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# Datasheet for the decision of 18 March 2010

**Case Number:** T 0321/08 - 3.2.06

**Application Number:** 99941764.5

**Publication Number:** 1107845

**IPC:** B23K 9/04

**Language of the proceedings:** EN

**Title of invention:**
Process for manufacturing pipes

**Patentee:**
Proclad International Limited

**Opponent:**
Sandvik AB

**Headword:**
-

**Relevant legal provisions:**
EPC Art. 123(2), 123(3)

**Relevant legal provisions (EPC 1973):**
EPC Art. 54, 56,

**Keyword:**
"Admissibility of amendments - yes"
"Novelty and inventive step - yes"

**Decisions cited:**
-

**Catchword:**
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

**Case Number:** T 0321/08 - 3.2.06

# D E C I S I O N
**of the Technical Board of Appeal 3.2.06**
**of 18 March 2010**

| | |
|---|---|
| **Appellant**: (Patent Proprietor) | Proclad International Limited<br>Faraday Road<br>Southfield Industrial Estate<br>Glenrothes<br>Fife KY6 2RU<br>Scotland (GB) |
| **Representative**: | W.P. Thompson & Co.<br>Coopers Building<br>Church Street<br>Liverpool L1 3AB (GB) |
| **Respondent**: (Opponent) | Sandvik AB<br>S-811 81 Sandviken (SE) |
| **Representative**: | Weber, Roland<br>WSL Patentanwälte<br>Taunusstrasse 5a<br>D-65183 Wiesbaden (DE) |
| **Decision under appeal:** | **Decision of the Opposition Division of the European Patent Office posted 3 December 2007 revoking European patent No. 1107845 pursuant to Article 102(1) EPC.** |

**Composition of the Board:**

**Chairman:** P. Alting van Geusau
**Members:** G. Kadner
W. Sekretaruk

## Summary of Facts and Submissions

I. The mention of grant of European patent No. 1 107 845 in respect of European patent application No. 99941764.5 filed on 27 August 1999 and claiming a British priority from 27 August 1998 was published on 24 November 2004 with 7 claims.

II. Notice of opposition was filed against the granted patent in which revocation of the patent on the grounds of Article 100 a) EPC 1973 was requested.

By decision posted on 3 December 2007, the opposition division revoked the European patent on the grounds that claim 1 of the main and auxiliary requests did not meet the requirement of novelty.

III. Notice of appeal was filed against this decision by the appellant (patentee) on 6 February 2008, and the appeal fee was paid on the same day. The grounds of appeal were filed on 9 April 2008.

IV. In a communication accompanying the summons to oral proceedings the board expressed its preliminary view that, since lack of novelty as concluded by the opposition division was in doubt, inventive step would have to be discussed in detail during the oral proceedings.

V. Oral proceedings were held on 18 March 2010 in which the appellant filed a new request. The following prior art documents were discussed:

E1: EP-A-0 454 911

E2: GB-A-1 207 675
E8: WO-A-97/39 455
E10: US-A-4 995 548
E11: US-A-4 977 034

Claim 1 as amended reads as follows:

"A process for producing clad pipe, comprising forming a tubular billet of base material, bonding a cladding material metallurgically to the base material to form a composite body and subsequently extruding the composite body to form a pipe,
wherein the cladding layer is metallurgically bonded to the base material by depositing a weld overlay on the base material and
wherein the integrity of the metallurgical bond between the cladding layer and the base material is inspected and/or validated prior to extrusion."

The appellant requested that the decision under appeal be set aside and that the European patent be maintained on the basis of the request filed during the oral proceedings (claims 1 to 5 and description, column 1 to 3 from 18 March 2010; drawing figure 1 as granted).

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

VI. In support of its request the appellant argued that none of the prior art documents disclosed a non-destructive inspection and/or validation of the integrity of the metallurgical bond between the cladding layer and the base material prior to extrusion. In the methods of E1, E10 and E11 the research of the bond line was carried

out by cutting the billet, and the integrity of the bond was determined by usual microscopic analysis of the cut surface. Contrary to that method according to the patent the integrity of the whole bond over the length of the product could be determined and defect parts eliminated during the production process thus saving costs.

VII. The arguments of the respondent can be summarized as follows:

The process of claim 1 was obvious by the combination of the teachings of E2 with those of E8. Both a tubular billet as claimed and the metal ingot as known from E2 were tube blanks without any technical distinction in relation to the claimed manufacturing process. The suitable process of extrusion as one of the methods mentioned in E2 for reducing the clad hollow ingot to tubing was explicitly disclosed in E8. The step of inspection/validation had no effect on the production process as such since no consequence like selection of defective parts was implied. Steps of quality control were indicated by E1, E10 or E11. The inspection of intermediate products during production was well-known and part of the general knowledge of the skilled person. The skilled person would obviously use one of the usual methods of x-ray or ultrasonic inspection thus arriving at the claimed solution without the involvement of an inventive step.

## Reasons for the Decision

1. The appeal is admissible.

2. *Amendments (Article 123(2) and (3) EPC 1973)*

Claim 1 is composed of claim 1 and dependent claims 2 and 4 as granted which subject-matter is contained in the corresponding originally filed claim 2 and 4. When compared to the originally filed claim the only difference resides in the amendment of "hollow body of base material" by "tubular billet of base material". Such restriction is however supported by the originally filed application documents in relation to the embodiment illustrated in the Figure. Therefore no objection arises under Article 123(2) EPC. Since the scope of protection is restricted the requirement of Article 123(3) EPC is also met.

3. *Novelty (Article 54 EPC 1973)*

In the appeal proceedings no arguments were presented by the appellant as to why the subject-matter of claim 1 of the patent in suit lacked novelty. The Board comes to the conclusion that, dissenting from the opposition division's opinion, the step of extrusion is not clearly and unambiguously disclosed in the method according to E2. Furthermore, in the technical field concerned a tubular billet cannot be identified as being synonymous with a hollow ingot. In the first place an ingot means a cast mass of material whereas a billet is a semi-finished product which might be formed starting from an ingot as the primary material (see also the application as filed, page 3, lines 11 to 17). At least, the step of inspection and/or validation of the metallurgical bond prior to extrusion is neither known nor indicated by any of the prior art documents. Thus the requirement of novelty is met.

4. *Inventive step (Article 56 EPC 1973)*

4.1 According to the introduction of the patent specification the invention starts from a process in which a pipe of corrosion resistant cladding material is inserted into a tubular billet (typically of carbon steel) and the composite billet is extruded whereby during extrusion the cladding material and the base material are metallurgically bonded together. The object underlying the invention is to overcome the drawbacks of the prior art, particularly to prevent wastage from the completed product and to control the thickness of the cladding (see column 1, [0003] of the patent in suit).

The closest documented prior art is regarded to be E2 which discloses a method of manufacturing a composite metal tubing which comprises the steps of cladding by weld deposition the surface of a metal ingot and then extending the clad ingot tubing (claim 1). Starting from this process the same object applies as above.

4.2 In respect of the technical effect the ingot disclosed in E2 can be estimated as being equivalent with a billet as claimed because both have a thick-walled hollow cylindrical shape and after weld-cladding are shaped to a tubing. To achieve this E2 teaches to use "any of a number of suitable processes".

Such processes are part of the common general knowledge of the skilled person, and as an indication E8 is representative for that knowledge. Although E8 relates to fabricating a nuclear fuel rod cladding the manufacturing technique is very similar to that

disclosed in E2, and the common processes for manufacturing a tube from a thick intermediate product are mentioned: the tube is formed by extrusion, tube drawing, or, preferably, tube reduction. Therefore the skilled person using any of these common methods would arrive at the claimed process without the involvement of an inventive step.

4.3 However, the process of claim 1 includes additionally the step of inspection and/or validation of the integrity of the metallurgical bond between the cladding layer and the base material prior to extrusion.

Considering the meaning of this feature the Board is satisfied that nothing other than the integrity of the metallurgical bond over the whole area of cladding layer and base material over length of the billet is addressed.

4.4 The respondent argued that the skilled person would carry out a quality control at each step of a process if reasonable or necessary, and with the methods suggested in E1, E10 or E11 would be led to the claimed process. However, all the methods of those prior art documents are of the destructive manner in that samples are cut out of the clad intermediate product and the proper condition of the metallurgical bond is concluded on the basis of the samples. None of these methods suggests a check over the whole cladding surface connecting the cladding to the base material.

According to that prior art any inconsistencies can only be detected indirectly after the samples have been evaluated whereas according to the patent in suit defective parts can be separated directly in an economic

manner without carrying out the step of extrusion and thus saving energy and costs. Since none of the prior art documents indicates this step in the method and in the order as claimed, the process of claim 1 involves an inventive step.

4.5 The further prior art documents cited during the proceedings do not come closer to the claimed solution than the documents discussed above.

Hence, in the absence of a teaching in the prior art to the combination of steps of the process according to claim 1 the subject-matter claimed involves an inventive step. Since the dependent claims 2 to 5 also meet the requirements of the EPC the patent can be maintained in amended form.

## Order

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

1. The decision under appeal is set aside.

2. The case is remitted to the opposition division with the order to maintain the patent on the basis of the request from 18 March 2010 with the following documents:

   claims 1 to 5 and
   description columns 1 to 3 filed on 18 March 2010;
   drawing figure 1 as granted.

The Registrar: The Chairman:

M. Patin P. Alting van Geusau