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Datasheet for the decision of 18 September 2014

Case Number: T 2079/13 - 3.3.03

Application Number: 07757730.2

Publication Number: 1987096

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Language of the proceedings: EN

Title of invention:
HIGH PERFORMANCE GEOSYNTHETIC ARTICLE

Applicant:
PRS Mediterranean Ltd.

Headword:

Relevant legal provisions:
EPC Art. 84, 123(2)

Keyword:
Amendments - added subject-matter
(yes) (main request, third and fourth auxiliary requests)
Claims - clarity
(no) (main request, first and second auxiliary requests)

Decisions cited:
G 0001/93, T 0054/82, T 0296/96, T 0482/07

Catchword:

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Case Number: T 2079/13 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 18 September 2014

Appellant: (Applicant)	PRS Mediterranean Ltd. Europe-Israel Tower 2 Weizmann Street 64239 Tel Aviv (IL)
Representative:	Kador & Partner Corneliusstrasse 15 80469 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 23 April 2013 refusing European patent application No. 07757730.2 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	O. Dury
Members:	M. C. Gordon
	C. Brandt

Summary of Facts and Submissions

I. The appeal lies from the decision of the examining division posted on 23 April 2013 rejecting European patent application number 07757730.2.

II. The application as originally filed had 49 claims. Claim 1 read as follows:

"A geotechnical article comprising at least one layer, said at least one layer having:
a coefficient of thermal expansion less than about 150 ppm/°C at ambient temperature;
resistance to acidic media greater than polyamide 6 resin and/or resistance to basic media greater than PET resin;
resistance to hydrocarbons greater than that of HDPE;
creep modulus of at least 400 MPa at 25°C, at a load of 20% of yield stress and loading time of 60 minutes, according to ISO 899-1; and
1 percent secant flexural modulus of at least 700 MPa, at 25°C according to ASTM D790;
said at least one layer formed of a composition comprising:

(a) from about 1 to about 94.5% by weight of the composition of at least one functional group containing polymer or oligomer comprising on average at least one functional group per polymer or oligomer chain, said at least one functional group selected from carboxyl, anhydride, oxirane, amino, amido, ester, oxazoline, isocyanate or any combination thereof;

(b) from about 5 to about 98.5% by weight of the composition of at least one engineering thermoplastic;

(c) from about 0.5 to about 94% by weight of the composition of at least one filler; and

(d) optionally, up to about 93.5% by weight of an

unmodified polyolefin, ethylene copolymer or ethylene terpolymer."

Claims 2-46 were dependent on claim 1.

Claim 47 was an independent claim directed to a process for preparing a geotechnical article, and on which claims 48 and 49 were dependent. Claim 47 did not include a reference to claim 1.

III. During the examination proceedings the examining division on several occasions raised objections pursuant to Art. 84 EPC in respect of the features relating to resistance to acidic and/or basic media and to hydrocarbons specified in original claim 1.

IV. The decision of the examining division was based on a set of 40 claims filed by letter dated 7 July 2011. Claim 1 read as follows, deletions compared to originally filed claim 1 being denoted by ~~strikethrough~~ and additions by **bold:**

"A geotechnical article comprising at least one layer, said at least one layer ~~having: a coefficient of thermal expansion less than about 150 ppm/°C at ambient temperature; resistance to acidic media greater than polyamide 6 resin and/or resistance to basic media greater than PET resin; resistance to hydrocarbons greater than that of HDPE; creep modulus of at least 400 MPa at 25°C, at a load of 20% of yield stress and loading time of 60 minutes, according to ISO 899-1 ; and~~
~~1 percent secant flexural modulus of at least 700 MPa, at 25°C according to ASTM D790; said at least one layer~~ formed of a composition comprising

(a) from ~~about~~ 1 to ~~about~~ **95%** ~~94.5%~~ by weight of

the composition of at least one functional group containing polymer or oligomer comprising on average at least one functional group per **molecule** ~~polymer or oligomer chain~~, **the** ~~said~~ at least one functional group selected from carboxyl, anhydride, oxirane, amino, amido, ester, oxazoline, isocyanate or any combination thereof;

(b) from ~~about~~ 5 to ~~about 98.5%~~ **99 %** by weight of the composition of at least one engineering thermoplastic **selected from i) a polyamide; ii) a polyester; iii) a polyurethane; or copolymers, block copolymers, blends or combinations thereof;**

~~(c) from about 0.5 to about 94% by weight of the composition of at least one filler; and~~

~~(d) optionally, up to about 93.5% by weight of an unmodified polyolefin, ethylene copolymer or ethylene terpolymer.~~

wherein said composition is characterized by creep modulus of at least 400 MPa at 25°C, at a load of 20% of yield stress and loading time of 60 minutes, according to ISO 899-1; and wherein the 1% secant flexural modulus of the composition according to ASTM D790 is of at least 600 MPa when measured at 45°C."

Claims 2-37 were dependent on claim 1.
Claim 38 was an independent process claim, which included a reference to claim 1. Claims 39 and 40 were dependent on claim 38.

V. According to the decision, the subject-matter of claim 1 was based on a combination of three embodiments taken from different parts of the description. These embodiments were not presented as preferred. Thus the combination of the three embodiments was not supported by the originally filed documents.

Consequently the requirements of Art. 123(2) EPC were not met with the result that the application was refused.

VI. On 2 July 2013 the applicant lodged an appeal against the decision, the prescribed fee being paid on the same date.

VII. The statement of grounds of appeal was received on 30 August 2013, accompanied by five sets of claims forming a main request and first to fourth auxiliary requests. An auxiliary request for oral proceedings was made.

Claim 1 of the main request read as follows, differences to claim 1 as originally filed being shown as above:

"A geotechnical article comprising at least one layer, said at least one layer having:

a coefficient of thermal expansion less than about 150 ppm/°C at ambient temperature; ~~resistance to acidic media greater than polyamide 6 resin and/or resistance to basic media greater than PET resin; resistance to hydrocarbons greater than that of HDPE;~~

creep modulus of at least 400 MPa at 25°C, at a load of 20% of yield stress and loading time of 60 minutes, according to ISO 899-1; and

1 percent secant flexural modulus of at least 700 MPa, at 25°C according to ASTM D790;

said at least one layer formed of a composition comprising:

(a) from about 1 to about 94.5% by weight of the composition of at least one functional group containing polymer or oligomer comprising on average at least one functional group per polymer or oligomer chain, said at

least one functional group selected from carboxyl, anhydride, oxirane, amino, amido, ester, oxazoline, isocyanate or any combination thereof;

(b) from about 5 to about 98.5% by weight of the composition of at least one engineering thermoplastic **selected from (i) a polyamide; (ii) a polyester; (iii) a polyurethane; or copolymers, block copolymers, or blends thereof;**

(c) **optionally** from about 0.5 to about 94% by weight of the composition of at least one filler; and

(d) optionally, up to about 93.5% by weight of an unmodified polyolefin, ethylene copolymer or ethylene terpolymer."

Claim 1 of the first auxiliary request differed from claim 1 of the main request by the reinstatement in the preamble of the feature relating to resistance to acidic and/or basic media and to hydrocarbons according to original claim 1.

Claim 1 of the second auxiliary request read as follows, differences compared to claim 1 as originally filed being indicated as above:

"A geotechnical article comprising at least one layer, said at least one layer having:

a coefficient of thermal expansion less than about 150 ppm/°C at ambient temperature;

exhibiting at least 10% better retention of elongation to break after immersion for 60 days at 45°C in aqueous solution having pH=4 relative to a layer of PA6 having the same dimensions and or [*sic*] **exhibiting at least 10% better retention of elongation to break after immersion for 60 days at 45°C in aqueous solution having pH = 11 relative to a layer of PET having the same dimensions;**

exhibiting at least a 10% lower weight increase after

immersion for 60 days at 25°C in n-octane relative to a layer of HDPE having the same dimensions;
~~resistance to acidic media greater than polyamide 6 resin and/or resistance to basic media greater than PET resin; resistance to hydrocarbons greater than that of HDPE;~~
creep modulus of at least 400 MPa at 25°C, at a load of 20% of yield stress and loading time of 60 minutes, according to ISO 899-1; and
1 percent secant flexural modulus of at least 700 MPa, at 25°C according to ASTM D790; said at least one layer formed of a composition comprising:

(a) from about 1 to about 94.5% by weight of the composition of at least one functional group containing polymer or oligomer comprising on average at least one functional group per polymer or oligomer chain, said at least one functional group selected from carboxyl, anhydride, oxirane, amino, amido, ester, oxazoline, isocyanate or any combination thereof;

(b) from about 5 to about 98.5% by weight of the composition of at least one engineering thermoplastic **selected from (i) a polyamide; (ii) a polyester; (iii) a polyurethane; or copolymers, block copolymers, or blends thereof;**

(c) **optionally** from about 0.5 to about 94% by weight of the composition of at least one filler; and

(d) optionally, up to about 93.5% by weight of an unmodified polyolefin, ethylene copolymer or ethylene terpolymer."

Claim 1 of the third auxiliary request corresponded to claim 1 underlying the decision under appeal (see above).

Claim 1 of the fourth auxiliary request differed from claim 1 of the third auxiliary request in that the

feature relating to the creep modulus was omitted.

VIII. On 21 January 2014 the Board issued a summons to attend oral proceedings accompanied by a communication in which the Board set out its preliminary opinion of the case. Since the decision of the examining division had been restricted to the matter of Art. 123(2) EPC the Board intended to restrict the appeal proceedings to the matters relating to the allowability of the amendments, i.e. primarily Art. 123(2) EPC and, if appropriate Art. 84 EPC.
Correspondingly the communication focused on matters relating to these two provisions of the EPC.

IX. By letters of 20 August 2014, 1 September 2014 and fax of 17 September 2014 the appellant withdrew its request for oral proceedings and announced that he would not attend the oral proceedings scheduled for 18 September 2014. Also, it was requested that a written decision be taken on the basis of the main request and auxiliary requests 1 to 4 filed with the statement of grounds of appeal.
It was further indicated that, in the case that a set of claims was found to be allowable, the appellant would provide an adapted description.

X. The oral proceedings was held on 18 September 2014 in the absence of the appellant, as announced.

XI. The arguments of the appellant can be summarised as follows:

a) Main request:
The features relating to resistance to acidic and basic media and to hydrocarbons of original claim 1 had been deleted in response to objections

of the examining division. Further the term "optionally" had been introduced into feature (c). These amendments did not result in subject-matter extending beyond the content of the application as originally filed.
The improved properties demonstrated by the examples of the application depended only on the functionalisation of the base polymer and the addition of an engineering polymer in at least one layer of the geotechnical article. Thus it emerged that the essential features of the invention were only the composition components of the layer of the geotechnical article.
According to G 1/93 (OJ EPO 1994, 541) removal from a claim of a feature which did not provide a technical contribution to the subject matter of the invention, which removal merely broadened the scope of protection conferred by the claim but did not result in the appellant improving its position with respect to the prior art did not result in contravention of Art. 123(2) EPC. This case law applied to the present application, since the removed features were not indispensable for the invention. Consequently the requirements of Art. 123(2) EPC were satisfied.

b) First auxiliary request
Regarding the features relating to resistance to acidic and basic media and hydrocarbons of certain named polymers it was clear from the application which Polyamide 6, HDPE and PET should be employed for performing the resistance tests. The description contained several indications concerning the objected parameters. The examining division had provided no evidence relating to the unclarity of said parameters.

Similarly the parameter relating to the resistance to hydrocarbons of HDPE and its determination was clearly indicated in the application as filed. No significant difference existed between the different materials included in the definition of Polyamide 6, HDPE and PET as to the claimed parameters.

c) Second auxiliary request:
The arguments in respect of the first auxiliary request applied.

d) Third auxiliary request:
Contrary to the view of the examining division, different embodiments of the invention, although not referred to as being preferred could be freely combined in the absence of any indication to the contrary. In that respect, reference was made to T 54/82 (OJ EPO 1983, 446). The examining division had advanced no reasons why the skilled person would not read in combination the separate passages of the description or that claim 1 of the third auxiliary request would present the skilled person with information which differed from that in the application as originally filed. Further the combination of features of claim 1 was the result of combining two aspects of the same invention (functionalisation of the base polymer and addition of an engineering thermoplastic in at least one layer, as argued in respect of the main request).

e) Fourth auxiliary request:
The passages of the application providing support for claim 1 were identified.

XII. The appellant (applicant) requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request filed with the statement of grounds of appeal. In the alternative it is requested to grant a patent on the basis of one of the sets of claims according to the first to fourth auxiliary requests, all requests as submitted together with the statement of grounds of appeal.

Reasons for the Decision

1. The appeal is admissible.

2. Although the appellant withdrew its request for oral proceedings, the Board considered it expedient to hold oral proceedings on 18 September 2014 (Art. 15(3) RPBA, Art. 116(1), first sentence, EPC). Regarding the non-attendance of the oral proceedings, the appellant was duly summoned but elected not to attend, as communicated by writing. The appellant thus had the opportunity to present its case orally, but opted not to avail itself thereof. The proceedings were continued without the appellant, that party being treated as relying on its written submissions (Rule 115(2) EPC and Art. 15(3) RPBA).
Consequently a decision is possible.

3. Main request

3.1 Art. 123(2) EPC

Claim 1 differs from claim 1 of the application as originally filed *inter alia* in that the features

relating to resistance to acidic media, basic media and hydrocarbons as compared to certain generally defined polymer materials (Polyamide 6, PET resins, HDPE) have been deleted. Although the precise restriction imposed by the deleted features was obscure (see also below with respect to the first auxiliary request), they nevertheless imposed some restriction in terms of technical features on the claim, i.e. provided a technical contribution to the subject-matter claimed. The deletion thereof means that the subject-matter defined has been extended in some manner compared to the application as originally filed, which is contrary to Art. 123(2) EPC.

No other passages of the application as originally filed were relied upon by the appellant in respect of this deletion. The Board can identify no support in the application as originally filed, in particular the description thereof, for the combination of technical features now defined in claim 1.

Since the features deleted from original claim 1 provided a technical contribution, decision G 1/93, invoked by the appellant, is not relevant for the present case.

3.2 Art. 84 EPC

Claim 1 relies *inter alia* on the feature "a coefficient of thermal expansion". Although the application at page 3, lines 16-21, sets out the influence on dimensional change of variations in temperature, the application is silent as to the precise meaning of the term "coefficient of thermal expansion", the manner in which said dimensional change is determined i.e. whether on the basis of length/area/volume or some

combination thereof, the form and dimensions as well as the preparation and conditioning of the samples used for the measurement, or the temperature conditions employed for the evaluation (starting and finishing temperatures, temperature assigned as "ambient", heating rate, atmosphere). That such aspects, in particular the temperature under which the measurement is carried out, are of significance for ascertaining the meaning of the term "coefficient of thermal expansion" is demonstrated by the statement at page 3 lines 19-21 of the application that the coefficient of thermal expansion is temperature dependent. Consequently the feature "coefficient of thermal expansion" is not unambiguously defined so that it cannot be determined whether or not one is working within the subject-matter being claimed resulting in a lack of clarity contrary to Art. 84 EPC.

3.3 The main request does not meet the requirements of Art. 84 EPC and Art. 123(2) EPC and is therefore refused.

4. First auxiliary request

4.1 Art. 84 EPC

4.1.1 The features of claim 1 relating to resistance to acidic media, basic media and hydrocarbons with comparison to Polyamide 6, PET and HDPE introduce an unclarity.

The appellant has not demonstrated that these features were usual, generally known parameters in the relevant technical field. Furthermore, the claim does not define "resistance", or how this is determined meaning that the limitation hereby imposed is ambiguous, thus

rendering the scope of the claim unclear.
With regard to the term "acidic media" there is no definition of the nature of the acidic media, i.e. pH, nature of the acid (organic, inorganic acid, nature of the counterion).
Further although it is not disputed that the term "Polyamide 6" relates to a well-known type of polymer (aliphatic polyamide) the term remains entirely undefined as to the details of the specific Polyamide 6 employed, in particular in respect of molecular weight, which is known primarily to determine the properties of a polymer, meaning that the restriction or definition imposed by said feature is ambiguous.

The same objections apply with respect to the feature relating to resistance to basic media greater than PET since parameters such as the pH, the nature of the base and the properties of the PET are not defined and for similar reasons to the resistance to hydrocarbons greater than that of HDPE.

4.1.2 The appellant considered that the scope of the claims would be clear on the basis of information provided in the description.

Pursuant to Art. 84 EPC the claims define the subject-matter for which protection is sought and should be clear per se. The provision in the description of a disclosure or definition of the determination and meaning of the above-indicated parameters cannot therefore overcome a deficiency in the wording and definition provided by the claim, and cannot serve to impose a limitation on the claim which does not arise from the wording thereof. On the contrary, the necessity to rely on the description in order to establish the subject-matter thereby defined, i.e. in

order to interpret the claim, demonstrates that the claim is not in itself clear and consequently does not meet the requirements of Art. 84 EPC.

4.2 The first auxiliary request is refused.

5. Second auxiliary request

5.1 Art. 84 EPC

The objection raised against te term "coefficient of thermal expansion" with respect to the main request applies to claim 1 of the second auxiliary request.

Further defects pursuant to Art. 84 EPC arise by introduction of the features relating to "retention of elongation at break" and "weight increase after immersion in n-octane". The properties of the Polyamide 6, PET and HDPE materials on the basis of which the comparison is to be made are not defined, rendering the basis for comparison unclear as explained above in respect of the first auxiliary request. There is, furthermore, no indication of the measurement method employed for elongation at break. Nor has the appellant rendered credible that the skilled person would inevitably know which measurement method and conditions to apply for carrying out the determination, introducing a further unclarity into the claim.

Consequently the requirements of Art. 84 EPC are not met.

5.2 The second auxiliary request is refused.

6. Third auxiliary request

6.1 Art. 123(2) EPC

6.1.1 The appellant argued that claim 1 was based on the disclosures of page 26, lines 19-31, page 13, lines 16-18 and page 22 lines 6-8 of the application as originally filed.

However, the compositions usable as a layer of a geotechnical article and comprising components (a) and (b) according to claim 1, in the specified amounts, disclosed in the passage from page 26, lines 19-27 and 28-30, may only contain a filler c) and/or an unmodified polyolefin d) in a maximum amount of 94 % by weight, which is not reflected in claim 1 of the third auxiliary request. The same is valid regarding the compositions disclosed from the combination of page 21, line 27 to page 22, line 5 with the engineering thermoplastics disclosed on page 9, lines 7-10 of the application as filed in a general manner applying to any composition or article. That passage further does not disclose any creep modulus or secant flexural modulus as specified in claim 1 of the third auxiliary request.

According to page 13 lines 16-18 there is a general statement that "in any composition or article of the present disclosure" the composition "may" have the specified secant flexural modulus. However this statement does not specify in any form the nature of the composition exhibiting such a secant modulus. Similarly, although the specified creep modulus is also disclosed at page 22 line 7 of the application as originally filed this is with respect to "one embodiment". The embodiment in question is however

not defined or identified. Consequently those passages of pages 13 and 22 of the description cannot serve on their own as a basis for the subject-matter claimed.

Regarding the combination of the three passages of the description relied upon by the appellant, it is reminded that according to the case law of the Boards a very strict approach to amendments is applied. An amendment is to be regarded as introducing subject-matter extending beyond the content of the application as filed, and hence unallowable, if the overall change in the content of the application (whether by addition, alteration or deletion) results in the skilled person being presented with information which is not directly and unambiguously derivable from that presented by the application as filed. In the case of multiple amendments being made, even if each feature may have been disclosed individually, as in the present case as explained above, it is necessary to decide whether the resulting combination of features was directly and unambiguously derivable from the application as originally filed, i.e. whether such a combination of features emerges from the application as filed (T 482/07 of 25 August 2010, not published in the OJ EPO) section 3.4.2 of the reasons). Furthermore the description is not to be viewed as a reservoir from which features pertaining to separate embodiments can be freely combined in order to artificially create a certain embodiment. When assessing whether a feature is disclosed in a document the relevant question is whether the skilled person would seriously contemplate combining the different features (T 296/96 of 12 January 2000 not published in the OJ EPO).

In the present case, page 26, lines 19-31 refers to "another" embodiment. Secant and creep modulus are not

specified for this "other embodiment". Nor has the appellant indicated any reason why the skilled person would have combined the three passages, on page 13, lines 16-18, page 22, lines 6-8, and page 26, lines 19-31, in particular those of pages 22 and 26 that both relate to specific separate embodiments, with no link therebetween, as indicated by the use of the wording "In one embodiment..." at the introduction of each of the cited passages. Therefore, the appellant's argument was not followed.

Although the specified creep modulus and secant flexural modulus of claim 1 are disclosed in claims 1 and 34 of the application as originally filed these disclosures are for a composition mandatorily containing a filler and were further characterised by three parameters relating to resistance to acidic media, basic media and hydrocarbons. Operative claim 1 of the third auxiliary request does not however specify those features. Original claims 1 and 34 can therefore not provide a valid basis for claim 1.

The Board could further not identify any other suitable basis for the combination of technical features according to claim 1 of auxiliary request 3.

Therefore, the subject-matter of claim 1 of the third auxiliary request is not directly and unambiguously disclosed in the application as filed.

6.1.2 The appellant relied in its arguments (section 6.7 of the statement of grounds of appeal) in respect of Art. 123(2) EPC *inter alia* on the findings of T 54/82, arguing that said decision held that an objection under Art. 123(2) EPC did not necessarily arise from an amendment involving combining separate features of the

original subject mater of an application.

The present decision, however, does not depart from the findings of T 54/82. As explained in the preceding section, the conclusion that the requirements of Art. 123(2) EPC are not fulfilled was not arrived at on the basis that various passages of the application as filed could not be combined but because operative claim 1 was found to contain information that differs from that of the application as filed i.e. which is not directly and unambiguously disclosed therein.

6.2 Consequently the third auxiliary request does not meet the requirements of Art. 123(2) EPC and is refused.

7. Fourth auxiliary request

7.1 Art. 123(2) EPC

The subject-matter of claim 1 of the fourth auxiliary request differs from that of the third auxiliary request by the deletion of the feature relating to the creep modulus.

The appellant relied essentially on the same passages of the application as originally filed as for the third auxiliary request as the basis for subject-matter of the fourth auxiliary request.

However, the subject-matter defined according to the fourth auxiliary request represents, analogously to that of the third auxiliary request, a combination of features taken from the original disclosure, which combination does not have any direct and unambiguous basis therein, as explained for the third auxiliary request. In particular, the combination of the passages

on pages 13 and 26 of the application as filed relied upon by the appellant does not provide a valid support for the subject-matter of claim 1 at that level of generality. Consequently the objection pursuant to Art. 123(2) EPC as noted for the third auxiliary request also apply to the fourth auxiliary request.

7.2 The fourth auxiliary request is refused.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

E. Goergmaier O. Dury

Decision electronically authenticated