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**Datasheet for the decision
of 8 April 2011**

Case Number: T 1067/09 - 3.2.05

Application Number: 03720743.8

Publication Number: WO 03/093713

IPC: F16L 55/162

Language of the proceedings: EN

Title of invention:
Duct seepage reduction

Applicant:
Brinker Technology Limited

Headword:
-

Relevant legal provisions:
EPC Art. 123(2)

Relevant legal provisions (EPC 1973):
-

Keyword:
"Added subject-matter - yes (all requests)"

Decisions cited:
-

Catchword:
-



Case Number: T 1067/09 - 3.2.05

D E C I S I O N
of the Technical Board of Appeal 3.2.05
of 8 April 2011

Appellant:
(Applicant)

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Decision under appeal:

Decision of the Examining Division of the
European Patent Office posted 17 December 2008
refusing European patent application
No. 03720743.8 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: H. Schram
Members: S. Bridge
M. J. Vogel

Summary of Facts and Submissions

I. The appellant lodged an appeal against the decision of the Examining Division refusing European patent application No. 03 720 743.8.

II. Oral proceedings were held before the Board of Appeal on 8 April 2011.

The appellant requested that the decision under appeal be set aside and a patent be granted on the basis of any one of the sets of claims filed on 8 March 2011 as main request or auxiliary requests A, B, C and D.

III. Independent claim 1 according to the main request reads as follows:

"1. A method for reducing seepage through a leak in a liquid transporting duct, wherein the leak is defined in terms of its maximum dimension X_L and its maximum width in an orthogonal direction Y_L and the effective size of the leak is given by:-

$$S_L = (X_L^2 + Y_L^2)^{1/2} \dots \dots \dots 1)$$

the method comprising:-

a) selecting sealing elements to be substantially planar and to have an effective size S_E suitable for partially covering the leak, wherein said effective size is less than the effective size S_L of the leak, where the effective size S_E of the sealing element is given by:

$$S_E = a^2 + b^2 + c^2)^{1/2} \dots \dots \dots 2)$$

and a, b and c are the dimensions of the sealing elements in mutually orthogonal directions;

b) introducing a plurality of the selected sealing elements into the liquid being transported within the duct wherein, due to the selection of the effective size SE' a plural number of the selected sealing elements are drawn by the pressure differential at the locality of the leak to move over and build up over the leak, to be held to the internal surface of the duct wall over the leak by said pressure differential, to thereby reduce the size of the leak."

IV. Claim 1 according to auxiliary request A reads as follows:

"1. A method for reducing seepage through a leak in a liquid transporting duct, wherein the leak is defined in terms of its maximum dimension X_L and its maximum width in an orthogonal direction Y_L and the effective size of the leak is given by:-

$$S_L = (X_L^2 + Y_L^2)^{1/2} \dots \dots \dots 1)$$

the method comprising:-

a) selecting sealing elements to be substantially planar and to have an effective size S_E suitable for straddling a portion of the leak, wherein said effective size is less than the effective size S_L of the leak, where the effective size S_E of the sealing element given by:

$$S_E = (a^2 + b^2 + c^2)^{1/2} \dots \dots \dots 2)$$

and a, b and c are the dimensions of the sealing elements in mutually orthogonal directions;

b) introducing a plurality of the selected sealing elements into the liquid being transported within the duct wherein, due to the selection of the effective size S_E , a plural number of the selected sealing elements are drawn by the pressure differential at the

locality of the leak to move over and build up over the leak, such that each sealing element straddles a portion of the leak, to be held to the internal surface of the duct wall over the leak by said pressure differential, to thereby reduce the size of the leak."

V. Independent claim 1 according to auxiliary request B reads as follows:

"1. A method for reducing seepage through a leak in a duct transporting water or oil, wherein the leak is defined in terms of its maximum dimension X_L and its maximum width in an orthogonal direction Y_L and the effective size of the leak is given by:-

$$S_L = (X_L^2 + Y_L^2)^{1/2} \dots \dots \dots 1)$$

the method comprising:-

a) selecting sealing elements to be suitable for being held to the wall of the duct over the leak by the pressure differential caused by the leak, wherein the effective size S_E of the sealing element is less than the effective size S_L of the leak, and S_E is given by:

$$S_E = (a^2 + b^2 + c^2)^{1/2} \dots \dots \dots 2)$$

and a, b and c are the dimensions of the sealing elements in mutually orthogonal directions;

b) introducing a plurality of the selected sealing elements into the fluid being transported within the duct such that a plural number of the selected sealing elements are drawn by the pressure differential at the locality of the leak to move over and build up over the leak, to be held to the wall of the duct over the leak by the pressure differential caused by the leak."

VI. Claim 1 according to auxiliary request C differs from claim 1 according to the auxiliary request B in that in

line 2 the expression "a duct transporting water or oil" is replaced by the expression "a duct transporting water or crude oil".

VII. Independent claim 1 according to auxiliary request D reads as follows:

"1. A method for reducing seepage through a leak in a duct transporting water or oil,

the method comprising:-

a) selecting substantially planar sealing elements such that each single sealing element will not seal the leak, and to be suitable for being held to the wall of the duct over the leak by the pressure differential caused by the leak

b) introducing a plurality of the selected sealing elements into the fluid being transported within the duct such that a plural number of the selected sealing elements are drawn by the pressure differential at the locality of the leak to move over and build up over the leak, to be held to the wall of the duct over the leak by the pressure differential caused by the leak."

VIII. The arguments of the appellant in the written and oral proceedings can be summarised as follows:

Main request and auxiliary requests A and D

The comma after the word "planar" in the sentence "For example, the sealing elements may be substantially planar, rectangular elements, substantially spherical, for example beads, or irregularly shaped" (application as published, page 8, lines 10 to 13) implies that the sealing elements may be planar without necessarily

being rectangular. Substantially planar sealing elements therefore have a basis in the application documents as filed.

The specification as filed further discloses that the sealing element moves over and is held over the leak and that a single sealing element does not seal or fully cover the leak (application as published, page 3, lines 12 to 17; page 4, line 3; page 9, lines 1 to 5; page 14, lines 21 to 24). Figures 2 and 3 also show that the dimensions of the sealing elements are such that they can only partially cover the leak, irrespective of their orientation with respect to the leak. By implication, the sealing elements must be of a size suitable for partially covering the leak.

Therefore, the subject-matter of claim 1 of respectively the main request and auxiliary requests A and D meets the requirement of Article 123(2) EPC.

Auxiliary requests B and C

Page 8, line 33 to page 9, line 2 (application as published) provides a basis for step a) "*selecting sealing elements to be suitable for being held to the wall of the duct over the leak by the pressure differential caused by the leak*" of claim 1 according to auxiliary requests B and C.

The subject-matter of claim 1 respectively of auxiliary requests B and C thus meets the requirement of Article 123(2) EPC.

Reasons for the Decision

1. Main Request and Auxiliary Requests A and D
 - 1.1 Step a) of claim 1 involves "*selecting sealing elements to be substantially planar*" (main request and auxiliary request A), respectively "*selecting substantially planar sealing elements*" (auxiliary request D).

Whenever the application as filed refers to the sealing elements as planar these are also described as being rectangular or square: "*Alternatively, in the case of a thin planar square sealing element ...*", "*(for example, substantially rectangular planar elements)*", "*For example, the sealing elements may be substantially planar, rectangular elements, substantially spherical, for example beads, or irregularly shaped*", "*In this example, each sealing element 3 comprises a substantially rectangular planar substrate of plastics material ...*" or "*... wherein the sealing elements are substantially planar rectangular elements*" (application as published, page 5, lines 6 to 8; page 7, lines 5 to 6; page 8, lines 10 to 13; page 15, line 7; claim 14).

It was argued on behalf of the appellant, that the comma after the word "*planar*" in the sentence "*For example, the sealing elements may be substantially planar, rectangular elements, substantially spherical, for example beads, or irregularly shaped*" (application as published, page 8, lines 10 to 13) implies that the sealing elements may be planar without necessarily being rectangular. The Board cannot accept this argument, because the word "*elements*" is only repeated

after the term "*rectangular*" and not also after the word "*planar*". The skilled person would therefore consider the expression "*substantially planar, rectangular elements*" as forming a single group, such that the above sentence can only be understood to mean that sealing elements which are both substantially planar and rectangular are an alternative to substantially spherical elements or irregularly shaped elements.

In consequence, the step of claim 1 of "*selecting sealing elements to be substantially planar*" (main request and auxiliary request A), respectively of "*selecting substantially planar sealing elements*" (auxiliary request D) extends beyond the content of the application as filed so that the requirement of Article 123(2) EPC is not met.

- 1.2 Step a) of claim 1 (main request) specifies selecting the sealing elements according to two criteria, namely, "*to have an effective size S_E suitable for partially covering the leak*" and to have an effective size S_E which is "*less than the effective size S_L of the leak*".

The application as filed repeatedly discloses the criterion that the effective size S_E of the sealing element should be less than the effective size S_L of the leak (application as published, page 3, lines 9 to 17 and 27 to 29; page 4, lines 8 to 11; page 5, lines 27 to 32; page 6, lines 28 to 33; page 12, lines 4 to 21; page 14, lines 12 to 21). The application as filed also describes the events in the duct when the sealing elements pass close to a leak (page 3, lines 29 to page 4 line 3; page 8, last line to page 9, line 2;

page 14, lines 21 to 24; page 16, lines 2 to 4), but does not contain any indication concerning a selection criterion additional to the criterion $S_E < S_L$. The mere description of the manner in which the sealing elements gradually stem a leak does not constitute an implicit disclosure of a further selection criterion.

Figures 1 to 3 are schematic views which illustrate examples of the invention (page 12, line 25 to page 13, line 2) and are not to scale (page 14, lines 25 and 26). Therefore, no general teaching can be derived from the apparent relative dimensions of the sealing elements and leaks as shown in the figures.

The claimed selection based on an additional condition such as the sealing elements also being "*suitable for partially covering the leak*" therefore adds subject-matter contrary to the requirement of Article 123(2) EPC.

2. Auxiliary Requests B and C

- 2.1 Step a) of claim 1 (auxiliary requests B and C) again specifies selecting the sealing elements according to an additional criterion, namely, "*to be suitable for being held ... over the leak ...*".

Although the actual wording of the second criteria differs from that used in the main request, the situation is the same as in point 1.2 above.

The claimed selection based on an additional condition again adds subject-matter contrary to the requirement of Article 123(2) EPC.

3. Therefore, the respective subject-matter of claim 1 of all requests does not meet the requirement of Article 123(2) EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

D. Meyfarth

H. Schram