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**Datasheet for the decision
of 26 June 2012**

Case Number: T 2295/09 - 3.2.07

Application Number: 02740513.3

Publication Number: 1383634

IPC: B28C 7/06, B28C 5/40

Language of the proceedings: EN

Title of invention:

Method for dosing reinforcing fibres for the manufacturing of fibre concrete and the used chain packing

Patentee:

N.V. BEKAERT S.A.

Opponent:

ArcelorMittal Bissen S.A.

Headword:

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Relevant legal provisions:

EPC Art. 56

Relevant legal provisions (EPC 1973):

-

Keyword:

"Consideration of document as further prior art - yes"
"Inventive step - no (both requests)"

Decisions cited:

-

Catchword:

-



Case Number: T 2295/09 - 3.2.07

D E C I S I O N
of the Technical Board of Appeal 3.2.07
of 26 June 2012

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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 2 October 2009
rejecting the opposition filed against European
patent No. 1383634 pursuant to Article 101(2)
EPC.

Composition of the Board:

Chairman: I. Beckedorf
Members: H.-P. Felgenhauer
K. Poalas

Summary of Facts and Submissions

I. The opponent (appellant) has filed an appeal against the decision of the opposition division rejecting the opposition against European patent No. 1 383 634.

It requested that the decision under appeal be set aside and that the patent be revoked.

The respondent (patent proprietor) requested that in setting aside the decision under appeal the patent be maintained in amended form on the basis of one of the sets of claims filed as first and second auxiliary requests with letter dated 22 May 2012.

II. Claim 1 of the first auxiliary request reads as follows:

"Method for dosing reinforcing fibres in a mixing silo during the manufacturing of fibre concrete, characterised in that said method for dosing comprises the step of supplying said reinforcing fibres to the concrete in a chain packing (1) of sacks (2) comprising said reinforcing fibres, whereby said sacks are added, as a whole, to the content of the mixing silo and whereby said sacks are made of material that can be disintegrated in mortar or concrete".

Claim 1 of the second auxiliary request reads as follows:

"Method for dosing reinforcing fibres in a mixing silo during the manufacturing of fibre concrete, characterised in that said method for dosing comprises the step of supplying said reinforcing fibres to the

concrete in a chain packing (1) of sacks (2) comprising said reinforcing fibres, whereby the length of said reinforcing fibres substantially corresponds with the width of a sack (2) and whereby the reinforcing fibres are situated widthwise said sacks, whereby said sacks are added, as a whole, to the content of the mixing silo and whereby said sacks are made of material that can be disintegrated in mortar or concrete".

III. The following documents are referred to

A1 WO-A-95/11861

A14 DE-U-77 02 730.

A14 has been filed by the appellant in the appeal proceedings with letter dated 30 December 2011.

IV. With the impugned decision the opposition has been rejected. The method of claim 1 as granted has been found to differ from the one disclosed in A1 by the feature according to which the fibres are supplied in a chain packing of sacks. Based on this distinguishing feature the problem solved by the method of claim 1 has been considered as facilitating the handling of sacks. The remaining prior art considered in the impugned decision has, considering A1 as closest prior art, not been found as contributing to the solution according to claim 1 being rendered obvious.

V. The submissions of the appellant relevant for the present decision can be summarised as follows:

- (a) A14 discloses a method for dosing reinforcing fibres comprising the step of supplying the reinforcing fibres to the concrete in a chain packing of sacks comprising the reinforcing fibres. In case the feature according to which the sacks are made of a material that can be disintegrated in mortar or concrete is considered as a feature distinguishing the method of claim 1 according to the main request over the method disclosed by A14 it is evident that the person skilled in the art would consider A1 starting from the method of A14. The reason being that according to A1 the sacks are made of a material that can be disintegrated in mortar or concrete and that it is evident that the use of such sacks in the chain packing of sacks according to A14 allows the sacks of the chain packing of sacks to be added, as a whole, to the content of the mixing silo. Consideration of A1 in combination of A14 thus leads in an obvious manner to the sacks of the chain packing of sacks according to A14 being added, as a whole, to the content of the mixing silo. Consequently the method of claim 1 according to the first auxiliary request does not involve an inventive step over the combination of A14 and A1.
- (b) The method of claim 1 according to the second auxiliary request further differs from the method of A14 by the features defining that the length of the reinforcing fibres substantially corresponds to the width of a sack and that the reinforcing fibres are situated widthwise in the sacks. This method is obvious in view of combined consideration of A14 and A1 for the reasons given

with respect to claim 1 of the first auxiliary request and taking additionally into account that it obviously forms part of the general technical knowledge that a bundle of fibres of the kind concerned is stiffer in the longitudinal direction of the fibres, due to the stiffness of the individual fibres in this direction, than in a direction transversal thereto. Thus in case the stiffness of the fibres in the first mentioned arrangement causes a disadvantage, concerning e.g. the transportation of a chain packing of sacks guided along a curved path, this disadvantage and its cause will readily be recognised. As it lies within general technical practice to change the direction of the fibres arranged in each sack from the longitudinal to a transverse direction to avoid the influence of the longitudinal stiffness of the fibres, the method of claim 1 of the second auxiliary request does not involve an inventive step in view of combined consideration of documents A14 and A1, taking additionally general technical knowledge and general technical practice into account.

VI. The submissions of the respondent relevant for the present decision can be summarised as follows:

- (a) Although A14 concerns a method for dosing reinforcing fibres comprising the step of supplying the reinforcing fibres to the concrete in a chain packing of sacks it neither discloses that the sacks are added, as a whole, to the content of the mixing silo nor that the sacks are made of a material that can be disintegrated in

mortar or concrete. Quite on the contrary A14 discloses that sacks are opened to allow removal of the fibres which are then added to the content of a mixing silo.

- (b) Starting from the method of A14 as closest prior art it needs to be examined whether the person skilled in the art would, not only could, consider the teaching of A1. Contrary to A14, according to which the fibres are removed from the sacks and then added to the content of a mixing silo, A1 discloses that the sacks are added, as a whole, to the content of a mixing silo. Thus A1 does not relate at all to the manner in which fibres are added to a mixing silo referred to in A14. Consequently, since there is no incentive resulting from combined consideration of A14 with A1 such a combination of documents cannot be considered in the examination of inventive step. Since neither A14 nor A1, each considered by itself, leads to the method of claim 1 according to the first auxiliary request in an obvious manner this method involves an inventive step.
- (c) The method of claim 1 according to the second auxiliary request requires in addition to the method of claim 1 according to the first auxiliary request that the length of the reinforcing fibres corresponds with the width of a sack and that the reinforcing fibres are situated widthwise in the sacks. Neither A1 nor A14 gives an indication concerning such an arrangement of the fibres in the sacks and consequently the chain packing of sacks, which has the advantage that the stiffness

the reinforcing fibres have in their longitudinal direction does not effect the chain of packing in its longitudinal and likewise feeding direction. The method of claim 1 according to the second auxiliary request thus involves an inventive step.

VII. In the annex to the summons to oral proceedings (in the following: the annex) the Board i.a. indicated that the method of A14 appears to comprise the step of supplying reinforcing fibres to the concrete in a chain packing of sacks comprising said reinforcing fibres and that it seems that the method of claim 1 of the then main request (claim 1 as granted) appears to differ from the method of A14 by the features that said sacks are added, as a whole, to the content of the mixing silo and that said sacks are made of material that can be disintegrated in mortar or concrete. It was further indicated that in case A14 is considered as constituting the closest prior art A1 might have to be taken into account in view of its disclosure with respect to sacks made of material that can be disintegrated in concrete.

VIII. Oral proceedings were held on 26 June 2012 during which the respondent withdrew its (main) request for the remittal of the case as filed with its letter dated 22 May 2012.

Reasons for the Decision

1. *Subject-matter of claim 1 according to the first and the second auxiliary request*

- 1.1 The set of claims according to the first auxiliary request differs from the set of claims as granted primarily in that claims 2 and 8 - 15 have been deleted (cf. letter of the respondent dated 22 May 2012; paragraph 3.1).

Claim 1 of this request corresponds to claim 1 as granted and differs therefrom only in that the last feature of the claim has been amended from "and whereby said sacks are made of material that can be disintegrated in said concrete" to "and whereby said sacks are made of material that can be disintegrated in mortar or concrete".

The claim 1 concerned thus defines a method for dosing reinforcing fibres in a mixing silo during the manufacturing of fibre concrete. This method comprises the step of supplying said reinforcing fibres to the concrete in a chain packing of sacks comprising said reinforcing fibres. The sacks are added, as a whole, to the content of the mixing silo and are made of material that can be disintegrated in mortar or concrete.

- 1.2 Claim 1 according to the second auxiliary request comprises in addition to the features of the first auxiliary request the features "whereby the length of said reinforcing fibres substantially corresponds with the width of a sack (2) and whereby the reinforcing fibres are situated widthwise said sacks".

- 1.2.1 By these additional features it is essentially defined in which direction the fibres are arranged and stay in the sacks of the chain packing of sacks.

As discussed during the oral proceedings it is common ground that by these additional features it is essentially defined that the fibres in their respective sacks are arranged and stay in a direction transverse to the longitudinal direction of the chain packing of sacks.

- 1.2.2 The effect of the arrangement of the fibres due to the additional features lies, as explained by the respondent during the oral proceedings, in the fact that due to the transverse arrangement of the fibres the stiffness they have in their longitudinal direction is of no concern with respect to the longitudinal direction of the chain packing of sacks, and thus in the direction in which the chain packing of sacks is normally fed.

If on the contrary fibres are arranged lengthwise in the sacks and thus parallel to the longitudinal direction of the chain packing of sacks the stiffness of the fibres could lead to problems during the handling of chain packings of sacks. Thus as pointed out by the respondent during the oral proceedings piercing of the sacks by ends of longitudinally arranged fibres could occur in case such sacks are e.g. guided along a curved path (i.e. over a roller) which cannot be followed closely by the shape of the fibres due to their stiffness in longitudinal direction.

2. *Document A14*

2.1 This document has been referred to by the appellant in its letter dated 30 December 2011. The respondent has not objected to this document being admitted. It only referred to this document in its letter dated 22 May 2012 (cf. paragraph 2.1) as a basis for its request for remittal, which has been withdrawn at the beginning of the oral proceedings. A14 is, as can be seen from the following, *prima facie relevant* and has been referred to in substance by both parties during the oral proceedings without contradiction.

2.2 As indicated in the annex (point 6.1) A14 discloses a method for dosing reinforcing fibres in a mixing silo during the manufacturing of fibre concrete, which comprises the step of supplying said reinforcing fibres to the concrete in a chain packing of sacks comprising said reinforcing fibres (cf. e.g. claim 1, the paragraph bridging pages 2 and 3; page 3, first complete paragraph, page 5, first complete paragraph; figures 1, 2).

2.3 According to A14 in order to facilitate the manner in which the fibres are added to the mixing silo the sacks can be provided with a tearing or a weakened line to facilitate removal of the fibres (page 3, first complete paragraph).

It is thus apparent, that as indicated by the respondent, the fibres are removed from the sacks prior to being added to a mixing silo.

In view of the result of the examination of inventive step given in the following the argument of the appellant, that the material of the sacks namely paper or carton (cf. the paragraph bridging pages 2 and 3) makes them suited to be added, as a whole, to the content of a mixing silo need not be further pursued.

- 2.4 Concerning the arrangement of the fibres in the sacks it has become common ground as a result of the discussion during the oral proceedings that the fibres are arranged lengthwise in the sacks and thus parallel to the longitudinal direction of the sacks and consequently also of the chain packing of sacks as it appears to be derivable considering figures 1 and 2.

3. *Document A1*

It remained undisputed that A1 discloses with respect to the method of claim 1 according to the first auxiliary request a method for dosing reinforcing fibres in a mixing silo which comprises the steps of supplying the reinforcing fibres in sacks, whereby the sacks are added, as a whole, to the content of the mixing silo and whereby the sacks are made of material that can be disintegrated in mortar or concrete (cf. e.g. page 8, lines 1 - 10; claim 1).

Thus the method of claim 1 according to the first auxiliary request differs from the one disclosed by A1 in that the reinforcing fibres are supplied in a chain packing of sacks comprising the reinforcing fibres. This assessment corresponds to the one given in this respect in the impugned decision (cf. reasons, no. 4.3).

4. *Inventive step concerning the method of claim 1 according to the first auxiliary request*
- 4.1 *Consideration of the method of A14 as closest prior art, distinguishing features, problem to be solved*
- 4.1.1 It is common ground that, based on the disclosure of A14 as indicated above (cf. points 2.2 and 2.3), the method according to claim 1 of the first auxiliary request differs from the one of A14 by the two features according to which
- (a) the sacks are added, as a whole, to the content of the mixing silo and whereby
 - (b) said sacks are made of material that can be disintegrated in mortar or concrete.
- It is common ground that feature (b) is a necessary condition for feature (a).
- 4.1.2 The effect of these distinguishing features is that, as indicated in the annex (point 6.1), the fibres are added to the content of the mixing silo in a different manner as compared to the method of A14 (cf. point 2.3 above).
- 4.1.3 Based on this effect the problem solved by the method of claim 1 starting from the one of A14 can thus be seen in the provision of a different method concerning the manner in which the fibres are added to the content of the mixing silo.

4.2 *Consideration of A1 as further prior art*

4.2.1 Starting from the method of A14 it has been indicated in the annex (cf. point 6.1) that it appears to be necessary to examine whether the solution of a technical problem based on the effect referred to above (i.e. the problem indicated above which has been referred to during the oral proceedings) has to be considered as being obvious or not. It has further been indicated that in this connection i.a. A1 might have to be taken into consideration.

4.2.2 According to the appellant this document needs to be considered in view of its disclosure with respect to sacks made of material that can be disintegrated in concrete (cf. point 3. above). Starting from the method of A14 as closest prior art consideration of A1 in its view furthermore leads in an obvious manner to the method of claim 1 according to the first auxiliary request.

4.2.3 According to the respondent starting from the method of A14 as closest prior art the teaching of A1 is not to be taken into consideration (cf. point VI.(b) above).

This argument is based on documents A14 and A1 disclosing two different approaches concerning the manner in which reinforcing fibres are added to the content of a mixing silo, namely after removal from the sacks as indicated in A14 (cf. point 2.3 above) or, as a whole, with the sacks as indicated in A1 (cf. point 3. above).

According to this argument it may be possible to use the manner in which reinforcing fibres are added to the content of a mixing silo known from A1 in a method according to which reinforcing fibres are supplied in a chain packing of sacks as known from A14. This mere possibility, however, has to be disregarded in the examination of inventive step since no reason or incentive for following the approach outlined above is apparent. The person skilled in the art which starts from the method of A14 as closest prior art thus could consider the method of dosing according to A1 but would not do so.

4.2.4 The Board finds the argumentation of the appellant more convincing that an incentive for considering the approach of A1 starting from the method of A14 as closest prior art is given by the problem to be solved in view of A14, namely to provide a different method concerning the manner in which the fibres are added to the content of the mixing silo (cf. point 4.1.3 above).

4.3 *Obviousness*

4.3.1 The Board furthermore is convinced of the argumentation of the appellant that in case the method of A14 is considered as closest prior art consideration of A1 renders the method of claim 1 according to the first auxiliary request obvious. The reason being that A1 exactly discloses the approach according to distinguishing features (a) and (b) (cf. points 3. and 4.1.1 above) which can, without inventive effort being required, be implemented in the method of A14.

4.3.2 Concerning this line of reasoning the respondent argued that the use of the sacks known from A1 in a chain packing of sacks as known from A14 requires further, inventive effort to overcome difficulties arising from the implementation of sacks as disclosed in A1 in the chain packing of sacks as known from A14. Since having been asked during the oral proceedings, the respondent was unable to refer to features of claim 1 according to the first auxiliary request by which such difficulties were overcome this argument of the respondent had to be disregarded.

4.3.3 Consequently, it has to be concluded that starting from the method of A14 there is an incentive resulting in the consideration of the method of A1 as further prior art and that the method of claim 1 of the first auxiliary request lacks inventive step (Article 56 EPC) over the combined consideration of A14 and A1.

5. *Inventive step concerning the method of claim 1 according to the second auxiliary request*

5.1 *Consideration of the method of A14 as closest prior art, distinguishing features, problem to be solved*

5.1.1 As indicated above (cf. point 1.2) claim 1 according to the second auxiliary request comprises in addition to the features of claim 1 of the first auxiliary request the features according to which

(c) the length of the reinforcing fibres substantially corresponds with the width of a sack and whereby

(d) the reinforcing fibres are situated widthwise said sacks.

It is common ground that these features have in comparison with the method of A14 to be considered as further distinguishing features (cf. points 1.2.1 and 2.4).

Features (c) and (d) essentially define in which direction the fibres remain arranged in the sacks of the chain packing of sacks (cf. point 1.2.1 above) leading to the effect that the stiffness of the fibres in their longitudinal direction is of no concern as indicated above (cf. point 1.2.2)

5.1.2 It is apparent that, as indicated during the oral proceedings, the additional distinguishing features (c) and (d) do not relate to the distinguishing features (a) and (b) considered with respect to the method of claim 1 according to the first auxiliary request.

5.1.3 Concerning the examination of inventive step it thus needs, as indicated during the oral proceedings, to be determined which problem is solved by the additional distinguishing features (c) and (d), taking into account that in view of the result of the examination of inventive step with regard to the method of claim 1 according to the first auxiliary request only these features need to be considered as possibly leading to subject-matter involving inventive step.

5.1.4 *Obviousness*

As indicated during the oral proceedings the Board is of the opinion that in case negative impact of the fibres on the sacks occurs, this would be immediately apparent, i.e. by the sacks getting pierced by the ends of fibres or not following properly curved feeding path's as referred to by the respondent. It is thus apparent that the problem formulated above needs to be solved.

Concerning the solution to this problem it has further been indicated by the Board during the oral proceedings that in case the arrangement of the fibres lengthwise in the sacks and thus parallel to the longitudinal direction of the chain packing of sacks is the cause for such a negative impact this cause is also immediately apparent considering general technical knowledge and practice for which, as indicated during the oral proceedings, under the given circumstances, in which cause and effect are readily observable, no proof is required. In other words in case sacks get pierced by the ends of fibres or do not follow properly their feeding paths it is evident that the reinforcing fibres are stiff enough to allow these effects (penetration of the material the sacks are made of or maintaining a shape deviating from the one of a feeding path) to occur.

Under such circumstances it is, as likewise indicated during the oral proceedings, evident considering general technical practice that the problem can be solved by an arrangement of the fibres such that their stiffness in longitudinal direction can no longer lead

to the sacks being damaged or deviating in shape from a given curved feeding path, that is an arrangement of the reinforcing fibres such that their longitudinal axis are no longer parallel to the longitudinal axis of the chain packing of sacks and thus in a transversal direction.

Since this direction corresponds to the one defined by the additional features (c) and (d) the solution according to claim 1 of the second auxiliary request is obvious in view of documents A14 and A4 considering furthermore general technical knowledge and general technical practice.

This holds true considering the argument of the respondent that no indication is given in A1 or A14 with respect to feature (c) according to which the length of the reinforcing fibres substantially corresponds with the width of a sack. The Board considers the opinion of the appellant to be correct that alone for the reason to keep the reinforcing fibres in a given arrangement in a sack, an aim which is clearly stated in A14 (cf. e.g. the second paragraph of page 4 and claim 1 in which it is referred to lengthwise arranged fibres), irrespective of their direction with respect to the longitudinal axis of a chain packing of sacks the reinforcing fibres will be arranged in sacks such that their lengths correspond to the dimension of the sacks extending in parallel thereto.

The method of claim 1 according to the second auxiliary request thus does not involve an inventive step (Article 56 EPC).

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:

G. Nachtigall

I. Beckedorf