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Datasheet for the decision of 23 April 2026

Case Number: T 1463/24 - 3.2.05

Application Number: 19790072.3

Publication Number: 3857107

IPC: F16L11/12

Language of the proceedings: EN

Title of invention:
An extensible flexible hose, in particular but not exclusively for irrigation, and method for its manufacturing

Patent Proprietor:
MTP S.r.l.

Opponent:
Exel Industries

Relevant legal provisions:
EPC Art. 54(1), 56, 87(1), 89, 100(a), 100(b), 108
EPC R. 99(2)
RPBA 2020 Art. 13(2)

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Keyword:

Admissibility of appeal - (yes)
Grounds for opposition - insufficiency of disclosure (no) - lack of patentability (no)
Novelty - (yes)
Inventive step - (yes)
Amendment after notification of Art. 15(1) RPBA communication - exceptional circumstances (no)

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Case Number: T 1463/24 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 23 April 2026

Appellant: (Opponent)	Exel Industries 54, rue Marcel Paul 51200 Epernay (FR)
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Respondent: (Patent Proprietor)	MTP S.r.l. Strada Statale della Val di Cornia (SS 398) Km 29,200 57028 Suvereto (LI) (IT)
Representative:	Alberto De Ros Società Italiana Brevetti S.p.A. Via G. Carducci 8 20123 Milano (IT)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted/electronically transmitted on 8 November 2024 rejecting the opposition filed against European patent No. 3857107 pursuant to Articl e 101(2) EPC.**

Composition of the Board:

Chairman	O. Randl
Members:	T. Vermeulen
	A. Bacchin

Summary of Facts and Submissions

I. The appeal was filed by the opponent against the decision of the opposition division to reject their opposition against European patent No. 3 857 107 (hereinafter: "the patent"). The patent originates from European patent application 19790072.3 with filing date of 27 September 2019 which claims priority from application IT 201800009028.

II. The opposition had been filed against the patent as a whole on the basis of the grounds for opposition under Article 100(a) together with Article 54(1) EPC (lack of novelty) and Article 56 EPC (lack of inventive step), and under Article 100(b) EPC.

III. In the decision under appeal the opposition division concluded *inter alia* the following:

- documents D22 and D23 were admitted into the proceedings,
- the ground for opposition under Article 100(b) EPC did not prejudice the maintenance of the patent as granted,
- the patent validly claimed priority from IT 201800009028,
- document D9 did not belong to "the prior art according to Article 54(1)(2)(3) EPC [*sic*]",
- the subject-matter of claim 1 of the patent as granted was new
  - over document D1 since feature [e] was not disclosed,
  - over document D2 since features [d], [e] and [f] were not disclosed,

- the subject-matter of claim 8 of the patent as granted is new since at least feature [ii] was not known "from the prior art [sic]",
- the subject-matter of claim 1 of the patent as granted involved an inventive step when starting from document D1 having regard to document D19 and to document D23 as proof of common general knowledge, and
- the subject-matter of claim 8 of the patent as granted involved an inventive step.

IV. The following documents were relevant in the appeal proceedings.

D1	US 2015/0041016 A1
D2	CN 205244690 U
D3	WO 2018/030886 A1
D4	US 8,371,143 B2
D9	CN 110260060 A
D12	"Hose Handbook", The Rubber Manufacturers Association, Inc., 2003 edition
D19	US 5,607,736 A
D22	"Bungee cord", Wikipedia entry
D23	"Rope Source, Quality Ropes and Twines - How Bungee Cords Are Manufactured", online article, 13 March 2015 (including comments posted between 31 December 2018 and 18 November 2022)

D2t, D3t, D9t refer to machine translations of documents D2, D3 and D9, respectively. D2t' refers to a human translation of document D2.

V. In a communication pursuant to Article 15(1) RPBA issued on 19 December 2025, the parties were informed

of the board's provisional opinion on the issues of the case.

VI. Oral proceedings before the board were held by videoconference on 23 April 2026. During the oral proceedings, the appellant withdrew its request to remit the case to the opposition division "for a proper consideration of D9" in case the board found that the patent was entitled to priority.

VII. The parties' final requests were as follows.

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

The respondent (patent proprietor) requested that the appeal be dismissed. It was also requested to reconsider the decision of the opposition division in respect of the admission of documents D22, D23.

VIII. Claims 1 and 8 of the patent as granted have the following wording (the feature numbering used in the decision under appeal appears in square brackets):

"1. [**a**] Extensible flexible hose for transporting a pressurized fluid comprising: an inner tube (1) made of an elastic polymeric material adapted to be extended along a longitudinal axis (X) starting from a rest condition in which the inner tube (1) has a rest diameter (D1) and to become radially expanded starting from a rest condition; [**b**] a tubular outer textile layer (2) with a stretchable pattern, arranged outside said inner tube (1) in a loose manner with respect to said inner tube (1) and coaxially thereto with reference to said longitudinal axis (X), said outer

layer (2) being adapted to define in itself an outer surface of the hose with no further layers; [**c**] and respective connector members to fluidically connect said tube to a feeding source of said fluid and to a fluid delivery nozzle, arranged respectively at a first and at a second common end of said inner tube (1) and said outer layer (2) so as to make the inner tube (1) and the outer textile layer (2) mutually integral in correspondence to said ends, [**d**] the hose being characterized in that said outer textile layer (2) is obtained by braiding textile yarns directly around said inner tube (1) in a longitudinally stretched condition with respect to said rest condition, [**e**] said tubular outer layer (2) having a maximum diameter, obtainable with a maximum axial compression of its textile pattern in the direction of said longitudinal axis (X), corresponding to said rest diameter of said inner tube (1) in said rest condition, [**f**] said textile material of said outer layer (2) being a non-elastic yarn or a yarn with insignificant elasticity chosen among the following materials or a combination thereof: polypropylene, polyester, polyamide, polyethylene, para-aramid fibers."

"8. A method for manufacturing an extensible flexible hose for transporting a pressurized fluid comprising the steps of:
- [**i**] feeding an inner tube (1) made of an elastic polymeric material adapted to be extended along a longitudinal axis (X) and to become radially expanded starting from a rest condition in which the inner tube (1) has a rest diameter (D1), to a stretched condition along said longitudinal axis (X) with respect to said rest condition;
- [**ii**] braiding around said inner tube (1) in said stretched condition a tubular outer textile layer (2)

with a stretchable pattern, so that said outer textile layer (2) becomes loosely arranged over said inner tube (1) and has a maximum diameter, obtainable with a maximum axial compression of its textile pattern in the direction of said longitudinal axis (X), corresponding to said rest diameter (D1) of said inner tube (1) in said rest condition;
- [**iii**] restoring the rest condition, said textile material of said outer layer (2) being a non-elastic yarn or a yarn with insignificant elasticity chosen among the following materials or a combination thereof: polypropylene, polyester, polyamide, polyethylene, para-aramid fibers; [**iv**] cut the assembly of outer layer (2) and inner tube (1) thus obtained to a segment of a desired length;
- [**v**] applying to a first and to a second end of said segment, so as to make the inner tube and the outer layer mutually integral in correspondence to said ends, respective connector members to fluidically connect said tube to a feeding source of said fluid and to a fluid delivery nozzle."

IX. The appellant essentially argued as follows.

Claim interpretation

The rest condition of the inner hose in feature [e] was simply the condition which a given inner tube adopted when there was no water flowing through the tube and, therefore, no internal pressure could urge the hose to extend longitudinally or radially. Nothing in the patent suggested that the expression "at rest" should be construed narrowly so as to exclude any constraint on the inner tube. So long as no pressurised water was flowing through the inner tube, the tube remained at rest notwithstanding any constraint imposed by a

tightly braided outer cover, even if that constraint prevented the inner tube from assuming the shortest length it would otherwise adopt in the absence of the outer cover. Feature [d] was merely a method feature; even if read together with feature [e] it did not limit the product of claim 1.

Sufficiency of disclosure

The wording "stretchable pattern" rendered the disclosure of the invention insufficient because the skilled person would be unable to work the invention across the full range of claim 1. The claim covered embodiments where the outer layer pattern could stretch radially as well as longitudinally. If the outer layer was able to stretch radially, the hose would not be able to expand longitudinally as effectively. The contested patent only provided one embodiment and did not teach the skilled person what an appropriate outer layer was in terms of the stretchable pattern. The patent merely defined the pattern as a "closed yarn pattern". Furthermore, the term "loose manner" was equally undefined in the claim. Particularly, "loose" was a relative term and did not provide a sufficient level of detail for the skilled person to understand the relationship between the inner and outer layers of a hose. Hence, the contested patent did not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

Claim to priority

The expression "in a loose manner" in feature [b] was not disclosed in the priority application. The skilled person could not directly and unambiguously derive this

wording from the disclosure of the priority application. In contrast, it followed from page 5, lines 2 and 3, of the priority application that the outer layer was substantially adhered to the inner tube and, hence, that there was a frictional contact, not merely a loose contact. This passage of the description had been removed from the priority application following citation of a prior-art document in the search report disclosing adherence between the layer and the tube. Regarding the passage on page 7, lines 2 to 7, of the priority application, this was just a snapshot of the manufacturing method. As soon as the tension was released, the hose retracted and the gap disappeared. The passage on page 6, lines 25 to 26, of the priority application showed that, in the end product, there was a tight contact between the outer layer and the inner tube. Accordingly, the claim to priority for independent claim 1 of the patent as granted was invalid.

Novelty over document D9

Document D9 disclosed a braided outer layer on a stretchable inner tube of a garden hose. According to the translation D9t, the outer layer shown in Figures 1 and 2 of document D9 was braided by a machine directly onto the inner tube. Even if the figures arguably showed a knitted pattern, document D9 disclosed the concept of braiding. This also followed from the claims of document D9, which defined a broader embodiment referring to braiding in claim 1 whereas the coils were only mentioned in dependent claim 3. Also the European patent family member of document D9 used the word 'braiding'. Furthermore, it followed from paragraph [0012] of the translation D9t that the outer layer did not to form any wrinkles when the inner tube was in a

relaxed state and that the pattern of the outer layer was stretchable. It was clear from Figures 1 and 2 of document D9 that the weave pattern was almost identical to that of the contested patent. Paragraphs [0040] and [0047] of the translation D9t disclosed that the outer layer was tightly fitted onto the inner tube, their outer diameters being close to each other, and that the angle of the pattern changed as the hose extended or contracted. The materials from which the wire forming the outer layer was made were disclosed in paragraph [0048] of the translation D9t. These were identical to the materials listed in the contested patent. The connector members were implicit. The subject-matter of claim 1 was therefore not new with respect to document D9.

Inventive step

(a) Starting from document D1 (claims 1 and 8)

When starting from document D1, the subject-matter of claims 1 and 8 did not involve an inventive step.

The embodiments illustrated in Figures 2A and 2B of document D1 showed an outer cover 36 comprising high strength yarns 36a, 36b that were woven in and out of each other to produce a hollow braided structure. The yarns could expand and contract both radially and longitudinally because of the pitch angle of the yarns, see paragraph [0052] of document D1. Any braided layer would inevitably increase in diameter when it was longitudinally compressed due to the compression of the braided textile pattern. In the relaxed inner state, the diameters of the inner and outer tubes were closely matched to provide a smooth exterior. The first two sentences of paragraph [0006] of document D1 described

a separate embodiment which had to be read in the context of the description of the previous paragraphs, and, therefore, also included the features of the prior-art hoses described in paragraph [0003]. The use of the words "[h]owever" and "can" in the lines further down in paragraph [0006] implied that this separate embodiment was to be considered separately from the embodiments shown in the figures of document D1.

Regarding claim 1, feature [e] was the sole distinguishing feature in view of the separate embodiment of paragraph [0006] of document D1. The objective technical problem would be to provide an extensible, flexible hose with remarkable elongation that at the same time did not become caught or dirty during use.

The skilled person would have been instructed by paragraph [0006] to design the hose in the same way as a bungee cord. Document D19 disclosed such a bungee cord. It was made of a single tube which "fit like a glove" within a braided outer layer, see column 2, lines 43 to 47, of document D19. Figures 3a and 3b of document D19 showed an arrangement in the relaxed and in the elongated state, respectively. In both cases, the core and the outer layer were in contact with each other. In the relaxed state of Figure 3a, the braiding pattern of the outer layer had an angle which could not be made more shallow; the outer layer was at its maximum axial compression. As there was no fluid applying a longitudinal or radial expansion force from within, the core had to be at rest. Document D1 in combination with document D19 and common general knowledge would have taught the skilled person how to solve the technical problem by providing feature [e] in an obvious manner. The skilled person would not have

been distracted by the pleated embodiments of document D1 which were prone to pick up dirt and required more material and, thus, were more costly.

The skilled person would have arrived at the same conclusions when starting from document D1 in view of common general knowledge as evidenced by document D23, for three different reasons. Firstly, the skilled person would have realised that the elongation limit of the outer layer's pattern put a limit on the expansion of the hose as a whole. The more the outer layer could elongate up to this limit, the more the overall hose could elongate. Maximum axial compression of the outer layer at rest obviously ensured the maximum potential for such elongation. Furthermore, the skilled person would have realised that there were only two options for braiding the outer textile layer: either it was braided directly onto the inner layer, or it was braided with a gap therebetween. Page 4 of document D23 disclosed that the core bundle of rubber was slightly stretched during braiding so that the fabric formed a tight cover when the rubber relaxed. As the radial gap during braiding would cause the excess textile of the outer layer to wrinkle at maximum compression, the skilled person's only realistic option was to braid the outer layer directly onto the core so that their diameters matched. Secondly, the skilled person would have realised that the way to achieve maximum elongation of the hose was to start in the rest position with an inner tube without any longitudinal stretch and a maximally compressed outer layer. Using only routine trial and error, the skilled person would have found the balance between too much and too little stretching as the outer layer was braided onto the inner tube. This provided the maximum potential for elongation without the inner tube or the outer layer

holding the elongation back. Thirdly, page 2 of document D23 disclosed a photograph of a cross section of a bungee cord in which the diameter of the outer layer matched the diameter of the core. As the cord was cut, it must be at rest, i.e. subject to no radial or longitudinal expansion forces from within. The braiding angle shown in the photograph implied that the outer layer was at its maximum axial compression. In addition, the skilled person would have understood that, to avoid creep, see the definition on page 76 of document D12, the core should be subject to no external compressive or restraining force by the outer layer.

Regarding claim 8, paragraphs [0072] and [0073] of document D1 disclosed a method of manufacturing a hose wherein an outer reinforcement cover 36 was braided directly onto an elastic inner tube 34, before inlet and outlet connectors 22, 28 were connected. Features [i] and [ii] of claim 8 were thus disclosed by document D1, apart from the step of braiding the outer layer whilst the inner tube was in a stretched condition. However, this would have been part of the skilled person's common general knowledge, see the existing braiding machines known in the field of hose production such as those of documents D3 and D4. In addition, the skilled person would have realised that the overall expansion of the hose was limited by the stretchable braid pattern and that the amount of elongation provided by this braid pattern was dependent on the movement from a fully compressed to a fully elongated braid pattern. The amount of elongation therefore obviously depended upon how compressed the braid pattern was in the relaxed state. To obtain maximum compression of the outer braid pattern it would have been obvious to adapt the elasticity of the inner tube in the braiding machine to provide the compression

needed to the fabric pattern of the outer cover. Furthermore, the materials from which the outer layer was formed in accordance with feature [iii] were well-known in the art. Features [iv] and [v] were not disclosed by document D1, but cutting and applying connectors to the ends of an extensible hose was part of the common general knowledge and could not contribute to an inventive step.

(b) Starting from document D2 (claim 1)

Also when starting from document D2, the subject-matter of claim 1 did not involve an inventive step.

Document D2 disclosed an extensible water hose comprising an elastic inner core, a braided mesh outer sleeve and connector members. Figures 2 and 3 of document D2 illustrated the retracted and extended states of the hose, respectively. They were not merely schematic. It was clear from the figures that the pattern of the outer sleeve was identical to the pattern shown in Figures 4 and 4A of the contested patent. Paragraphs [0020] and [0022] of the translation D2t described how the mesh was woven by utilising a zipper type weaving process and high-strength wires that underwent a heat-setting process. In Figure 1 of document D2, the elastic inner tube was shown abutting the inner diameter of the outer sleeve. The sleeve was without any wrinkles and, as was clear from the braid angle, in the fully axially-compressed configuration. Therefore, the yarn pattern was working in the same way as in claim 1. The dimensions given in paragraph [0017] of the translation D2t' proved that, similarly as in paragraph [0018] of the patent, the respective diameters corresponded to one another as required by feature [e].

The subject-matter of claim 1 only differed from the hose of document D2 by the materials of feature [f]. The objective technical problem was the choice of a suitable material.

There was nothing inventive in utilizing one of these materials for the yarns of the outer sleeve of document D2. These were common materials used in constructing inextensible layers in hoses, see for example page 11 of document D12.

Admittance of a further inventive-step objection

The objection of lack of inventive step starting from document D9 should be admitted into the proceedings. The objection was only raised during the oral proceedings before the board because the appellant only gained clarity regarding the meaning of feature [d] during the oral proceedings and, in particular during the discussion on novelty, whether document D9 disclosed a knitted or a braided outer layer. From a procedural point of view, the appellant had therefore reasons to file this objection only at the oral proceedings. Also, the inventive-step objection starting from document D9 did not introduce new facts, since novelty in view of this document had already been discussed. The assessment of inventive step did not constitute an undue burden for the board at this point of the proceedings, all the more so since document D9 was *prima facie* relevant for the outcome of the proceedings.

X. The respondent essentially argued as follows.

Admissibility of the appeal

The statement of grounds of appeal was quite unclear or at least incomplete, in the sense that there were many missing links in the logical chain, and, therefore, it did not enable an adequate reply by the respondent. In particular, the appellant provided almost no argument in respect of what should be considered common general knowledge, the problem-solution approach was poorly developed and the conclusions in the statement of grounds of appeal contradicted the respective titles of some of the sections on inventive step. It was the appellant's responsibility to conclusively demonstrate a lack of patentability; it was not the respondent's responsibility to speculate on possible arguments of the appellant.

Claim interpretation

Contrary to the opposition division's view, the "rest condition" of the inner tube corresponded not only to the condition when no water flowed inside the tube, but also to the condition when the tube was not stretched, see page 6, lines 29 to 31, of the A-publication of the application as filed. Feature [d] was to be interpreted as a product-by-process feature. It should be acknowledged in combination with feature [e] which defined a layer with maximum axial compression impossible to obtain, based on currently available braiding machines and technologies, simply by choosing a small value braiding angle. The compression of the textile layer contributed to the solution of the technical problem. It was the longitudinally stretched condition of the inner tube during braiding that

permitted to achieve feature [e]. An adequate axial compression of the textile layer on the inner tube was thus achieved when the product was at rest. It followed therefrom that features [d] and [e] were closely linked. Therefore, feature [d] should be considered when assessing both novelty and inventive step of claim 1.

Sufficiency of disclosure

Instead of objecting to the sufficiency of disclosure, the appellant objected to the clarity of the claim. The expressions "stretchable pattern", "closed yarn pattern" and "in a loose manner", were disclosed in an enabling manner within the context of the contested patent and perfectly clear in themselves. The expression "stretchable pattern" had to be read in conjunction with the clauses of features [d] and [e]. It was consistent with and supported by the description of the patent, see for example paragraph [0022]. Braiding was a specific manufacturing method. The term "loose" had the general meaning of "not rigidly fastened", "having relative freedom of movement”. It referred to a layer that was not attached to the inner tube, but simply braided around it. It was consistently used in the context of a textile layer being allowed to move between a closed pattern condition and an open pattern condition, see paragraph [0024] of the patent.

Claim to priority

The expression "in a loose manner" in claim 1 was directly and unambiguously disclosed in the priority application as a whole, particularly on pages 5 to 7, and more particularly on page 7, lines 2 to 7 and 16 to 25. According to these passages, the textile layer,

which had a more open weave during its formation leaving a free space or a gap with respect to the tube, became more compacted after formation. In the context of claim 1, the expression should thus be understood as referring to a generic relationship between the inner tube and the outer layer. Unlike in the prior-art document cited in paragraph [0030] of the contested patent, they were neither fastened nor irreversibly bonded. This did not mean that there had to be a gap; contact was possible but without adhesion. The term "sostanziale aderenza" on page 5, line 3, of the priority application did not have the same meaning as adherence. Consequently, the claim to priority of claim 1 of the patent was valid.

Novelty over document D9

The subject-matter of claim 1 was new over document D9. Document D9 disclosed a telescopic watering hose covered by a layer which was generally defined as braided, but actually formed a pattern of interlaced V-shaped loops spanning circumferentially over a circular segment and formed by a zigzag development of each yarn, see Figure 2 and the translation D9t. This was a not a braided pattern but a warp knit pattern. Serrated protrusions were formed where the loops interlaced. The translation D9t also mentioned the term "woven", where in fact knitting was the appropriate term. How knitting was done in the manufacturing process of document D9 was not explained. In the contested patent, a braided pattern had a specific meaning, namely a pattern formed by the diagonal intertwining of yarns that developped in a helical pattern around the whole circumference of the cylindrical surface. Nothing was said in the patent about a possible functional connection between the

inner tube and the outer layer, as far as the dynamic of the extension was concerned, other than that they had a mutually fitting relationship. According to the translation D9t, the "braided" layer could stretch in a range of 0° to 180° following the increase of the angle between the serrated protrusions. Yet the skilled person would have been unable to understand how the pattern could be realised when the above-mentioned extreme angles were obtained. Furthermore, document D9 did not disclose connector members of the tube assembly to a feeding source and to a fluid delivery nozzle.

Inventive step

(a) Starting from document D1 (claims 1 and 8)

When starting from document D1, the subject-matter of both claim 1 and claim 8 involved an inventive step.

The subject matter of claim 1 differed from document D1 by features [d] and [e]. As regards feature [d], the appellant's submissions on paragraph [0006] of document D1 were not convincing. Folded pleats were essential to the disclosure of document D1. The verb "can" was also used in the first sentence of that paragraph. Claim 1 of document D1 required that the outer cover responded to an external force by extending first to an extended length and then to a stretched length beyond the extended length. Several additional features were described as optional in document D1, but not the pleats. Reference was also made to paragraphs [0004], [0005], [0054] and [0077] of document D1. Paragraph [0073] of document D1 indicated that the outer layer could be braided directly around the inner tube. However, the inner tube was not necessarily in a longitudinally stretched condition during the braiding

step. Even if the first two sentences of paragraph [0006] of document D1 were considered as starting point, the appellant had to rely on the other embodiments of document D1 for the disclosure of the further features of claim 1.

The objective technical problem was to provide an extensible flexible hose with a remarkable elongation and which did not become caught or dirty. This problem held in general, irrespectively of whether or not feature [d] was disclosed by document D1.

Even when considering paragraph [0073] of document D1, the skilled person would not have been prompted to stretch the elastic inner tube before braiding the outer cover. The inner tube and the outer cover could be manufactured separately. The remarkable elongation of the hose of document D1 was achieved by unfolding the pleats of the outer cover.

Regarding document D19, the appellant failed to prove that it might be considered to fall under the category of "bungee cords or shock cords commonly found today", as referenced by paragraph [0006] of document D1. Nevertheless, document D19 would have taught away from the invention. Considering that the hose of document D1 relied on a controlled pleating to achieve significant expansion ratios, it would not have been combined with the teaching of document D19. Column 2, lines 32 to 46 of document D19 did not disclose the specific relationship between the outer layer and the inner tube of feature [e] considering also the internal mechanical stresses. Figure 3A of document D19 did not necessarily depict the rest condition. If the person skilled in the art had combined documents D1 and D19, they would not

have changed anything to the solution of document D1. The two solutions were quite incompatible.

The inventive-step objection based on the combination of documents D1 and D23 also relied on the reference in paragraph [0006] of document D1 to "bungee cords or shock cords commonly found today". However, the appellant had not proved that the solution of document D23 might fall under this category. In addition, the second part of paragraph [0006] taught away from using bungee cords. It would therefore not have been obvious to combine documents D1 and D23. The appellant's reasoning was based on hindsight. Document D23 did not disclose the specific relationship between the outer layer and the inner tube of feature [e] considering also the internal mechanical stresses. The hint on page 4 of document D23 to slightly stretch the rubber strands during cover braiding did not have anything to do with the remarkable elongation aimed at by the present invention. In any case, this was already achieved by the pleats of document D1. The stretching level of the inner hose during manufacturing was a continuous parameter that, theoretically, could take any value. Although, arguably, the skilled person would have attempted through a trial-and-error approach to find the best stretching level that allowed to form a tight cover, they would have had no reason to further increase that stretching level. It was not clear whether the representation on page 2 of document D23 was a photograph or a drawing reflecting a real bungee cord in a real condition. Anyway, the outer cover in the representation could not be in a compressed state because the hose was cut.

Claim 8 included feature [i] that specified stretching of the inner tube before braiding a textile layer

around it. This corresponded to part of feature [d] of claim 1. Since feature [d] was not disclosed in document D1 and could not be derived from any other prior-art document in an obvious manner, also the subject-matter of claim 8 involved an inventive step.

(b) Starting from document D2 (claim 1)

Also when starting from document D2, the subject-matter of claim 1 involved an inventive step.

Document D2 disclosed a hose having features [a] to [c] but not features [d] to [f]. Accordingly, it could not be considered as a reasonable starting point. The schematic figures of document D2 showed what was referred to in the automatic translation D2t as a "braided mesh layer" around the inner core. However, the human translation D2t' confirmed that the outer layer was actually woven. Also, the translation D2t referred in paragraph [0020] to a "knitting machine" and a "zipper type weaving process". As regards feature [e], paragraph [0015] of translation D2t' explained that, after weaving, the telescopic mesh tube was allowed to be in a set contracted state, with a given diameter and length, with the aid of an external force and then underwent a heat setting treatment. Paragraph [0017] of translation D2t' also referred to a heat-setting step. This had nothing to do with the requirement of feature [e]. In both Figures 1 and 2 of document D2, the pattern had an angled aperture of about 45° degrees with respect to a plane orthogonal to the longitudinal axis. To conclude that they represented the inner tube in the rest condition was therefore speculative. In addition, from the description of paragraph [0017] of the translation D2t' it followed that the diameters of outer layer and inner

tube did not correspond. There was no common general knowledge or teaching from other prior-art documents that would have incited the skilled person to implement features [d], [e] and [f] in the hose of document D2.

Admittance of a further inventive-step objection

The inventive-step objection starting from document D9 involved new factual elements and should not be admitted in the proceedings under Article 13(2) RPBA. Up to the advanced stage of the oral proceedings, no inventive-step attacks based on document D9 had been submitted on appeal. Apart from a brief, unsubstantiated remark in the notice of opposition regarding claim 8, the appellant had not raised the objection before the opposition division. The appellant should have been prepared for the possibility that their novelty objection in view of document D9 would be unsuccessful and should have raised the inventive-step objection earlier in appeal, at the latest after the respondent's reply to the statement of grounds of appeal. Instead, they had waited until the oral proceedings before the board to raise the objection and had even requested remittal of the case to the opposition division, a request which was withdrawn at the beginning of the oral proceedings.

Reasons for the Decision

Admissibility of the appeal

1. The respondent was of the view that the statement of grounds of appeal were "quite unclear or at least incomplete", in the sense there were many missing links in the logical chain, and, therefore, did not enable an adequate reply by the respondent. In particular, the appellant was criticised for having provided "almost no argument" in respect of what should be considered common general knowledge, for a "poorly developed" problem-solution approach, and for conclusions contradicting the respective titles of some of the sections on inventive step.

2. These submissions could be understood as calling into question the admissibility of the appeal under Article 108 EPC and Rule 99(2) EPC.

3. The statement of grounds of appeal contains several pages of arguments in support of the appellant's position that the opposition division's finding, not only on inventive step, but also on entitlement of priority, novelty and sufficiency of disclosure is incorrect. It may be that the section on common general knowledge is not convincing in the eyes of the respondent or that a proper definition of the objective technical problem is missing in the inventive-step assessment. However, such aspects are generally not sufficient for rendering an appeal inadmissible. They should rather be assessed in the context of the substance of the appeal (Case Law of the Boards of

Appeal, 11th Edition, July 2025, V.A.2.6.2, first paragraph, final sentence and V.A.2.6.6).

4. In view of the above, the appeal is admissible (Article 108 EPC and Rule 99(2) EPC).

Claim interpretation

(a) Rest condition, rest diameter

5. Both claim 1 and claim 8 of the patent as granted include various references to a "rest condition" and a "rest diameter" of the inner tube. The parties disagree on the meaning of these terms.

6. In feature [d] of claim 1 and feature [i] of claim 8, the term "rest condition" is used alongside - and in apparent contrast to - the "stretched condition". It is therefore understood to refer to a condition in which the inner tube is not stretched. This understanding is consistent with the patent description, particularly paragraph [0020] ("the inner tube 1 is moreover kept, through suitable stretching devices, in a stretched arrangement [...] so as to cause an elongation, which [...] will be advantageously between 3 and 4 times the length at rest") and paragraph [0022] ("the inner tube 1 is no longer being stretched and elastically retracts, taking again the length and the diameter of the rest condition").

7. Construing the term "rest condition" merely in terms of the absence of fluid flow in the hose, as argued by the appellant, would have the consequence that, also during the braiding process, the inner tube is in the rest

condition, which is, however, contrary to the wording of feature [d] and feature [ii].

8. The "rest diameter" appears in features [a] and [i] together with the reference sign "D1". It is understood to refer to the *outer* diameter of the inner tube in the rest condition. This understanding follows from the requirement of both feature [e] and feature [ii] that the maximum diameter of the outer layer corresponds to "said rest diameter of said inner tube (1) in said rest condition". It is consistent with the description in paragraph [0021] of the patent ("the outer diameter D1 of the inner tube at rest").

(b) Feature [d] - braiding step

9. Feature [d] of claim 1 requires that "the outer textile layer (2) is obtained by braiding textile yarns directly around said inner tube (1) in a longitudinally stretched condition with respect to said rest condition". In points 18.3 and 18.3.2 of the reasons for the decision under appeal, the opposition division held that, in isolation, this aspect of feature [d] was not recognisable in the final product and, therefore, did not limit the claimed subject-matter.

10. With claim 1 directed to an extensible flexible hose, there is indeed no reason to assume that the circumstances under which the textile yarns are braided are manifested in the final product. Whether an outer layer braided directly onto a stretched inner tube results in a different hose than if it were braided directly onto an unstretched inner tube would depend on parameters such as the degree of stretching of the inner tube and the braiding angle. Such parameters are, however, not part of claim 1. Likewise, the board is

not convinced that braiding the outer layer separately from the inner tube and subsequently sliding it onto the tube inevitably yields a hose that differs from one in which the outer layer is braided directly onto the inner tube. Therefore, the opposition division's understanding is endorsed by the board.

(c) Feature [e] - maximum diameter

11. For a hose to comprise feature [e], two conditions need to be met. Firstly, the outer layer must have a "maximum diameter [...] corresponding to said rest diameter of said inner tube (1) in said rest condition". Secondly, the maximum diameter must be "obtainable with a maximum axial compression of its textile pattern in the direction of said longitudinal axis (X)".

12. The first condition raises the question of what is meant by "corresponding to" in the context of feature [e]. A preliminary answer to this question may be found in paragraph [0021] of the patent, where it is implied that the diameters should essentially be *equal* ("an outer tubular layer 2 [...] is adapted to take on substantially the same maximum diameter [...] with respect to the outer diameter D1 of the inner tube at rest"). However, an outer layer applied around an inner tube cannot have the same (outer) diameter as the inner tube. The issue is addressed more accurately in paragraph [0024] of the patent: the outer diameter of the hose is said to be "consistent with the diameter D1 of the inner tube 1 at rest". An illustrative example is then provided of a hose having an outer diameter of "about 13 mm in spite of an outer diameter of the inner tube of 11 mm, due to the additional thickness of the outer layer". The first requirement of feature [e] thus

entails that, in the rest condition, the outer diameter of the outer layer (or: the hose) is at its maximum. This equals the outer diameter of the inner tube, except for the thickness of the outer layer.

13. That the maximum diameter can be obtained with a maximum axial compression of the textile pattern raises the further question: what is the extent to which a textile pattern can be compressed in the axial direction? Paragraph [0021] of the patent indicates that such a pattern is maximally compressed when it is a "closed" yarn pattern, i.e. "with fibers as close as possible to the plane orthogonal to the central axis X". In the board's view, this is a technically meaningful answer. If the braided yarns of the outer layer are as close as they can possibly lie with respect to the orthogonal plane, the maximum diameter is reached. Whether this condition applies may need to be assessed for each case separately.

Ground for opposition under Article 100(b) EPC - sufficiency of disclosure

14. The appellant argued that the invention of claim 1 was not sufficiently disclosed in view of the terms "stretchable pattern" and "loose manner" in feature [b].

15. In the board's view, the objections relate to a lack of clarity rather than an insufficient disclosure. For a lack of clarity to result in insufficient disclosure, it must affect the patent as a whole (i.e. not only the claims) and it must be such that the skilled person – who can rely on the description and on common general knowledge – is hindered from carrying out the

invention. This is not the case here, for the following reasons.

16. The respondent pointed out, with reference to paragraph [0022] of the patent, that the tubular outer layer prevented the radial expansion of the inner tube in the rest condition and assisted the extension of the inner tube "with distension and opening of its pattern (yarns that become more angled with respect to the plane orthogonal to the X axis)". The same paragraph teaches that the pattern of the outer layer is more open at the time of its formation on the thinned inner tube. After the braiding process, the pattern "compacts itself, with a certain longitudinal retraction and radial expansion". The pattern of the outer layer is thus not merely a "closed yarn pattern", but it opens up in the longitudinally extended condition as illustrated in Figures 4 and 4a. Against this background, the skilled person would be able to identify without undue burden the technical measures necessary to provide a tubular outer textile layer with a stretchable pattern in the sense of claim 1.

17. The fact that "loose" is a relative term does not mean that the skilled person, based on the patent as a whole, would have been unable to arrange a tubular outer textile layer outside an inner tube in a loose manner. The respondent convincingly argued with reference to paragraph [0024] that the skilled person would braid the textile layer around the inner tube without attaching it thereto.

18. In sum, the board concurs with the opposition division and the respondent that the ground for opposition under Article 100(b) EPC does not prejudice the maintenance of the patent as granted.

Claim to priority

19. It is the appellant's view that the subject-matter of claim 1 of the patent as granted does not validly claim the priority of the Italian patent application with number IT 201800009028. To support this, they presented several lines of argument, one of which concerned the arrangement in feature [b] of the outer layer "in a loose manner" with respect to the inner tube.

20. The opposition division did not follow the appellant that the priority application lacked a direct and unambiguous disclosure of "in a loose manner". In the decision under appeal, reference was made in this respect to pages 5 to 7 and, in particular, to page 7, lines 2 to 7, of the priority application.

21. Pages 5 to 7 of priority application describe, with reference to Figures 1 to 5, a method for manufacturing an extensible flexible hose by braiding a outer textile layer ("la calza tubolare 2") directly around an inner tube ("il tubetto interno 1") made of an elastic material. At the top of page 5 of the priority application, the braiding process is said to produce a tubular outer layer 2 with an axially extensible pattern directly around the inner tube 1 and so as to result in substantial adherence to the same in the rest condition ("e in modo da risultare in sostanziale aderenza allo stesso nella condizione di riposo"). This speaks against an arrangement of the outer layer "in a loose manner" with respect to the inner tube. Instead, the priority application requires some degree of adherence between inner tube and outer layer, a requirement which does no longer appear in the corresponding passage in paragraph [0016] of the

contested patent ("so as to result in substantial *contact, but without adhesion,* to the same in the rest condition", emphasis by the board).

22. On page 7, lines 2 to 7, of the priority application, the braided pattern of the outer layer 2 is described as being more open ("aveva trama più aperta") and leaving a certain amount of free space or a gap with respect to the outside of the inner tube ("un certo spazio libero o intercapedine rispetto all'esterno del tubetto"). While this passage may imply an unbound arrangement of some kind, it applies to the *formation process* of the hose, in which the outer layer is braided around an inner tube stretched to about 3 to 4 times its rest length and with a corresponding reduction in external diameter (see also page 5, line 30, to page 6, line 8, of the priority application). Once the hose is formed, however, the outer layer has substantially the same diameter as the outer diameter of the inner tube at the rest condition (see page 6, lines 12 to 16, of the priority application) and, as such, prevents a radial expansion of the inner tube beyond that diameter (see page 6, lines 26 to 27, of the priority application). This is aligned with the description on page 7, lines 16 to 25, of the priority application, in which the hoses are described to have an outer diameter consistent ("coerente") with the diameter of the inner tube in the rest condition, as illustrated in Figures 3 and 3a, the outer layer supporting the extension of the hose to the operative condition shown in Figures 4 and 4a, hereby reducing in diameter as the weave pattern opens. Above passages do not mention or imply that the outer layer is arranged "in a loose manner" with respect to the inner tube.

23. In view thereof, it must be concluded that an arrangement "in a loose manner" is not directly and unambiguously disclosed in the priority application. Thus, the opposition division erred in its finding that claim 1 of the patent as granted validly claimed priority from IT 201800009028 (Article 87(1) EPC).

24. Pursuant to Article 89 EPC, the filing date of the subject-matter of claim 1 for the purpose of Article 54(2) EPC is thus 27 September 2019.

Ground for opposition under Article 100(a) together with Article 54(1) EPC - novelty

25. Document D9 has a publication date of 20 September 2019. In view of the above conclusion on priority, document D9 is prior art in the sense of Article 54(2) EPC insofar as the subject-matter of claim 1 of the patent as granted is concerned.

26. The opposition division did not take position on novelty over document D9 since it concluded that the document did not constitute prior art due to its different conclusion on priority.

27. One point of disagreement between the parties is whether feature [d] of claim 1 is disclosed by document D9. The appellant argued that it was and submitted that the weave pattern shown in Figures 1 and 2 of document D9, referred to by the translation D9t as "braided", is almost identical to the one illustrated in the patent. The respondent maintained that the outer layer of the hose known from document D9 was actually a pattern of interlaced V-shaped loops formed by a zigzag

development of each yarn which was obtained by knitting rather than braiding.

28. The respondent's view is convincing. Figure 2 of document D9 illustrates how various yarns 231 to 236 mutually interlace as they extend along longitudinal strip-like areas of the outer cylindrical surface of the inner tube 21. Paragraph [0014] of the translation D9t indicates that the respective paths of the yarns are "wavy", forming "coils" that are "nested" inside adjacent coils of another yarn. These are characteristics of knitting, not of braiding. Notwithstanding references to "braided wires" and "weaving" in the translation D9t and the European patent family member of document D9, it is not disclosed without ambiguity that the prior-art hose comprises an outer layer obtained by braiding textile yarns in combination with the other features of claim 1.

29. Also the appellant's argument in view of paragraph [0011] and claim 1 of the translation D9t is not endorsed by the board. While document D9 may disclose in general terms an extensible flexible hose with an elastic inner tube and a tubular outer layer wrapped on the inner tube, this does not constitute a direct and unambiguous disclosure of an outer textile layer obtained by braiding textile yarns directly around an inner tube.

30. The subject-matter of claim 1 of the granted patent is therefore new over document D9. The ground for opposition under Article 100(a) together with Article 54(1) EPC does not prejudice the maintenance of the patent as granted.

Ground for opposition under Article 100(a) together with Article 56 EPC - inventive step

(a) Starting from document D1 (claim 1)

31. The appellant disputed the opposition division's conclusion that the subject-matter of claim 1 of the patent as granted involved an inventive step starting from document D1. In their view, the skilled person would have adapted the hose of document D1 in line with feature [e] having regard to the teaching of document D19 or to common general knowledge as exemplified by document D23 (optionally in combination with document D12).

(i) The disclosure of document D1

32. It is common ground between the parties that features [a] to [c] and [f] were known in combination from document D1. However, they have opposing views on whether feature [d] and, to a certain extent, also feature [e] is disclosed by document D1.

33. The outer layer of the hose of document D1 is obtained by braiding textile yarns in a tubular shape. Paragraph [0073] of document D1 describes two alternative solutions for manufacturing the hose: the outer layer is either braided directly onto the inner tube or it is made separately and then slid around the inner tube. Either way, feature [d] is disclosed for the reasons given in point 10. above.

34. As regards feature [e], it is apparent from the embodiment shown in Figure 2A of document D1 that, in the rest condition, the outer layer 36 of the hose 30

folds into a series of annular ridges or "pleats" having an outer diameter depicted as 'D3' in the figure. In this retracted position, the pattern of braided yarns 36a, 36b is contracted in the axial direction, the yarns being angled "at a small pitch angle P1 of approximately ten degrees" (see paragraph [0054]). While the yarn pattern may be considered "closed" and, in line with the interpretation given in point 13. above, maximally compressed in the axial direction, the outer diameter 'D3' of the outer layer 36 does not *correspond* to the rest diameter 'D1' of the inner tube 24 owing to the radially extending pleats (see point 12. above). Hence, feature [e] is not disclosed by this particular embodiment of document D1.

35. In the oral proceedings held before the board, the appellant argued that the first two opening sentences of paragraph [0006] of document D1 should be considered as a separate embodiment disclosing a hose having an outer cover with a similar structure to the braided cover on prior-art bungee cords which was, therefore, without any radially extending "pleats". This argument is unconvincing for the following reasons. The opening sentences of paragraph [0006] cannot be read in isolation but must be considered alongside the remaining sentences of the paragraph and against the background of the preceding paragraphs of the "Summary" section of document D1. The potential reliance on known outer covers "without the need for significant folding or unfolding" is expressly counterbalanced in the third sentence of paragraph [0006] by the concessive adverb "[h]owever" followed by the expression "the hoses disclosed in this patent". This conveys a contrast between the hoses mentioned in the opening sentences of the paragraph and the actual disclosure of document D1, which is concerned with achieving significant expansion

ratios (see also paragraph [0004] of document D1). Moreover, while the material and braided configuration of the "[o]uter cover 36" referred to in the opening sentences of paragraph [0006] are indeed disclosed in paragraph [0005], this disclosure is made solely with reference to Figures 2A and 2B. As in all other embodiments of document D1, these figures consistently rely on "controlled pleating", i.e. folding of the outer cover into evenly spaced annular ridges in the retracted position, in order to achieve a hose with great expansion ratios.

(ii) The objective technical problem

36. The parties agreed that the objective technical problem was to provide an extensible, flexible hose with a remarkable elongation and which did not become caught or dirty during use. The board does not see any reason to deviate from this formulation.

(iii) Obviousness in view of document D19

37. Document D19 is concerned with the composition of an elastic bungee cord. Although this technical field is remote from the subject-matter of fluid transporting hoses, documents D1 and D19 establish a link to this field: the outer cover 36 of an extensible flexible hose can have a similar structure to the braided cover on prior-art bungee cords (paragraph [0006] of document D1); the elastic binding device of document D19 may also be used as a flexible, elastic hose (column 4, lines 16 to 17, of document D19). Hence, documents D1 and D19 are not so incompatible that the skilled person would not have considered combining them to solve the objective technical problem.

38. However, the fact that the controlled pleating of the outer cover is presented as a key factor in achieving significant expansion ratios in document D1 speaks against replacing the outer cover with a smooth layer without pleats, which would allow the inner tube to "fit like a glove" even in the rest condition (see column 2, lines 41 to 47, of document D19). It is only with the benefit of hindsight that the skilled person would have ignored this aspect and proceeded to modify the hose of document D1 in line with the teaching of document D19.

(iv) Obviousness in view of document D23

39. A similar consideration applies in respect of the combination of document D1 with document D23, an online article that concerns the manufacture of bungee cords in which textile yarns are braided directly around a stretched rubber core. Regardless of whether or not the content of the article can be considered as part of common general knowledge, the board is not persuaded that the skilled person would have been encouraged to produce the outer layer known from document D1 in the manner as set out in document D23 without ensuring that it folds into a series of pleats in the rest condition.

40. The appellant submitted that the skilled person, on the basis of document D3, would have recognised that the appropriate balance between excessive and insufficient stretching of the inner tube during braiding could be determined through routine trial-and-error experiments. This would ensure that, in the rest state, the outer layer would be subjected to maximum axial compression without longitudinally stretching the inner tube, thereby ensuring that the hose retains its maximum potential for elongation. Even assuming that this were

the case, it is essential for the extensible flexible hose of document D1 that the compression of the outer layer occurs in conjunction with the formation of pleats which increases its outer diameter well beyond the rest diameter of the inner tube, contrary to what is required by feature [e]. The appellant did not provide convincing evidence as to why the skilled person would have disregarded this key aspect of document D1 because of the teaching of document D23 even when supplemented by common general knowledge.

41. In a further line of argument, the appellant relied on page 76 of document D12, submitting that this passage taught the skilled person that creep should be avoided so that, accordingly, the inner tube of document D1 should not be subjected to any compressive or restraining force in the relaxed state. This argument overlooks the fact that, as the respondent has convincingly pointed out, document D12 does not concern extensible hoses and that creep is neither mentioned in claim 1 nor in the objective technical problem.

42. In view of the above, there is no need to review the discretionary decision of the opposition division to admit document D23 (and document D22), as requested by the respondent.

43. The board concludes that the subject-matter of claim 1 involves an inventive step when starting from document D1 (Article 56 EPC).

(b) Starting from document D1 (claim 8)

44. The appellant also disputed the opposition division's conclusion that the subject-matter of claim 8 of the patent as granted involves an inventive step starting

from document D1. In their view, the skilled person would have adapted the method for manufacturing the hose of document D1 in lines with features [ii], [iv] and [v] based on common general knowledge.

45. It is common ground that the method steps of features [iv] and [v] were not disclosed by document D1. Regarding feature [ii], one of its requirements is that the outer textile layer "has a maximum diameter, obtainable with a maximum axial compression of its textile pattern in the direction of said longitudinal axis (X), corresponding to said rest diameter (D1) of said inner tube (1) in said rest condition". Such an outer layer is not disclosed by document D1 for the same reasons as set out in point 34. above in respect of feature [e] of claim 1. Consequently, the subject-matter of claim 8 differs from the method known from document D1 by features [ii], [iv] and [v].

46. The board is satisfied that, also for claim 8, the objective technical problem would be to provide an extensible, flexible hose with a remarkable elongation and which does not become caught or dirty during use.

47. The appellant referred to documents D3 and D4 to corroborate its view that existing braiding machines known in the field of hose production were common general knowledge. Nevertheless, this view does not change the conclusion arrived at in respect of feature [e] of claim 1, which is almost identical in wording to the second part of feature [ii] of claim 8.

48. For the above reasons, the board is not convinced that the skilled person, when starting from the method known from document D1, would have arrived at the subject-matter of claim 8 in an obvious manner.

49. The subject-matter of claim 8 thus involves an inventive step when starting from document D1 (Article 56 EPC).

(c) Starting from document D2 (claim 1)

50. The appellant disputed the opposition division's conclusion that the subject-matter of claim 1 of the patent as granted involves an inventive step starting from document D2. In their view, the skilled person would have adapted the hose known from document D2 in line with feature [f] based on common general knowledge as exemplified, for example, by document D12.

(i) The disclosure of document D2

51. The parties agree that document D2 discloses an extensible flexible hose having features [a] to [c], but not feature [f]. The issue under dispute is whether also features [d] and [e] were known from document D2.

52. Regarding feature [d], the appellant relied on document D2t, a machine translation of document D2, which consistently referred to the outer layer 2 as "braided mesh jacket" or "braided net jacket". The respondent, in contrast, based their argument that feature [d] is not disclosed on document D2t', a human translation of document D2 where the terms "weaving" and "knitting" were used to characterise the manufacturing process of the outer layer 2.

53. In the board's view, it is unreasonable to place more weight on the terminology used in a machine translation than in a human translation. However, even if translation D2t were taken into consideration, its

paragraph [0020] makes references to braiding, weaving and knitting, so that it can be inferred that the term "braiding" is used in a general manner in the machine translation to also cover alternative techniques. Consequently, the representation in Figures 1 and 2 of document D2 of a hose having an outer layer 2 with what could be regarded as a braided pattern, is not sufficient for a direct and unambiguous disclosure of an outer textile layer in the sense of feature [d], i.e. one "obtained by braiding textile yarns".

54. The appellant referred to Figure 1 and paragraph [0020] of translation D2t (which corresponds to paragraph [0015] of translation D2t') in support of their view that feature [e] was disclosed by document D2. Nevertheless, a conclusion on the correspondence between the maximum diameter of the outer layer and the rest diameter of the inner tube can be drawn neither from the figure nor from the paragraph. Instead, it follows from the description of the specific examples in paragraph [0017] of translation D2t' ("a telescopic mesh tube with a diameter of 10 mm [...] gently installed on an elastic water pipe inner core 1 with [...] an outer pipe diameter of 9.5 mm") that the outer layer is placed over the inner tube with a certain amount of play.

55. Therefore, the board concludes that none of features [d], [e] and [f] are disclosed by document D2.

56. This in itself is not a reason to discard document D2 as a suitable starting point for the assessment of inventive step. The respondent's view that "the technology used therein is quite different from the technology proposed by the present Patent" has not been

corroborated by any facts or arguments and is, therefore, rejected.

(ii) Objective technical problem

57. The parties did not identify a technical effect of the distinguishing features nor did they formulate an objective technical problem. However, the board is satisfied that, when starting from document D2, the objective technical problem would also be to provide an extensible, flexible hose with a remarkable elongation and which does not become caught or dirty during use.

(iii) Obviousness

58. In view of the table presented on page 11 of document D12, it is credible that the materials mentioned in feature [f] of claim 1 were commonly used when constructing inextensible layers in hoses at the time the application was filed. However, the appellant did not present any arguments - nor does the board see any - as to why the skilled person would have been motivated to alter the structure of the hose known from document D2 in line with feature [e].

59. For the reasons given above, the subject-matter of claim 1 involves an inventive step when starting from document D2 (Article 56 EPC).

(d) Conclusion on inventive step

60. The board concurs with the opposition division that the ground for opposition under Article 100(a) together with Article 56 EPC does not prejudice the maintenance of the patent as granted.

Admittance of a further inventive-step objection (Article 13(2) RPBA)

61. At the end of the oral proceedings held before the board, the appellant raised, for the first time in the appeal proceedings, an inventive-step objection starting from document D9 in combination with common general knowledge. The respondent requested that the objection not be admitted under Article 13(2) RPBA.

62. The inventive-step objection starting from document D9 constitutes an amendment of the appellant's appeal case. Under Article 13(2) RPBA, such an amendment must, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

63. The appellant's only justification for raising the objection at such a late stage of the appeal proceedings was that they only gained clarity during the discussion on novelty held at the oral proceedings as to whether document D9 disclosed a knitted or a braided outer layer. The board cannot accept this argument, since its view that the yarn pattern shown in Figure 2 of document D9 was obtained by knitting rather than braiding was based entirely on the submissions made by the respondent in their reply to the statement of grounds of appeal. The board had already provisionally adopted this view in its communication under Article 15(1) RPBA (see in particular points 35. and 36.), so that the appellant could have anticipated this outcome on document D9.

64. The fact that an objection of lack of novelty had already been raised in view of document D9 is also not

sufficient to qualify the circumstances at the oral proceedings before the board as exceptional. The appellant could not simply assume that the board would accept their reasoning on the contentious issue of the disclosure of feature [d] by document D9 and, as a result, acknowledge that the subject-matter of claim 1 lacked novelty. Instead, the appellant should have been prepared for the possibility that their novelty objection would be unsuccessful, raising the inventive-step objection starting from document D9 earlier in appeal. A new inventive-step objection, even if based on a document already discussed for novelty, implies an entirely new factual argumentation. The board cannot agree with the appellant that it does not involve an undue burden for the other party and the board. The appellant should not have waited until an advanced stage of the oral proceedings before the board to raise this objection. They had several opportunities to do so earlier in the appeal proceedings. For example, the inventive-step objection could have been submitted after the respondent's reply, in which novelty in view of document D9 was further defended. Alternatively, it could have been submitted after the board's communication under Article 15(1) RPBA, in which it was provisionally stated that the novelty objection in view of document D9 was unlikely to be successful. The board adds that, by withdrawing their conditional request for remittal of the case to the opposition division "for a proper consideration of D9" at the outset of the oral proceedings, the appellant appears to have deliberately deferred raising the issue until a very late stage of the proceedings.

65. In view of the above considerations, the board decided not to take into account the inventive-step objection starting from document D9 (Article 13(2) RPBA).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Hampe O. Randl

Decision electronically authenticated