but narrower particle size distribution exhibit higher CS (page 170). Therefore, it would not be surprising that the clinkers used in the patent in suit, especially CLK3, which possess a particularly narrow particle size distribution, yield the high strength values as shown in the examples. It should be noted that CLK3 was obtained by sifting and discarding the fines below 10 μm . It was furthermore alleged to be common general

knowledge that the particle size distribution broadens with increasing fineness (letter of 29 July 2003, page 6).

The latter argument is, in the board's view, not in line with the factual disclosure of the available prior art. E10/part III, point 2, third paragraph, teaches the contrary. Document A14, top of page 87, states that the parameter n ("Steigungsmaß") in the RRSB diagram, which characterizes the shape of the particle size distribution, is to a great extent independent of the fineness of grinding. Co-grinding of limestone and clinker, according to other authors, leads to variations of n for both components. In any event, if the size distribution is affected by grinding, then in the opposite direction of what the appellant alleges.

The appellant has also failed otherwise to demonstrate that the particle size distribution was an essential feature of the claimed invention. In fact, the patent in suit contains experimental particle size distributions for the two clinkers CLK1 and CLK3, the particle size distribution for CLK3 being particularly narrow, and narrower than for CLK1. In the experiments, both clinkers show the desired effect of substantial maintenance of compressive strength. With the cement having the broader particle size distribution (CLK1) the 28d CS is even slightly improved with respect to the cement without limestone. In the absence of evidence to the contrary, it is credible in view of these results that the effect of substantial maintenance of compressive strength is achievable even with a broader particle size distribution of the clinker.

6.5 It results from the above that it was not obvious having regard to the cited art to compensate for the expected loss in compressive strength resulting from limestone additions of 20 to 25% by choosing a coarse clinker in the claimed range, in order to solve the problem posed. The same conclusion can be drawn with respect to the other documents cited in the opposition proceedings.

The subject matter of claim 1 is therefore based on an inventive step. The same applies to process claim 5 which refers back to claim 1. The dependent claims recite preferred embodiments of claims 1 and 5, respectively, and are likewise allowable.

7. A request to remit the case to the department of first instance for examination under Article 83 EPC was made subject to the condition that the board would allow the introduction of this new ground of opposition in the appeal proceedings. Since the board decided not to admit this new ground into the proceedings, the request for remittal is not to be considered.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

A. Wallrodt

M. Eberhard