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**Datasheet for the decision  
of 7 March 2013**

**Case Number:** T 0504/10 - 3.2.05

**Application Number:** 96921312.3

**Publication Number:** 831987

**IPC:** B29C70/36

**Language of the proceedings:** EN

**Title of invention:**

Production of composite structures

**Patent Proprietor:**

TPI Technology, Inc.

**Opponent:**

Diab AB

**Headword:**

**Relevant legal provisions:**

EPC Art. 123(2)

**Keyword:**

Amendments - added subject-matter (yes)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern  
Boards of Appeal  
Chambres de recours**

European Patent Office  
D-80298 MUNICH  
GERMANY  
Tel. +49 (0) 89 2399-0  
Fax +49 (0) 89 2399-4465

Case Number: T 0504/10 - 3.2.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.05**  
**of 7 March 2013**

**Appellant:** TPI Technology, Inc.  
(Patent Proprietor) 373 Market Street  
Warren, RI 02885 (US)

**Representative:** Martin Hatzmann  
Vereenigde  
Johan de Wittlaan 7  
2517 JR Den Haag (NL)

**Respondent:** Diab AB  
(Opponent) Box 201  
31222 Laholm (SE)

**Representative:** Hans-Åke Svanfeldt  
BRANN AB  
P.O. Box 1344  
751 43 Uppsala (SE)

**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 8 January 2010  
revoking European patent No. 831987 pursuant to  
Article 101(3) (b) EPC.**

**Composition of the Board:**

**Chairman:** M. Poock  
**Members:** S. Bridge  
W. Ungler

## Summary of Facts and Submissions

- I. The appeal is against the decision of the opposition division revoking the European patent No. 0 831 987 on the ground for opposition of Article 100(c) EPC 1973.

The opposition division held that the subject-matter of the independent claims did not meet the requirements of Article 123(2) EPC.

- II. Oral proceedings were held before the board of appeal on 7 March 2013 in the absence of both the appellant and the respondent, whose respective representatives had previously informed the board that they would not attend.

- III. The appellant (patent proprietor) requested in writing as main request that the decision under appeal be set aside and the case be remitted to the opposition division and as auxiliary request that the patent be amended so as to delete claims 23 to 39 and the case be remitted to the opposition division.

The respondent (opponent) requested in writing that the appeal be dismissed.

- IV. In the written procedure, the appellant argued essentially as follows:

The terms "*in*" used in the description and "*on*" used in claim 1 are both consistent with the situation shown in figure 1 and the use of the term "*on*" does not go beyond describing what is shown in figure 1: the space constituting the channel is adjacent its "*sides*" and "*bottom*", i.e. it is situated "*on*" the channel floor which is part of the surface of the core. There is also

evidence in patent specifications, general and scientific literature, a dictionary and thesaurus for the use of the preposition "on" to describe the presence of a surface channel. Thus, there is a choice of preposition and both "in" and "on" are valid descriptions of the embodiment shown in figures 1 to 3, 5 to 8 and 10. No new information is conveyed to the skilled person. The claims should be interpreted in the light of the description and drawings by a mind willing to understand. The skilled person has no reason to depart from an interpretation of "on" that covers all the embodiments shown. The amendment introduced into claim 1 reciting that "*the feeder channel is on the surface of a core*" therefore does not contravene Article 123(2) EPC.

- V. In the written procedure, the respondent argued essentially as follows:

There is no embodiment of a method of forming a composite structure described in the application as filed where there is a feeder channel outside the fibre material and a resin distribution network inside the fibre material. However, by changing the expression "*in the surface*" to "*on the surface*" the scope of protection of claim 1 has been expanded to cover this embodiment and hence new subject-matter was added to the patent application, thereby infringing Article 123(2) EPC.

- VI. In a communication dated 13 November 2013 annexed to the summons to oral proceedings the board informed the parties in point 4 as follows:

"4. Claim 1 as granted (main request)

4.1 Claim 1 as granted reads as follows (additions with respect to corresponding originally filed claim 23 (see WO-96/40488, hereinafter referred to as the WO-publication) have been indicated in bold, deletions in cross-out and comments in italics by the rapporteur):

~~"23~~**1.** A method of forming a composite structure comprising:  
providing a core having a peripheral surface and a feeder channel formed to lie across at least a portion of said peripheral surface of said core, **said feeder channel having a first cross-sectional area;**  
providing a resin distribution network adjacent at least a portion of said core peripheral surface **and** in fluid communication with said feeder channel ~~in~~ **on** said core peripheral surface, **said resin distribution network comprising a network of a plurality of distribution channels adjacent said peripheral surface of said core extending from said feeder channel, each of said distribution channels having a second cross-sectional area smaller than the first cross-sectional area of the feeder channel;**  
covering at least a portion of said core and said resin distribution network with a fiber material;  
*[the text "sealing said covered core in a forming structure" was moved to next paragraph and amended as shown there]*  
**providing a forming structure,** at least a first portion of said forming structure comprising a mold and at least a further

portion of said forming structure comprising a flexible portion collapsible under vacuum against an adjacent portion of said ~~covered~~ core;  
sealing said covered core **and said fiber material** in a forming structure;  
connecting a source of uncured resin **directly** to said feeder channel through said forming structure;  
connecting the interior of said forming structure to a vacuum outlet;  
forcing said uncured resin **initially** through said feeder channel and said resin distribution network to said vacuum outlet to fill **the interior of** said forming structure between said core and said forming structure to impregnate said fiber material;  
**wherein said feeder channel and said distribution network are sized and arranged to allow said uncured resin to substantially, completely fill said fiber material covering said core prior to curing** [*apparently based on originally filed dependent claim 42*]; and  
curing said resin to form a composite structure."

#### 4.2 Understanding the subject-matter of claim 1

4.2.1 Claim 1 contains features (e.g. "... a feeder channel formed to lie across at least a portion of said peripheral surface of said core ...", "... said feeder channel on said core peripheral surface ...") which are neither mentioned as such nor generally explained in the patent specification and thus have to be interpreted by the board.

The expression "*a ... channel formed to lie across ... a ... surface of said core*" is not clear, because a channel cannot exist by itself but has to be defined in terms of some surrounding matter. The relationship of this matter to the core requires interpretation in terms of the patent in suit.

The general presentation of the invention (section "SUMMARY OF THE INVENTION", patent in suit, paragraphs [0008] to [0010]) appears to refer directly to three embodiments ("*...one embodiment...*", "*...second embodiment...*" and "*...further embodiment...*"). These embodiments appear to respectively correspond to paragraphs [0012] to [0027] and figures 1 to 5, 8 to 10 (embodiment 1), paragraphs [0028] to [0029] and figures 6 and 7 (embodiment 2) and paragraphs [0030] to [0035] and figures 11 to 13 (embodiment 3).

4.2.2 According to embodiment 1, "*one or more main feeder grooves or channels 14 are provided in the surface 16 of the core*" (paragraph [0013]). Similarly, in embodiment 2, "*one or more main feeder grooves [are] in the core surface*" (column 2, lines 17 to 20).

By contrast, in embodiment 3, the "*main feeder grooves are formed directly in the [textured] sheet*" (column 2, lines 30 to 31).

Thus, the feature "*... a feeder channel formed to lie across at least a portion of said peripheral surface of said core ...*" means that the feeder channel is either formed in the surface of said core in accordance with embodiments 1 and 2 or it

is located in a textured sheet (suitably positioned with respect to the core) in accordance with embodiment 3.

4.2.3 The next paragraph of claim 1 (main request) introduces a "*resin distribution network*":  
"providing a resin distribution network adjacent at least a portion of said core peripheral surface **and** in fluid communication with said feeder channel ~~in~~ **on** said core peripheral surface, **said resin distribution network comprising a network of a plurality of distribution channels adjacent said peripheral surface of said core extending from said feeder channel, each of said distribution channels having a second cross-sectional area smaller than the first cross-sectional area of the feeder channel;**".

This *resin distribution network* is described as "*adjacent at least a portion of said core peripheral surface...*".

The term *adjacent* is understood as:

"adjacent, *adj.* and *n.*

**A. *adj.***

**1.** Next to or very near something else; neighbouring; bordering, contiguous; adjoining." (from the Oxford English Dictionary).

This definition does not appear to go as far as to include the meaning of "*in*" but does appear to correspond both to embodiment 2 where, according to figure 6, the *resin distribution network* appears to be shown provided on the core and embodiment 3 where the *resin distribution network* is provided by the texture of the textured sheet



and implicitly faces the core via the fibre lay up (paragraph [0033], figure 11) thus being "very near" to it or "*neighbouring*".

4.2.4 Thus, this definition appears to be incompatible with embodiment 1 where "*the resin distribution network is provided in the form of a plurality of microgrooves 18 machined in the surface 16 of the core 12, as shown in Fig. 1*" (patent in suit, paragraph [0014], underlining added by the board) but appears to correspond to the feature which distinguishes embodiment 2 from embodiment 1 ("*a distribution medium 64 is then provided adjacent the core faces*", paragraph [0028], underlining added by the board).

Thus, claim 1 as granted does not appear to encompass within its scope what the description of the patent in suit presents as first embodiment. Thus, it may have to be discussed whether it is possible to obtain an understanding of claim 1 as granted on the basis of the teaching of embodiment 1 of the patent in suit.

The appellant's understanding of a channel being a "passage" *adjacent* to its "sides" and "bottom" (submission dated 16 February 2011, first paragraph on page 6) does not appear to have a basis in the patent in suit. As already noted above, the term "*adjacent*" only seems to appear in embodiment 2 where it appears to denote a distinction from embodiment 1.

4.2.5 The above paragraph of claim 1 as granted was also amended before grant to include the feature "**each of said distribution channels having a**

**second cross-sectional area smaller than the first cross-sectional area of the feeder channel".**

However, this feature only appears to have been originally disclosed in connection with embodiment 1 (WO-publication, page 2, lines 7 to 11; page 7, lines 18 to 23).

It does not appear to have been disclosed in connection with embodiment 2. On the contrary, paragraph [0029] of the patent in suit (corresponding to page 9, lines 30 to 35 of the WO-publication) indicates that less resin flows through the microgrooves. This appears to imply that, all other parameters being equal, the distribution channels of embodiment 2 are larger in cross section than the microgrooves of embodiment 1 if more resin can flow through them. This would appear to render indeterminate the cross sectional area of the distribution channels of embodiment 2 relative to that of the feeder channel. In this case, the skilled person would not appear to be able to derive directly and unambiguously from the application as filed that **"each of said distribution channels ha[s] a second cross-sectional area smaller than the first cross-sectional area of the feeder channel"** in the case of a *"resin distribution network adjacent at least a portion of said core peripheral surface"* according to embodiment 2.

Thus, it may have to be discussed whether an understanding of claim 1 as granted on the basis of the teaching of embodiment 2 of the patent in suit result in a situation in which there is an infringement of Article 123(2) EPC.

4.2.6 A further possible understanding of the feature "... a feeder channel formed to lie across at least a portion of said peripheral surface of said core ..." appears to be that the feeder channel is located in a textured sheet in accordance with embodiment 3.

In this case, the amendment "*feeder channel ~~in~~ **on** said core peripheral surface*" appears to be essential as it avoids the contradiction of the *feeder channel* being required to be in two different places at once: the meaning of "**on**" would appear to have to be understood as "above" the surface (see Oxford English Dictionary below) since the feeder channel appears to be formed directly in the textured sheet "*rather than in the cores*" (patent in suit, column 7, lines 52 to 55).

From the Oxford English Dictionary:

"on, *prep.*

**I.** Of position.

\* Of local position outside of, but in contact with or close to, a surface. Primarily of physical things, but also of non-physical things treated as having extension.

Also in many phrases (originally expressing physical situation, but later becoming more or less figurative in sense, as an expression of what is done or implied in such a position), such as on the bench, on the boards, on the books, on the cards, on the carpet, on 'Change, on the fence, on the field, on foot, on hand, on one's hands, on one's own hook, on one's knees, on one's legs, on the market, on the nail, on the parish, on the rack, on the shelf, on the spot, on the streets, on the stump, on tenterhooks, on the throne, on the turf, on the way, on the wing, on the world: see the nouns. Phrases originally literal, when thus used figuratively,

sometimes serve as models for others which never were literal, e.g. on a level, on an equality, on a par.

**1.a.** Above and in contact with; at rest on the upper surface of; above and supported by; = upon *prep. 1*"

4.2.7 The method step of claim 1 (main request) which involves providing the "*resin distribution network*" must again be considered. As already set out in section 4.2.3 above, the term "*adjacent*" can apparently be understood in terms of both of the arrangements respectively disclosed in the context of embodiments 2 and 3.

4.2.8 The next method step of claim 1 as granted ("*covering at least a portion of said core and said resin distribution network with a fiber material;*") appears to include the possibility of the fibre material being positioned above a *core and resin distribution network* according to embodiment 2 while the feeder channel which may be located in a textured sheet in accordance with embodiment 3 is separated from the *resin distribution network* by the fibre material.

As apparently pointed out by the respondent (response dated 15 September 2010, third paragraph on page 8) such a possibility has no basis in the application as filed, contrary to Article 123(2) EPC. This possibility only appears to arise as a result of the amendment changing "*said feeder channel **in** said core peripheral surface*" into "*said feeder channel **on** said core peripheral surface*" where "**on**" has to be understood in the sense of "above" according to embodiment 3.

4.2.9 The subject-matter of claim 1 appears to be a mixture of features requiring interpretation in terms of the description and features exclusive to mutually exclusive embodiments and which may not have been originally disclosed in the now claimed combinations.

Thus, it will be necessary to discuss whether it is possible to gain an understanding of the subject-matter of claim 1 as granted which is consistent with the description of the patent without the amendments made to the claim prior to grant adding subject-matter which was not originally disclosed, contrary to Article 123(2) EPC.

The appellant's argument that "on" can, in certain circumstances, also mean "in" seems to be beside the point, because, when substituting "on" for "in" any additional meanings of "on" which go beyond those of "in" have also been introduced into the claimed subject-matter."

## **Reasons for the Decision**

### *1. Main request*

By not attending oral proceedings, the appellant has not availed himself of the opportunity to orally present his case and in particular to comment on the board's observations in the communication annexed to the summons to oral proceedings.

Having re-considered the reasons which were advanced therein and which are unchallenged by the appellant, the board sees no reason to depart from them.

Consequently, for the reasons set out in the above communication, the amendments made to claim 1 add subject-matter which was not originally disclosed in the application as filed so that claim 1 infringes Article 123(2) EPC.

2. *Auxiliary request*

Since claim 1 of the main request is also present in the auxiliary request, the foregoing findings apply likewise to claim 1 of the auxiliary request.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:



D. Meyfarth

M. Poock

Decision electronically authenticated