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Datasheet for the decision of 21 September 2017

Case Number: T 1043/13 - 3.3.09

Application Number: 07834672.3

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IPC: B32B1/08, F16L58/10

Language of the proceedings: EN

Title of invention:
PROCESS FOR PROVIDING AN EXTENDED TUBULAR ARTICLE WITH A CORROSION PROTECTION COATING SYSTEM HAVING SELF-REPAIRING PROPERTIES

Patent Proprietor:
Frans Nooren Afdichtingssystemen B.V.

Opponent:
ShawCor Ltd.

Headword:

Relevant legal provisions:
EPC Art. 54, 56, 114
RPBA Art. 12

Keyword:
Late-filed document - admitted (yes)
Main request - inventive step (no)
Auxiliary request 2 - inventive step (no)
Auxiliary request 3 - inventive step (no)

Decisions cited:
G 0007/93, T 1002/92

Catchword:

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Case Number: T 1043/13 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 21 September 2017

Appellant: (Patent Proprietor)	Frans Nooren Afdichtingssystemen B.V. Gasselterstraat 20 9503 JB Stadskanaal (NL)
Representative:	Nederlandsch Octrooibureau P.O. Box 29720 2502 LS The Hague (NL)
Respondent: (Opponent)	ShawCor Ltd. 25 Bethridge Road Toronto, Ontario M9W 1M7 (CA)
Representative:	Stolmár & Partner Patentanwälte PartG mbB Blumenstraße 17 80331 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 28 February 2013 revoking European patent No. 2081761 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	W. Sieber
Members:	N. Perakis
	D. Prietzel-Funk

Summary of Facts and Submissions

I. This decision concerns the appeal filed by the patent proprietor against the decision of the opposition division revoking European patent 2 081 761.

Independent claim 1 as granted reads as follows:

"1. A process for providing an extended tubular article or one or more sections of the extended tubular article with a corrosion protecting system, wherein (a) a layer of an adhesive composition is applied to the surface of the extended tubular article or the one or more sections of the extended tubular article, and (b) a corrosion protecting layer is applied to the layer of the adhesive composition, the adhesive composition comprising a polyolefin blend, wherein the polyolefin blend comprises 30% to 100% by weight of a polyisobutene and 0% to 70% by weight of an olefin polymer, based on the total weight of the polyolefin blend, wherein said polyisobutene is characterised by:

(A) a glass transition temperature of lower than -40°C; and
(B) a number average molecular weight Mn of 1300 to 1.000.000."

II. With the notice of opposition the opponent requested that the patent be revoked in its entirety on the grounds of Article 100(a) (lack of novelty and lack of inventive step) and (b) EPC. The relevant documents cited in the opposition proceedings were:

D3 : WO 2005/005528 (corresponds to US 2006175578 and EP-B 1 644 433),

D17: EP-B 0 751 198 B, and
D17a: US 5 898 044 A.

In the notice of opposition it was stated that D17 - which was later designated as D17a - corresponds to US 5 898 044 A. However D17a as such was neither filed nor relied upon in the notice of opposition. Actually the opponent cited it against the novelty of the subject-matter of claim 1 as granted for the first time in its letter dated 29 November 2012 (see pages 13 and 14). During the oral proceedings before the opposition division the patent proprietor requested that D17a not be admitted into the proceedings on the ground that it was late-filed and not *prima facie* relevant. As apparent from the minutes, the relevance of D17a had been discussed by the parties in particular in relation to the novelty of the subject-matter of claim 1 of the main request (granted claims) and auxiliary requests 1 and 2, and in relation to the inventive step of the subject-matter of claim 1 of auxiliary request 3.

According to the decision of the opposition division:

- D17a was admitted into the proceedings,
- the subject-matter of claim 1 of the main request (granted claims) and auxiliary requests 1 and 2 lacked novelty over D17a, and
- the subject-matter of claim 1 of auxiliary request 3 lacked inventive step in view of D17a.

III. The patent proprietor (in the following the appellant) appealed the decision of the opposition division and requested that it be set aside and that the patent be maintained as granted (main request). Auxiliary requests 2 and 3 before the opposition division were re-submitted with the statement setting out the grounds

of appeal. The appellant did not submit an auxiliary request 1.

Claim 1 of auxiliary request 2 differs from claim 1 of the main request in that the following features have been added at the end of the claim:

"...; and wherein the corrosion protecting layer is heat shrinkable; or
wherein the corrosion protecting layer comprises a polyisobutene having a glass transition temperature of less than -20°C and a surface tension of less than 40 mN/m at 20°C and a filler material".

Claim 1 of auxiliary request 3 differs from claim 1 of the main request in that the following features have been added at the end of the claim:

"wherein the corrosion protecting layer comprises a polyisobutene having a glass transition temperature of less than -20°C and a surface tension of less than 40 mN/m at 20°C and a filler material".

IV. The opponent/respondent submitted observations on the appeal with its letter of 20 December 2013. With its letter of 24 October 2014 it withdrew its opposition and therefore is no longer a party to these proceedings.

V. On 29 June 2017, the board issued a communication in preparation for the scheduled oral proceedings.

VI. With letters of 21 August and 19 September 2017, the appellant commented on the communication of the board. With the latter it also informed the board that it would not attend the oral proceedings and requested

that the board take a decision based on the evidence and arguments on file.

VII. On 21 September 2017 oral proceedings took place before the board, where the appellant, as announced, was not represented.

VIII. The arguments put forward by the appellant in its written submissions and relevant to the present decision may be summarised as follows:

- D17a should not be admitted into the proceedings since it was late-filed and not *prima facie* relevant. Furthermore, it had been added to the proceedings by the opposition division on its own.

- The subject-matter of claim 1 of the main request was novel over D17a. Multiple selections were necessary from the disclosure of D17a in order to arrive at the claimed subject-matter. Furthermore, D17a did not disclose that the adhesive layer involved a polyolefin blend, such as a blend of polyisobutenes, or that the shrink sleeve had anti-corrosion properties. Contrary to the adhesive composition of claim 1, the adhesive layer of D17a comprised fillers.

- The subject-matter of claim 1 of the main request involved an inventive step. The objective technical problem was the provision of an adhesive composition for heat-shrinkable sleeves with corrosion-protective properties which had (1) good adhesive properties between the pipe and the corrosion protective layer, (2) high compatibility with the pipe as well as the corrosion-protective layer and (3) flexibility so that different types

of corrosion-protective layers could be used. The solution was not obvious over D17a which did not address the problems of insufficient adhesion between pipelines and a corrosion-protective coating layer or the need for high compatibility and flexibility. Furthermore, D17a did not disclose that a preferred apolar, non-setting, fluid polymer was polyisobutene having an M_n of 1 300 to 1 000 000.

- The subject-matter of claim 1 of auxiliary request 2 was novel and inventive over D17a for the reasons outlined for the subject-matter of claim 1 of the main request.

- The subject-matter of claim 1 of auxiliary request 3 was novel and involved an inventive step even if D17a were considered the closest prior art. D17a disclosed a single layer of a preparation which had both adhesive and corrosion-protective features.
  - If one took the process of D17a wherein a single layer of the preparation and comprising fillers was applied to the surface of the tubular article as closest prior art, the distinguishing feature was that this process was replaced by a sequential process wherein a first adhesive layer comprising a polyolefin blend was applied onto the article before the preparation comprising fillers was applied onto the first adhesive layer. In this case the objective technical problem was to provide a process for applying an anti-corrosion system to a tubular article having improved adhesion to the article.
  - If one took the process of D17a wherein a single layer of the preparation not comprising fillers was applied to the surface of the tubular article

as closest prior art, the distinguishing technical feature was that this process was replaced by a sequential process wherein:
(a) a first adhesive layer comprising a polyolefin blend, wherein the polyolefin blend comprises 30% to 100% by weight of a polyisobutene and 0% to 70% by weight of an olefin polymer, is applied onto the article; and
(b) a second corrosion-protective layer comprising a polyisobutene and a filler is applied onto the first adhesive layer.
In this case the objective technical problem was to provide a process for the manufacture of a cheaper anti-corrosion system without a reduction in the adhesion strength to the article.

- However, neither D17a nor any other cited prior art document taught or suggested the use of two different layers sequentially applied both comprising polyisobutylene. Hence, the subject-matter of claim 1 of auxiliary request 3 involved an inventive step.

IX. The appellant requested that the decision under appeal be set aside and that the patent be maintained as granted or that the patent be maintained on the basis of the claims of any of auxiliary requests 2 to 3 submitted with the statement setting out the grounds of appeal. The appellant also requested that D17a be excluded from the appeal proceedings.

Reasons for the Decision

1. Admittance of D17a

D17a, a US patent specification granted to the owner of the patent in suit, was merely mentioned in the notice of opposition as corresponding to D17, but was neither filed nor relied upon. A novelty objection against the subject-matter of claim 1 as granted over D17a was raised by the opponent for the first time in its letter of 29 November 2012 (see pages 13 and 14). The relevance of D17a to the patent proprietor's requests and its admittance into the proceedings were then discussed with the parties during the oral proceedings before the opposition division. Thus, contrary to the assertion of the appellant, the opposition division has not added D17a to the proceedings of its own motion. In this context, it is not relevant that the opponent has never filed this document but only mentioned it. The patent proprietor, as admitted in the statement setting out the grounds of appeal, had knowledge of the existence of D17a and was apparently familiar with its content. Indeed both the patent in suit and D17a have the same inventor and the patent itself cites D17a (see paragraphs [0012] and [0034]). Only after having discussed the *prima facie* relevance of D17a the opposition division decided during the oral proceedings to admit it into the proceedings.

Pursuant to Article 114 EPC, it was at the discretion of the opposition division whether or not to admit D17a into the proceedings. In the event of such a discretionary decision being contested in appeal, the board of appeal should overrule the way in which the opposition division has exercised its discretion only if it comes to the conclusion either that this discretion was not exercised in accordance with the right principles or that it was exercised in an unreasonable way (G 7/93; point 2.6). In the present case, the opposition division admitted D17a into the

proceedings in view of its *prima facie* relevance. One of the principles to be applied as regards the admittance of late-filed documents is indeed the "relevance" criterion, i.e. whether they are *prima facie* prejudicial to the maintenance of the patent in suit (see for example T 1002/92; point 3.3). Hence, the opposition division applied the correct principles in a reasonable way. This was noted in the board's communication and the appellant did not submit any argument why the opposition division acted in a wrong manner in this respect. Thus the board does not see any reason to reverse the decision of the opposition division with the conclusion that D17a is part of the present appeal proceedings.

2. The main request

2.1 Interpretation of claim 1

2.1.1 Claim 1 of the main request relates to a process wherein in step (a) a layer of an adhesive composition is applied to the surface of the extended tubular article or the one or more sections of the extended tubular article, and in step (b) a corrosion-protecting layer is applied to the layer of the adhesive composition. More layers may be present, see for examples paragraphs [0032], [0042] and [0043] and claims 6, 7, 11 and 13.

2.1.2 The adhesive composition applied in step (a) comprises a polyolefin blend wherein the polyolefin **blend** comprises 30% to **100%** by weight **of a polyisobutene** and 0% to 70% by weight of an olefin polymer based on the total weight of the polyolefin blend. Thus, the polyolefin blend in the composition may be constituted

by 100% by weight of a polyisobutene. In this case, the blend would, strictly speaking, no longer be a blend.

2.1.3 This interpretation of the claim is, according to the appellant, not correct. Since the claim refers to a polyolefin blend, this can only mean that, if the polyolefin blend comprises 100% by weight of a polyisobutene, the polyisobutene is actually a blend of polyisobutenes.

The board disagrees. The claim refers to a polyolefin blend of two different components, namely of a polyisobutene and an olefin polymer, which according to the normal use of language requires the presence of these two components. However, the further indication of the quantity of the components allows for the absence of one of the components and therefore creates an ambiguity. One may wonder whether in this case the polyolefin blend can indeed be **a single** polyisobutene only (and the term "blend" is simply wrong in this specific case) or the blend must contain different polyisobutenes, as argued by the appellant.

Paragraphs [0014] and [0016] of the patent specification relied upon by the appellant cannot support its view either. The first sentence of paragraph [0014] merely states: "The present invention provides an adhesive composition based on one or more particular polyisobutenes." A similar statement can be found in paragraph [0016]: "The adhesive composition comprises a single polyisobutene or a blend of different polyisobutenes." Both passages do not preclude one of the above interpretations.

2.1.4 Under these circumstances the term "blend" has to be interpreted broadly so that it encompasses a "blend" which is a single polyisobutylene.

2.2 Novelty

2.2.1 The opposition division held that the subject-matter of claim 1 as granted lacked novelty over D17a.

2.2.2 D17a concerns the use of a preparation for insulation/ sealing and coating underground objects which are in contact with moisture or water, for example underground steel manhole covers, underground tanks, lines, pipes and cable sleeves (column 1, lines 6-14).

The preparation adheres to every type of surface, for example surfaces comprising concrete, stone, glass, synthetic materials, such as plastics, and the like (column 5, lines 10-13). It is therefore suitable for sealing cable sleeves, underground lines and pipes and also tanks and manhole covers (column 5, lines 24-26). However, the preparation has not only adhesive properties but is also suitable for providing protection against mechanical effects and as an anti-corrosion agent (column 5, lines 31-45).

In one embodiment the preparation is used in combination with a shrink sleeve around welded joints of two joined tubes. In this application, the preparation is applied to the welded joint, and the shrink sleeve is then moved over the welded joint so that between the joint and the sleeve a layer of the preparation is present. After heating the shrink sleeve a completely sealed seal is obtained and the welded joint is completely protected from moisture, dust and gases. As set out in paragraph [0002] of the patent

specification, different systems have been used in the technical field of corrosion protection, including shrink sleeves. Hence, the shrink sleeve employed in the above-mentioned embodiment of D17a will provide at least some degree of corrosion protection, equivalent to the layer applied in step (b) of claim 1.

Thus D17a discloses the two steps of claim 1 of the main request.

2.2.3 Regarding the definition of the adhesive preparation, D17a discloses:

"It is advantageous to use preparations which comprise apolar, non-setting, fluid polymers which have a glass transition temperature lower than -60°C and a surface tension of less than 40 mN/m at 20°C. Polymers of this type are likewise known in the prior art and comprise, for example, polyalkanedienes, polyalkenes and polysiloxanes. ... An example of a suitable polyalkene is polyisobutene. ... Polyisobutene and poly(oxydimethylsilylene) are preferably used" (column 3, lines 5-14).

"The molecular weight of suitable polymers can vary over a wide range. The molecular weight of, for example, suitable polyalkenes can be, for example, 500 to 100 000" (column 3, lines 19-21).

Furthermore, the preparation can contain one or more fillers (column 3, line 55 to column 4, line 20).

2.2.4 In order to arrive at the subject-matter of claim 1, the skilled reader would have to select polyisobutene out of the series of polymers disclosed in D17a, and then an appropriate molecular weight. In the context of

the latter, it is further noted that D17a refers to a molecular weight in general and not to a number average molecular weight M_n as required by claim 1.

On the basis of these selections, the board acknowledges novelty of the subject-matter of claim 1 over D17a.

2.3 Inventive step

2.3.1 As the opposition division, the board considers that D17a is the closest prior art. As set out above, D17a does not disclose the features of claim 1 in combination. However, it discloses polyisobutene as a preferred polymer to be used in the preparation of the adhesive composition and that the molecular weight for polyalkenes, i.e. polyisobutene, can be from 500 to 100 000. Although D17a does not specify whether the molecular weight is a weight average molecular weight M_w or a number average molecular weight M_n (these are the two parameters usually used for polymers), the opposition division held in its decision that there was inevitably a considerable overlap between the range of D17a and the one claimed regardless of whether D17a related to M_n or M_w. The board raised the issue of the meaning of the molecular weight in D17a in its communication but the appellant did not comment. More importantly, the appellant did not contest the opposition division's interpretation of the molecular weight of D17a. Under these circumstances, the board sees no reason to deviate from the interpretation given in the appealed decision regarding the molecular weight range in D17a.

2.3.2 According to the appellant the technical problem to be solved had to be seen in the provision of a process for

providing an extended tubular article with a coating system which has (1) good adhesive properties (between pipe and corrosion-protective layer), (2) high compatibility (with the pipe as well as the corrosion-protective layer) and (3) flexibility (so that different types of corrosion-protective layers can be used).

2.3.3 However, as pointed out in the board's communication, the appellant did not show that D17a suffered from such problems or that the process as claimed provided improved properties over those of the process of D17a. On the contrary, it is acknowledged in paragraph [0034] of the patent specification that the compositions disclosed in D17a appear to have a good adhesion to the object to be protected. Therefore the objective technical problem underlying the claimed invention in view of D17a has to be defined in a less ambitious manner as to simply put the teaching of D17a into practice, including the embodiment relating to preparation and shrink sleeve.

2.3.4 The skilled person starting from D17a and trying to put the disclosed process into practice would obviously find in D17a the disclosure of all necessary features enabling him to carry out the process. Trying the disclosed alternatives for the preparation, the skilled person would inevitably arrive at something falling within the scope of the claim without involving an inventive step, namely a preparation containing polyisobutene with the required M_n, where the polybutene is, in terms of claim 1 as granted, a "polyolefin blend" comprising 100% by weight of a single polyisobutene.

2.4 As the subject-matter of claim 1 does not involve an inventive step the main request is not allowable.

3. Auxiliary request 2

The subject-matter of claim 1 of auxiliary request 2 differs from that of claim 1 of the main request in that the corrosion-protecting layer is further characterised as being heat-shrinkable **or** that it comprises a polyisobutene having a glass transition temperature of less than -20°C and a surface tension of less than 40 mN/m at 20°C and a filler material.

The first alternative in relation to the corrosion-protecting layer, namely that it is heat-shrinkable, is known from the embodiment of D17a discussed above, i.e. the combination of preparation and shrink sleeve. Thus the reasoning set out above in respect of inventive step of the main request, applies equally to the second auxiliary request.

Hence, auxiliary request 2 is also not allowable.

4. Auxiliary request 3

4.1 Interpretation of claim 1

4.1.1 The subject-matter of claim 1 of auxiliary request 3 differs from that of claim 1 of the main request in that the corrosion-protecting layer comprises a polyisobutene having a glass transition temperature of less than -20°C and a surface tension of less than 40 mN/m at 20°C and a filler material.

4.1.2 As already noted in the board's communication, the subject-matter of claim 1 of auxiliary request 3

encompasses the embodiment according to which layer (a) of the adhesive composition and the corrosion-protecting layer (b) are identical for the following reasons:

- As discussed previously, the polyolefin blend in the adhesive composition (a) may consist of a single polyisobutene. Layer (b) now also comprises a polyisobutene.

- The polyisobutene of layer (b) has a glass temperature of less than -20°C and thus includes polyisobutenes having a glass temperature of lower than -40°C, i.e. the polyisobutene of the polyolefin blend.

- According to claim 2 of auxiliary request 3 the polyisobutene of the polyolefin blend has a surface tension of less than 40 mN/m at 20°C, i.e. the requirement of the polyisobutene of layer (b).

- The adhesive composition of layer (a) may also contain a filler. Firstly, this follows from the open language of claim 1: "the adhesive composition comprising ...". But it is even explicitly mentioned in paragraph [0047] of the patent as a possible embodiment for layer (a). If the appellant's submission in this context implies that layer (a) of claim 1 does not contain a filler, the board cannot accept this for the reasons given.

Furthermore, in view of claim 10 of auxiliary request 3 the corrosion-protecting layer may also comprise a shrink sleeve, and thus the extended tubular article or one or more sections of the extended tubular article has following layers:

tube/**polyisobutene filler layer**/**polyisobutene filler layer**/ shrink sleeve.

This construction is quite similar to the embodiment discussed with respect to the main request and basically differs therefrom in that the layer also contains a filler, and two identical polyisobutene layers are present instead of one.

4.2 Inventive step

4.2.1 D17a is still the closest prior art. At this juncture it might be worth mentioning again that the preparation of D17a, i.e. the polyisobutene, can contain one or more fillers (see point 2.2.3).

4.2.2 It has already been explained in the context of inventive step of the main request that the process for making an embodiment having the structure tube/ polyisobutene layer/shrink sleeve is obvious in view of the disclosure of D17a. In the context of the third auxiliary request, the use of two identical polyisobutylene layers comprising polyisobutene and filler(s) (which in reality may even be perceived as one layer) instead of a single layer as disclosed in D17a, is, however, considered a trivial modification within the ordinary tasks of the skilled person and has not been shown to have any beneficial impact on the resulting tubular article. In fact, no technical effect due to the presence of two identical layers (including a filler) has been shown. Under these circumstances the subject-matter of claim 1 of auxiliary request 3 lacks an inventive step and this request too is not allowable.

4.2.3 The appellant argued that it would have been evident to the skilled person with a mind willing to understand that layers (a) and (b) were different. However, the claim wording and the description of the patent specification cannot support this argument. Further it is evident from D17a that the polyisobutene used has both adhesive and anti-corrosion properties. Thus, a different labelling of the layers as a layer of an adhesive composition and a corrosion-protecting layer cannot alter the board's finding on the identity of the layers.

5. In summary, none of the requests of the appellant is allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

M. Cañueto Carbajo W. Sieber

Decision electronically authenticated