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**Datasheet for the decision  
of 15 September 2022**

**Case Number:** T 2503/18 - 3.2.05

**Application Number:** 10784259.3

**Publication Number:** 2501974

**IPC:** F16L15/06

**Language of the proceedings:** EN

**Title of invention:**  
Threaded connection

**Patent Proprietors:**  
Vallourec Oil and Gas France  
Nippon Steel & Sumitomo Metal Corporation

**Opponent:**  
Tenaris Connections BV

**Relevant legal provisions:**  
EPC Art. 84, 111(1)  
RPBA 2020 Art. 11, 13(2)

**Keyword:**

Remittal - fundamental deficiency in first-instance proceedings (no)

Prohibition of reformatio in peius - main request and auxiliary requests 1 and 2ter

Amendment after summons - auxiliary request 3ter - taken into account (yes)

Claims - clarity - auxiliary requests 3ter and 4 (no)

**Decisions cited:**

G 0009/92



**Beschwerdekammern**

**Boards of Appeal**

**Chambres de recours**

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Case Number: T 2503/18 - 3.2.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.05**  
**of 15 September 2022**

**Appellant:** Tenaris Connections BV  
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**Decision under appeal:** **Interlocutory decision of the Opposition**  
**Division of the European Patent Office posted on**  
**20 August 2018 concerning maintenance of the**  
**European Patent No. 2501974 in amended form.**

**Composition of the Board:**

**Chairman**            P. Lanz  
**Members:**            M. Holz  
                              T. Karamanli

## **Summary of Facts and Submissions**

- I. The joint patent proprietors and the opponent lodged an appeal against the opposition division's interlocutory decision in which, account being taken of the amendments made by the patent proprietors during the opposition proceedings according to auxiliary request 4, European patent No. 2 501 974 (the "patent") and the invention to which it related were found to meet the requirements of the EPC.
- II. The summons to oral proceedings was issued on 26 July 2021. In a communication under Article 15(1) of the Rules of Procedure of the Boards of Appeal of the European Patent Office as applicable since 1 January 2020 (RPBA 2020, see OJ EPO 2019, A63 and OJ EPO 2021, A35) dated 20 June 2022, the board gave its preliminary opinion.
- III. By letter of 12 July 2022 (received on 13 July 2022), the patent proprietors, *inter alia*, replaced previous auxiliary request 3ter filed on 6 April 2018 with a new auxiliary request 3ter.
- IV. The oral proceedings took place as mixed-mode oral proceedings on 15 September 2022.

After all the parties' requests had been discussed in substance and the board had considered them not to be allowable, the patent proprietors withdrew their appeal before the board's decision was announced, thus becoming the respondents in the appeal proceedings at hand.

V. The parties' final requests were as follows.

The opponent (appellant, former appellant II) requested that the decision under appeal be set aside and that the patent be revoked.

The patent proprietors (respondents, former appellants I) requested that the decision under appeal be set aside and that the opposition be rejected (main request) and, as an auxiliary measure, that the patent be maintained as amended on the basis of the claims according to auxiliary request 1 filed by letter dated 12 May 2017 or according to auxiliary request 2ter or 3ter filed by letter dated 12 July 2022. As auxiliary request 4, they requested that the opponent's appeal be dismissed.

VI. Claim versions

Claim 1 as granted (corresponding to the respondents' main request) reads as follows (the feature references employed by the board are included in square brackets):

*"[1.1] A threaded connection (1) which comprises a first and a second tubular component, the first component comprising a male end comprising a distal surface and a threaded zone (5) disposed on its external peripheral surface, the second component comprising a female end comprising a distal surface and a threaded zone (4) disposed on its internal peripheral surface, the threaded zone (5) of the male end being threaded up into the threaded zone (4) of the female end, [1.2] the threaded zones (4, 5) comprising respective male and female threads (40, 50) having a width which increases from the distal surface, [1.3]*

*the threads comprising load flanks (43, 53) having negative angles over at least a portion of their radial dimension, and stabbing flanks (44, 54), [1.4] with a radial clearance subsisting in the connected state between the crests (51) of the male threads and the roots (42) of the female threads and/or between the crests (41) of the female threads and the roots (52) of the male threads, [1.5] with an axial clearance subsisting in the connected state between the stabbing flanks (44, 54) of the male and female threads, [1.6] the distal surface of the male end and/or female end being brought into axial abutting contact against a corresponding abutment surface, [1.7] characterized in that the female end comprises a substantially tapered surface (12) and a recess (10) between the threaded zone (4) and the abutment surface (8), the recess (10) having a substantially cylindrical surface (14) and a surface of revolution (18) disposed between the threaded zone (4) and the substantially tapered surface (12), the substantially tapered surface (12) being adjacent to the abutment surface (8)."*

Claim 1 of auxiliary request 1 differs from claim 1 as granted in that the following feature 1.8 is included at the end of the claim:

*"[1.8] and in that the male end comprises, between its distal surface and its threaded zone (5), a metal/metal sealing surface cooperating with a corresponding sealing surface provided on the female end."*

Claim 1 of auxiliary request 2ter differs from claim 1 of auxiliary request 1 in that features 1.6, 1.7 and 1.8 are replaced by the following features:

"[1.6'] the distal surface of the male end being brought into axial abutting contact against a corresponding abutment surface (8) of the female end, [1.7'] characterized in that the female end comprises a substantially tapered sealing surface (12) and a recess (10) between the threaded zone (4) and the abutment surface (8), the recess (10) having a substantially cylindrical surface (14) and a surface of revolution (18) disposed between the threaded zone (4) and the substantially tapered surface (12), the substantially tapered surface (12) being adjacent to the abutment surface (8), [1.8'] and in that the male end comprises, between its distal surface and threaded zone (5), a metal/metal sealing surface cooperating with the corresponding sealing surface (12) provided on the female end."

Moreover, the claims of auxiliary request 2ter include an additional independent claim 12 directed to a threaded connection.

Claim 1 of auxiliary request 3ter differs from claim 1 of auxiliary request 2ter in that feature 1.1 is replaced by the following feature:

"[1.1'] A threaded connection (1) which comprises a first and a second tubular component, the first component comprising a male end comprising a distal tapered surface and a tapered threaded zone (5) disposed on its external peripheral surface, the second component comprising a female end comprising a distal surface and a tapered threaded zone (4) disposed on its internal peripheral surface, the female distal surface (6) being perpendicular to an axis (20) of the connection, the female distal surface being terminal and separated from any optional substantially radial



*surface of the male end, the threaded zone (5) of the male end being threaded up into the threaded zone (4) of the female end, male threaded zone having a taper which is equal to that of the female threaded zone,"*

and in that features 1.6', 1.7' and 1.8' are replaced by the following features:

*"[1.6''] the distal tapered surface of the male end being brought into axial abutting contact against a corresponding tapered abutment surface (8) of the female end, [1.7''] characterized in that the female end comprises a substantially tapered surface (12) and a recess (10) between the threaded zone (4) and the abutment surface (8), the recess (10) having a substantially cylindrical surface (14) and a surface of revolution (18) disposed between the threaded zone (4) and the substantially tapered surface (12), the substantially tapered surface (12) being adjacent to the abutment surface (8), [1.8''] and in that the male end (3) comprises a lip (9) extending axially beyond the male threaded zone (5) up to the abutment surface (7), such that an outside of the lip comprises a substantially tapered surface (13) with an axial length slightly longer than the axial length of the substantially tapered surface (12) of the female end (2), a portion of the tapered surface (13) of the male end and a portion of the substantially tapered surface of the female end being in mutual radially interfering contact in the connected position of the connection."*

Claim 1 of auxiliary request 4 differs from claim 1 of auxiliary request 3ter in that feature 1.1' is replaced by feature 1.1 and in that feature 1.6'' is replaced by feature 1.6'.

VII. The parties' submissions relevant to this decision can be summarised as follows.

(a) *Alleged procedural violation*

(i) *Respondents*

The decision under appeal was not sufficiently reasoned on the then main request (rejection of the opposition) since the expression "corresponding technical features of the male end" in point 2.1.2.6 of the Reasons for the decision was not clear. Moreover, the decision under appeal did not take into account all the arguments put forward by the patent proprietors in the first-instance proceedings against the ground for opposition under Article 100(c) EPC.

(ii) *Appellant*

There was no reason to suspect that the opposition division overlooked any arguments. All decisions made at the oral proceedings on formal grounds had been discussed in full at the oral proceedings.

(b) *Principle of prohibition of reformatio in peius*

No submissions were made.

(c) *Respondents' auxiliary request 3ter*

(i) *Appellant*

Auxiliary request 3ter was late filed and did not deal with the outstanding objections. Claim 1 of this request retained the wording "slightly longer", which was unclear. Moreover, there were no exceptional

circumstances justifying the filing of auxiliary request 3ter at this stage of the proceedings. The board's preliminary opinion did not raise any new aspects. Consequently, auxiliary request 3ter filed on 13 July 2022 should not be admitted into the appeal proceedings.

Claim 1 of auxiliary request 3ter violated Article 84 EPC. The wording "slightly longer" (see feature 1.8'') imported both an upper and a lower limit on the difference between two lengths. Firstly, the difference must be greater than zero. Secondly, the difference must not be great. However, it was not clear from the claim, either when taken alone or with reference to the description, how much longer the substantially tapered surface (13) of the outside of the lip must be compared to the substantially tapered surface (12) of the female end. The skilled person had no basis for determining where the upper limit of the range was. It was not evident based on what technical criteria the upper limit was to be determined. The respondents referred to the technical context, but it was not clear what context they meant. Even if the skilled person considered the precision of machining, the elastic properties of the material and the angle of taper, this did not define an upper limit. Even if all this was known, the skilled person still did not know how the upper limit could be determined based on these properties. The respondents' arguments on this seemed to address the requirements of Article 83 EPC and not those of Article 84 EPC. In the decision under appeal, the opposition division referred to proper sealing contact. However, there was no link between the "slightly longer" feature and the sealing. The wording "slightly longer" also had no established meaning in the art. Hence, the matter for which protection was

conferred by claim 1 could not be determined. Third parties would not know whether they were infringing the patent.

(ii) *Respondents*

The claims of auxiliary request 3ter filed on 13 July 2022 differed from those of the previous version of auxiliary request 3ter filed on 6 April 2018 only by deletion of claim 12 and following, while claims 1 to 11 were retained. Therefore, auxiliary request 3ter filed on 13 July 2022 did not add any new aspects and should be admitted into the appeal proceedings.

Moreover, the wording "slightly longer" was clear to the skilled person, who would understand that the axial length of the substantially tapered surface (13) was slightly longer than the axial length of the substantially tapered surface (12) of the female end. The wording "slightly longer" defined an open range. If there was an open range, the skilled person would find an upper limit in view of the technical context. They would understand that the upper limit must be chosen to ensure that the result was technically feasible and that a length difference that was too large was not useful. The male end could not be prolonged too much. Setting the upper limit was a question of finding appropriate dimensions, this being among the skilled person's routine tasks. The skilled person knew how to find an upper limit based on, for example, the precision of machining and the elastic properties of the material used. The lengths of the substantially tapered surfaces 12 and 13 could be determined based on the angle of taper as indicated on page 7, lines 8 to

10 of the description as filed (see column 5, lines 37 to 39 of the patent specification).

(d) *Respondents' auxiliary request 4*

(i) *Appellant*

Claim 1 of auxiliary request 4 violated Article 84 EPC for the same reasons as set out for claim 1 of auxiliary request 3ter.

(ii) *Respondents*

The wording "slightly longer" used in claim 1 of auxiliary request 4 was clear for the same reasons as discussed for auxiliary request 3ter.

## **Reasons for the Decision**

### **1. *Alleged procedural violation: remittal to opposition division***

The respondents submit that a procedural violation took place since the decision under appeal was not sufficiently reasoned as required by Rule 111(2) EPC for their then main request (rejection of the opposition) as the expression "corresponding technical features of the male end" in point 2.1.2.6 of the Reasons for the decision was not clear. Moreover, according to the respondents, the decision under appeal did not take into account all the arguments put forward by the patent proprietors in the first-instance proceedings against the ground for opposition under Article 100(c) EPC. Therefore, the patent proprietors' right to be heard under Article 113(1) EPC had been violated.

In view of these alleged procedural violations, the question of remittal of the case to the opposition division for further prosecution arises (Article 111(1), second sentence, EPC and Article 11 RPBA 2020).

Under Article 11 RPBA 2020, the board should not remit a case to the department whose decision was appealed for further prosecution unless special reasons present themselves for doing so. As a rule, fundamental deficiencies which are apparent in the proceedings before that department constitute such special reasons.

The term "fundamental deficiencies" referred to in Article 11 RPBA 2020 and the notion of a "substantial procedural violation" in Rule 103(1)(a) EPC are used synonymously (see *Case Law of the Boards of Appeal of the European Patent Office*, 10th edn., July 2022, "Case Law", V.A.9.4.3). A "substantial procedural violation" is an objective deficiency affecting the entire proceedings (see *Case Law*, V.A.11.6.2).

Even if it was assumed that the procedural violations alleged by the respondents had occurred, these deficiencies would not affect the entire first-instance proceedings. For example, the part of the decision under appeal dealing with auxiliary request 4 would be unaffected by these deficiencies. For this reason, none of the procedural violations alleged by the respondents constitutes a fundamental deficiency under Article 11 RPBA 2020.

The board therefore does not consider it appropriate to set aside the decision under appeal and remit the case to the opposition division for further prosecution

without examining the appeal on its merits (Article 111(1), second sentence, EPC and Article 11 RPBA 2020).

2. *Respondents' main request and auxiliary requests 1, 2ter and 3ter: principle of prohibition of reformatio in peius*

After all the patent proprietors' requests had been discussed at the oral proceedings and the board had considered them not to be allowable, the patent proprietors withdrew their appeal before the board's decision was announced. Consequently, the opponent became the sole appellant and the patent proprietors became the respondents and party to the appeal proceedings as of right under Article 107, second sentence, EPC.

In claim 1 of the patent as granted (main request) as well as in claim 1 of auxiliary requests 1 and 2ter, limiting feature 1.8'' (defining, for example, that the male end comprises a lip) is absent compared to claim 1 of auxiliary request 4, which was considered by the opposition division to meet all requirements of the EPC. Therefore, the subject-matter of claim 1 of these requests is either broader or an *aliud* compared to the subject-matter of claim 1 of auxiliary request 4 but not a restriction of the claimed subject-matter of auxiliary request 4. This means that maintaining the patent as granted or maintaining the patent as amended according to auxiliary requests 1 or 2ter would put the sole appellant in a worse situation than if it had not filed an appeal. This would contravene the principle of prohibition of *reformatio in peius* as the opponent is the sole appellant (see decision G 9/92, OJ EPO 1994,

875 and Case Law, V.A.3.1 and V.A.3.1.5). The main request as well as auxiliary requests 1 and 2ter are thus to be rejected as inadmissible (see decision G 9/92, cited above, point 2 of the order).

This conclusion does not apply to auxiliary request 3ter, which, although higher in rank, contains in claim 1 all the features of claim 1 of auxiliary request 4. Accordingly, it is concluded that the claims of auxiliary request 3ter do not result in an extension in the scope of protection with respect to the claims of auxiliary request 4. Thus, to this extent at least, the amendments do not contravene the principle of prohibition of *reformatio in peius*. Under these circumstances, auxiliary request 3ter is within the board's jurisdiction, and the board is empowered to decide upon this request in substance.

### 3. *Respondents' auxiliary request 3ter*

#### 3.1 *Admittance into the appeal proceedings*

On 13 July 2022, the respondents filed a new auxiliary request 3ter replacing auxiliary request 3ter filed on 6 April 2018. The appellant takes the view that the current auxiliary request 3ter should not be admitted into the appeal proceedings.

Under Article 13(2) RPBA 2020, which applies here in view of Articles 24(1) and 25(3) RPBA 2020, any amendment to a party's appeal case made after notification of a summons to oral proceedings is, in principle, not taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.



In the case at hand, the claims of the current auxiliary request 3ter differ from those of the previous auxiliary request 3ter by the deletion of claim 12 and following. It is uncontested that the current auxiliary request 3ter constitutes an amendment to the respondents' appeal case under Article 13(2) RPBA 2020.

The deletion of claim 12 and following does not give rise to any new issues. Claim 1 is the only independent claim of current auxiliary request 3ter and is identical to claim 1 of the preceding auxiliary request 3ter. In points 9.0 to 9.6, 11.0 to 11.2 and 15.6 of its reply to the patent proprietors' statement of grounds of appeal, the appellant raised objections against this claim. These objections are also discussed in point 7.3 of the board's communication under Article 15(1) RPBA 2020.

Consequently, current auxiliary request 3ter did not raise new issues. Moreover, it could be dealt with within the current framework of the appeal proceedings and posed no additional difficulties or surprises for either the appellant or the board. Neither was its admittance detrimental to procedural economy. Hence, the board is satisfied that the circumstances surrounding the amendment of auxiliary request 3ter are exceptional within the meaning of Article 13(2) RPBA 2020.

The board therefore exercised its discretion under Article 13(2) RPBA 2020 and decided to admit auxiliary request 3ter filed on 13 July 2022 into the appeal proceedings.

3.2 *Lack of clarity (Article 84 EPC)*

The appellant submits that the wording "slightly longer" in feature 1.8'' of claim 1 caused a lack of clarity as it was not clear from the claim how much longer the substantially tapered surface (13) of the outside of the lip must be compared to the substantially tapered surface (12) of the female end.

It is common ground between the parties that disputed feature 1.8'' is present in claim 1 of auxiliary requests 3ter and 4 and that, therefore, the appellant's objection of a lack of clarity against the wording of this feature applies to both these requests.

For the reasons set out below for auxiliary requests 4, the board finds this objection convincing and concludes that claim 1 of auxiliary request 3ter does not meet the requirements of Article 84 EPC.

4. *Respondents' auxiliary request 4: lack of clarity (Article 84 EPC)*

The board shares the appellant's view that the wording "slightly longer" in feature 1.8'' of claim 1 causes a lack of clarity as it is not clear from the claim how much longer the substantially tapered surface (13) of the outside of the lip of the male end must be compared to the substantially tapered surface (12) of the female end. While it is evident from feature 1.8'' that the substantially tapered surface (13) of the outside of the lip must be longer than the substantially tapered surface (12) of the female end, the word "slightly" suggests that there is an upper limit to how much longer it must be. However, neither feature 1.8'' nor

claim 1 as a whole indicates how much longer it could be to still be considered "slightly longer". The respondents have also not convincingly demonstrated that this would be clear to the skilled person based on their common general knowledge.

The respondents take the view that this was merely a question of finding appropriate dimensions and that the skilled person would be able to establish how much longer the substantially tapered surface (13) of the male end may be compared to the substantially tapered surface (12) of the female end based on, for example, material properties and machining precision.

However, the issue in hand hinges on whether the wording "slightly longer" is clear to the skilled person; not if they would be able to put the claimed invention into practice. The board concurs with the appellant's view that claim 1 indicates neither the technical criteria defining the upper limit, nor on which parameters (for example, material properties or dimensions of other components of the threaded connection) the upper limit depends, nor how the upper limit can be determined based on such parameters. The technical meaning of the term "slightly longer" thus remains unclear.

This also applies in view of the respondents' reference to the passage on column 5, lines 37 to 39 of the patent specification. Firstly, the claims must, as far as possible, be clear in themselves when read by the person skilled in the art, without reference to the content of the description. Secondly, while the passage of the description cited by the respondents discloses ranges for the angle of taper of the sealing surfaces,

it does not give any definition of the term "slightly longer".

In point 2.4.3.3 of the Reasons for the decision under appeal, the opposition division took the view that "[t]he skilled man would understand how much slightly longer should the axial length of the nose portion be in order to ensure a proper sealing contact between the two radially interfering surfaces of the male and the female ends".

However, claim 1 does not include anything that would indicate to the skilled person that the term "slightly" was to be understood as implying an upper limit for the axial length difference that was to be determined based on desired sealing properties.

Consequently, claim 1 of auxiliary request 4 does not meet the requirements of Article 84 EPC.

## 5. *Conclusion*

The respondents' main request and auxiliary requests 1 and 2ter contravene the principle of prohibition of *reformatio in peius* and are thus to be rejected as inadmissible. The respondents' auxiliary requests 3ter and 4 do not meet the requirements of Article 84 EPC. Therefore, none of the respondents' admissible requests is allowable. The patent must therefore be revoked (Article 101(3)(b) EPC).

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:



N. Schneider

P. Lanz

Decision electronically authenticated