



Local Chamber Munich
UPC_CFI_324/2024 UPC_CFI_487/2024

Decision

of the Court of First Instance of the Unified Patent Court of 6
June 2025

GUIDING PRINCIPLES:

1. If the defendant defends itself against the allegation of patent infringement with the argument that the infringement of the patent in suit by the challenged embodiment is impossible due to circumstances outside the patent claim, the defendant bears the burden of presentation and proof for this assertion. According to Art. 54 UPCA, the infringing plaintiff is not required to present evidence on the design of components outside the patent claim.
2. If a device has the suitability required by the patent claim, it is irrelevant whether the patent-compliant properties and effects are achieved regularly, only in exceptional cases or only by chance and whether the user intends to achieve these effects.

PLAINTIFF AND DEFENDANT (hereinafter "Plaintiff")

Tiroler Rohre GmbH, Innsbruckerstraße 51, 6060 Hall - Austria

represented by: Florian Robl, Torggler & Hofmann Patentanwälte GmbH & Co KG

DEFENDANTS AND RESISTING PARTIES (hereinafter "Defendants")

1. **SSAB Swedish Steel GmbH**, Hamborner Straße 55, 40472 Düsseldorf - Germany
2. **SSAB Europe Oy**, Harvialantie 420, 13300 - Hämeenlinna - Finland

represented by: Christian Meyer, Maiwald GmbH

LANGUAGE OF THE PROCEEDINGS

German

PATENT IN SUIT

EP 2 839 083 B9

ADJUDICATING BODY

Panel 1 of the Munich Local Court.

DECIDING JUDGE

This decision was issued by the presiding judge Dr Matthias Zigann, the legally qualified judge Margot Kokke, the technically qualified judge Dennis Kretschmann and the legally qualified judge Tobias Pichlmaier (rapporteur).

ORAL HEARING

The hearing took place on 13 May 2025.

OBJECT

Infringement action (ACT_36096/2024) with revocation counterclaim (CC_47194/2024) and requests for amendment of the patent. Opposition concerning the revocation counterclaim (App_54649/2024).

Facts of the case

The patent in suit was filed on 12 April 2013, claiming the Austrian priority of 20 April 2012, and was granted by the European Patent Office on 22 November 2017. A corrected patent specification was issued by the EPO on 18 April 2018. The patent in suit is in force in Germany, Austria, Belgium, Denmark, Finland, France, Italy, Luxembourg, the Netherlands, Portugal, Slovenia and Sweden, among others. An opt-out declaration made with regard to the patent-in-suit was withdrawn with effect from 2 February 2024.

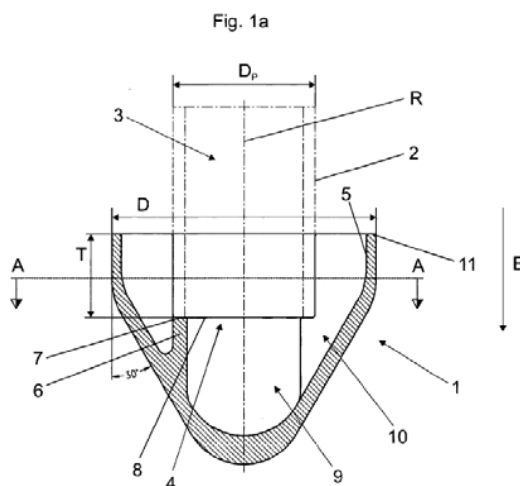
The plaintiff is the sole proprietor of the patent in suit.

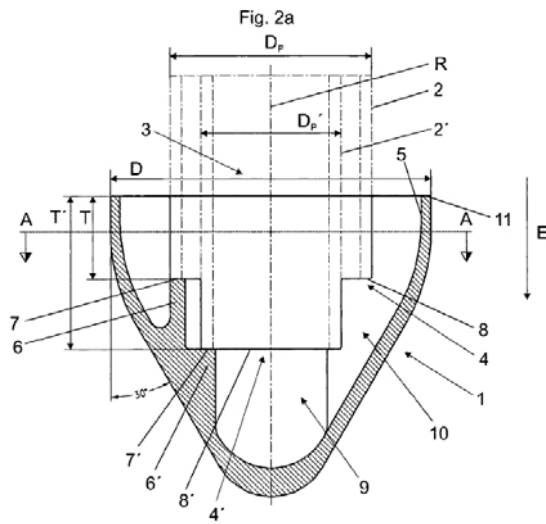
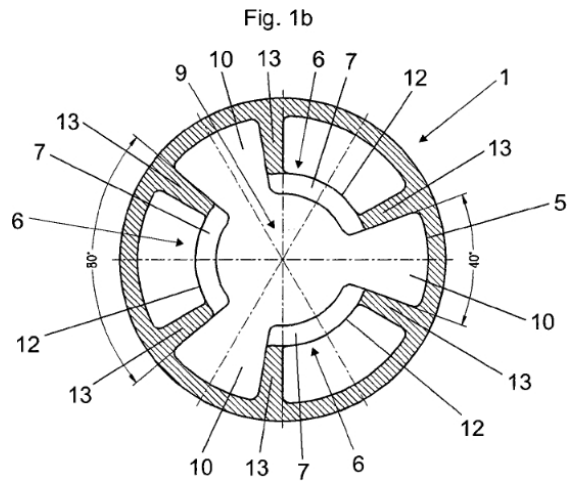
Claim 1 of the patent in suit, to which claims 2 to 12 are related back, reads:

Driving tip (1) for an essentially tubular, in particular hollow-cylindrical, driven pile (2) with a pile core (3), through which concrete can be introduced into the driven pile (2), wherein the driving tip (1) can be fitted onto a pile end (4) of the driven pile (2), wherein at least one first support web (4) is arranged on an inner wall (5) of the driven pile (1), wherein at least one second support web (5) is arranged on an inner wall (5) of the driven pile (2), and wherein at least one second support web (6) is arranged on the inner wall (5) of the driven pile (2).

(6) is arranged with a first bearing surface (7) for an end face (8) of the pile end (4), wherein the driving tip (1), starting from the plane of the first bearing surface (7), has a cavity (9) extending at least partially in the driving-in direction (E), into which concrete can be introduced through the pile core (3) when the driven pile (2) is mounted, at least one concrete outlet channel (10) being provided, which connects the cavity (9) to an upper edge (11) of the driven pile tip (1).

The following drawings, among others, are included in the patent specification for explanatory purposes





Under the product designation GS115, GS140 and GS170 represent the Defendants manufacture and sell various sizes of the pile driving tips shown below.



After the plaintiff became aware of this, it filed an application for interim measures with the Local Chamber in Munich (UPC_CFI_98/2024, ACT_11890/2024). At the oral hearing on this application, the Local Division, composed of the same judges, indicated that there were doubts as to whether the patent in suit would be valid in the version granted. The plaintiff withdrew the application.

Party submissions on the infringement action

The **plaintiff** is of the opinion that the defendants infringe the patent in suit by manufacturing and selling the products GS115, GS140 and GS170 (attacked embodiments). The attacked embodiments showed all the features of claim 1 of the patent in suit and therefore made use of the subject matter of claim 1 of the patent in suit. The same applies to claims 3, 4, 5, 6, 7, 8, 10, 11 and 12.

With regard to the characteristic "bearing surface", the plaintiff is of the opinion that this must only be suitable to serve as a support for the end of the pile; whether or to what extent contact actually occurs is not decisive.

In the alternative, the applicant submits that the feature of claim 1, according to which

at least one first bearing web (6) with a first bearing surface (7) for an end face (8) of the pile end (4) is arranged on an inner wall (5) of the pile driving tip (1),

is equivalently realised in the contested embodiments (see in detail the statement of claim of 17 June 2024, p. 25 et seq.).

The plaintiff considers the legal validity of the patent in suit to be secured (see in detail the statement of claim dated 17 June 2024, p. 30 et seq.).

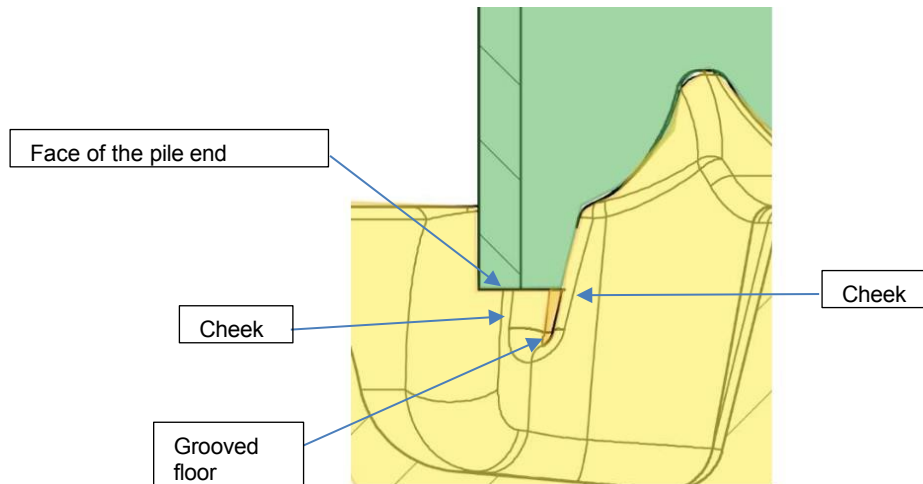
The **defendants** deny that the challenged embodiments infringe the patent in suit. The arguments put forward in the statement of defence against the allegation of infringement can be summarised as follows:

- No free-standing bridge

For the first time at the oral hearing, the defendants stated that the term "**footbridge**" implies that it must be **free-standing**.

However, a free-standing bridge is not given in the contested embodiments, since - as shown below - the bridge, which is regarded as a bridge on the part of the plaintiff, is not a free-standing bridge.

"groove bottom" had walls on both sides of the tapered groove and could therefore not be described as free-standing (illustration as on p. 21 of the statement of defence; labelled by the court; the side walls of the groove are referred to here as "jaws"):



- No flat contact surface

The term "bearing surface" used in claim 1 of the patent in suit is to be understood as meaning that the bearing surface must be flat. On the one hand, this follows from the fact that the claim refers to a "plane of the first bearing surface". On the other hand, this follows from functional considerations: The bearing surface for the pile end (end face) normally has a flat surface due to the manufacturing process, so that the bearing surface must be designed for flat support (stop) of the pile end.

The groove base of the contested embodiments, which the plaintiff considers to be the claimed bearing surface, is - as can be seen in the above insert - rounded and therefore not "flat" as required by the claim.

- No stop of the pile end on the contact surface

However, it is not sufficient for there to be a flat bearing surface anyway; it must also be possible for the end of the pile to come into contact with the bearing surface. It is true that the pile driving tip only has to be set up or suitable for attaching to the pile end of the driven pile. However, the pile driving tip and a hypothetical driven pile must be able to form a functional unit after driving in, in which the pile end strikes the bearing surface (statement of defence of 17 September 2024, p. 13 et seq.). The applicant had also explained the necessary abutment of the pile end against the bearing surface accordingly in the examination procedure at the EPO.

In the contested embodiments, however, there could be no contact between the end face of a pile end and the groove base for the following reasons:

- No driven piles with dimensions corresponding to the groove available

The piles of the defendants matching the attacked products GS115, GS140 and GS170 had a wall thickness exceeding the width of the groove bottom, so that they would jam in the groove above the groove bottom as intended and, moreover, also protected by patent (EP 3 913 143 B1). The driven piles offered by the defendants could therefore not reach the groove bottom; there were also no piles from other suppliers on the market whose wall thickness corresponded to the dimensions of the groove bottoms of the challenged embodiments.

- No impact due to the forces acting during ramming

Since the pile end in the contested embodiments jams above the bottom of the groove as intended, the pile end cannot come to rest flat on the bottom of the groove. In any event, the forces during driving are not so high that the end face of a pile end with a wall thickness exceeding the width of the groove base is deformed during driving in such a way that the groove base is reached; instead of a deformation of the end face of the pile, the driving tip is damaged or even breaks. The defendants refer in this respect to the tests carried out in this connection. However, deformation of or damage to the end face of the pile is also undesirable, as this would weaken the stability of the pile.

- Provision of driven piles with a wall thickness corresponding to the grooved floor not technically feasible

In the contested embodiments, the groove tapers towards the groove base, so that - if the end face of the pile is to be able to reach the groove base - the wall thickness of a pile end adapted to this groove either has a wall thickness that decreases in accordance with the groove or only a total wall thickness of

have a wall thickness corresponding to the dimensions of the base of the groove. It should not be overlooked here that such a hypothetical pile must also be technically realistic; it must therefore be designed in such a way that its wall thickness guarantees sufficient mechanical stability for the pile-driving process. The declaration of the technology manager Antti Perälä of the defendant 2) submitted as Annex "L" states in this respect:

"If the pile pipe had such a thin wall thickness that it could penetrate to the bottom of the groove, there would be problems with impact resistance. The pile pipe would not be able to withstand ramming."

According to the defendant, there is also no equivalent patent infringement (see in detail the statement of defence of 17 September 2024, p. 35 et seq.).

The defendants are also of the opinion that the territorial scope of the prohibition should be limited to Germany, Austria and Italy, since the contested designs were only offered there.

The defendants are also of the opinion that a recall and destruction are disproportionate.

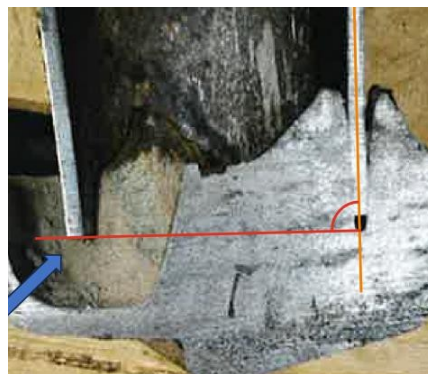
There was no legitimate interest in publishing the judgement, since decisions of the UPC were published anyway and only small numbers of the contested embodiments had been sold.

A penalty payment of 15,000€ is sufficient and appropriate.

In its reply to the infringement action, **the plaintiff** argued that there was no reason why a curved surface should not be able to serve as a linear or flat support for a flat end face of a driven pile, especially since the groove base in the contested embodiments was flat, as the following illustration of the defendant shows:



Under the enormous forces that occur when driving the driven piles into the ground, the driven piles undoubtedly reached the bearing surfaces. From the plaintiff's point of view, the defendants also proved this with their tests:



The drawing shows a tubular driven pile (green) mounted on a pile-driving tip (yellow). The pile driving tip has an inner recess 26a for receiving a lower end of the pile 2, so that the end face of the pile 2 comes to rest against the lower end of the recess 26a. This recess serves as a support web. The E3 also reveals flow openings 7 through which concrete can emerge from the top of the pile to the outside and above, i.e. a concrete outlet channel in accordance with the requirements. The flow openings are located below the end of the depression 26a, so that a cavity is formed in accordance with the requirements.

- However, the subject-matter of claim 1 was also known from E1, E2, E4 and E5 (see in detail the nullity counterclaim of 17 September 2024, p. 27 et seq.).
- At the very least, the subject-matter of claim 1 was not based on inventive step (see in detail the nullity counterclaim of 17 September 2024, p. 36).

- Subclaims

The sub-claims also did not define any patentable subject matter (see in detail the nullity counterclaim of 17 September 2024, p. 37 et seq.)

The plaintiff has defended the patent in suit with a reply to the action for revocation in its current version and, in the alternative, with 29 auxiliary requests.

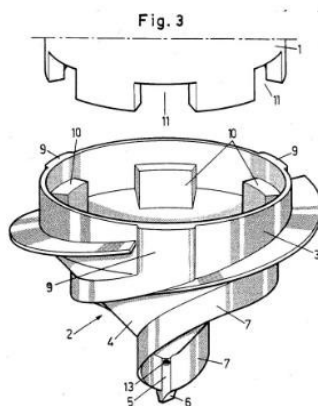
At the suggestion of the Local Board, it submitted the auxiliary requests for examination in the following order: 3, 1, 2, 4 - 29. Auxiliary request 3 is a combination of claim 1 with claims 3 and 4 (each as granted).

From the plaintiff's point of view, the novelty and the inventive step with regard to claim 1 of the patent in suit as granted are obvious compared to the prior art. With regard to E3/E3', the plaintiff submits that the yellow-coloured component is not the pile-driving tip; only the part designated by reference signs 9 and 10 constitutes a pile-driving tip within the meaning of the patent in suit; therefore, E3/E3' does not show that the pile-driving tip can be mounted on a pile in accordance with the claim.

Moreover, according to paragraph [0034] of the description, E3/E3' provides for additional fastening measures of the pile pipe 2 to the pile shoe 1, so that it is not possible to speak of an "attachable" pile driving tip from this point of view either. *Attachment* within the meaning of the patent in suit refers to a plug-in connection, which on the one hand requires a "certain clamping effect", but on the other hand excludes the existence of additional connections, for example screws, rivets, bolts, etc. (see statement of claim, p. 30/31).

In the reply to the counterclaim for revocation of 20 January 2025, the **defendants** took the view with regard to auxiliary request 3 that this also includes pile-driving tips which have a full circular ring as a support web (e.g. $320^\circ + 40^\circ$; $120^\circ + 240^\circ$), whereby the existence of a (possibly theoretical) subdivision of the circular ring is sufficient. The circular depression 26a of E3/E3' constitutes a circular ring in the sense of this interpretation, which could theoretically be subdivided into a first support web with an arc of 40° to 120° and a corresponding second support web. Thus, the first support web according to auxiliary request 3 is legible on the E3/E3' and consequently the subject-matter of claim 1 in the version of auxiliary request 3 is not new.

With regard to auxiliary request 3, the defendants further pointed out that in E7 (from which the following Fig. 3 is taken) a pile driving tip 2 is shown which has bearing surfaces 10 on its upper side. These are designed as circular ring segments within the meaning of auxiliary request 3 and are intended to support a pile 1.



The skilled person would consider this configuration as an alternative design to the support surface 26a of the E3/E3'. If the technical task of

design of the first support web, the skilled person would immediately recognise that the projections 10 of the E7 functionally correspond to the recess 26a of the pile-driving tip of the E3. This is because both the projections 10 of the E7 and the recess 26a of the E3 ran in a circle on the inner wall and served as a longitudinal stop for the driven pile. The design of the projections 10 of the E7 could be transferred directly to the pile-driving tip of the E3. Contrary to what the plaintiff claims, the angle range does not have to be changed or adapted for this purpose. Rather, the skilled person could transfer the design of the projections 10 of the E7 to the pile-driving tip of the E3 without modification. The skilled person would therefore not have to be inventive in order to provide the subject-matter of claim 1 in accordance with auxiliary request 3.

As part of this modification, the specialist would also modify the pile end if necessary.

1 according to E7 with complementary recesses 11 in order to ensure full-surface contact. At the hearing, the defendants also referred to para. 5, lines 44-48 of E7, according to which the interlocking projections 10 and recesses 11 of E7 not only serve to transmit rotational forces, but also transmit downward compressive forces.

Moreover, the applicant itself assumes that the circular arcs of the projections 10 of the E7 extend over a maximum of 30°. Extending the circular arc to 40° would not result in any technical effect; consequently, there would be no inventive step in this respect either.

According to an alternative line of argumentation of the defendant, starting from the E3/E3', a support web as a circular ring segment with 40° to 120° would also result directly if the recess 26a were formed deeper in sections in the ramming direction down to the flow openings 7. The skilled person would make such a lowering of the recess 26a with the aim of shortening the pile-driving tip overall, for example to improve the handling of the pile-driving tip. As part of such a modification, the stop, which is defined by the recess 26a, could also be radially interrupted. This would be a small adjustment familiar to the skilled person in order to keep the flow openings 7 clear. The end face of the pile pipe 2 would remain in the form of a circular ring in accordance with E3/E3'.

In the case of a combination of E3/E3' with E7, the specialist would provide appropriately dimensioned support bars . In particular, would the specialist the

Automatically adapt the support bars to the situation of the E3/E3' and provide an optimum compromise between the size of the support surface and the size of the concrete outlet channels.

The **applicant** replied that attempts to interpret claim 1 in accordance with auxiliary request 3 as also comprising embodiments comprising a full circle as a support web were wrong because they were in direct contradiction to the wording of auxiliary request 3. Accordingly, E3/E3' does not disclose a support web with a circular arc of 40° to 120°. There is also no reason to combine the E3 with the E7: The E3 reveals an extended driving tip for a driven pile with a sleeve for concrete insertion, the E7 a drilling tip to be driven in rotationally. Experts would recognise that the projections with the reference signs 10 of the E7 were used to transfer the rotary movement to the drill bit (E7, column 1, lines 6 to 15 in conjunction with column 5, lines 15 to 20). For this reason, a combination of the E3 with the E7 makes no technical sense.

In their submission of 6 March 2020, the **defendants** argued that auxiliary request 3 was also not inventive on the basis of one of the citations E1, E2, E4 and E5; no further details on these citations can be found in this context.

The plaintiff **has claimed**,

1. declare that the manufacture, offering for sale, placing on the market, use or importation of the defendant's ramming spikes according to the contested embodiments, or the possession of such ramming spikes for those purposes, constitutes an infringement of claims 1, 3, 4, 5, 6, 7, 8, 10, 11 and 12 of EP 2 839 083 B9.
2. order the defendants to pay, in one or more of the territories of Germany, Austria, Belgium, Denmark, Finland, France, Italy, Luxembourg, the Netherlands, Portugal, Slovenia and Sweden

Driving spikes for an essentially tubular, in particular hollow-cylindrical, driven pile with a pile core through which concrete can be introduced into the driven pile, wherein the driving spike can be fitted onto a pile end of the driven pile, wherein at least one first bearing web with a first bearing surface for an end face of the pile end is arranged on an inner wall of the driving spike, wherein the pile driving tip, starting from the plane of the first bearing surface, has a cavity which extends at least partially in the driving-in direction and into which concrete can be introduced through the pile core when the driven pile is fitted, wherein at least one concrete outlet channel is provided which connects the cavity to an upper edge of the pile driving tip (claim 1),

especially if

the at least one first support web is formed as a circular segment or circular ring segment in cross-section with respect to the ramming direction (claim 3)

and/or an arc of the circular segment or circular ring segment extends over less than 340°, preferably over 40° to 120° (claim 4),

and/or a plurality of concrete outlet ducts, preferably three concrete outlet ducts, is or are provided (claim 5),

in particular if two concrete outlet ducts of the plurality of concrete outlet ducts have a cross-section relative to the ramming direction along the

inner wall of the pile-driving tip are arranged at substantially equal distances from one another (claim 6),

and/or at least one radially inwardly projecting support device is provided on the inner wall for centring and/or positionally stable fixing of the driven pile (claim 7),

in particular if the at least one radially inwardly projecting support device is designed as a plurality of support ribs (claim 8),

and/or an outer diameter of the ramming tip is reduced substantially continuously in the ramming direction (claim 10)

and/or the pile-driving tips are made in one piece (claim 11)

and/or the ramming tips are at least partially, preferably completely, made of cast iron (claim 12),

to manufacture, offer, place on the market, use or import or possess for the aforementioned purposes.

3. order the defendants to recall the infringing pile-driving tips pursuant to 2. from the distribution channels at their expense, to remove them permanently from the distribution channels and to destroy them, and to destroy moulds and casting tools for the manufacture of the infringing pile-driving tips pursuant to 2. at their expense, insofar as they have geometric shapes or negatives thereof.
4. order the defendants to provide the applicant with information on
 - Origin and distribution channels of the injurious ramming spikes according to 2.,
 - the quantities produced, manufactured, delivered, received and ordered and the prices paid for the infringing pile-driving points in accordance with 2, and
 - the identity of all third parties involved in the manufacture or distribution of infringing ramming spikes in accordance with 2.

5. authorise the applicant, at the defendant's expense, to announce and publish the decision in whole or in part in the following public media:
 - Austrian Construction Journal (Der Wirtschaftsverlag)
 - SOLID trade magazine for business & technology in construction (WEKA Industrie Medien)
 - OIB aktuell The trade magazine for building law and technology (Austrian Institute for Building Technology)
 - GEOTECHNIK magazine (German Society for Geotechnics)
 - LinkedIn in German and English
6. order the defendants to pay a penalty payment of € 50,000.00 for each individual case of infringement of order 2. and for each day of non-compliance or incorrect compliance with orders 3. or 4. after the expiry of a two-week period.
7. to declare that the judgement is immediately enforceable.
8. order the defendants to compensate the applicant for all damage suffered or to be suffered by it as a result of the manufacture, offering for sale, use or importation or possession for the aforementioned purposes.
9. order the defendants to pay all the costs of the proceedings, including those relating to the application for interim measures (CFI 98/2024, reference 11890/2024).

The defendants have **claimed**,

1. dismiss the action as unfounded.
2. order the applicant to pay the costs of the proceedings, including the costs of the counterclaim for a declaration of invalidity.

In the context of their action for annulment, the defendants **filed a complaint**,

1. EP 2 839 083 be declared invalid in its entirety with effect for all contracting member states of the UPCA in which the patent in suit is in force.
2. order the defendants in the counterclaim for a declaration of invalidity to pay the costs of the proceedings (counterclaim for a declaration of invalidity) in addition to the costs of the infringement action and the costs of the proceedings relating to the application for interim measures (UPC_CFI_98/2004, ACT_11890/2024).

The plaintiff then **filed a complaint**,

to maintain the patent in suit to the extent granted (main request), or in the alternative,

to maintain the patent in suit to the extent of auxiliary requests 1 to 29 (reply to the counterclaim for revocation of 22 November 2024, p. 10 et seq.), whereby the auxiliary requests were submitted for examination at the oral hearing in the following order: 3, 1, 2, 4 - 29.

Auxiliary request 3 is as set out in Annex 3 ("Auxiliary request 3 with proof of amendment"):

1. Driving tip (1) for an essentially tubular, in particular hollow-cylindrical, driven pile (2) with a pile core (3), through which concrete can be introduced into the driven pile (2), wherein the driving tip (1) can be fitted onto a pile end (4) of the driven pile (2), wherein on an inner wall (5) of the driven pile tip (1) there is a pile end (4), through which concrete can be introduced into the driven pile (2).
(1) at least one first bearing web (6) with a first bearing surface (7) for an end face (8) of the pile end (4) is arranged, wherein the pile driving tip (1), starting from the plane of the first bearing surface (7), has a cavity (9) extending at least partially in the driving-in direction (E), into which cavity (9), when the pile end (4) is driven in, the pile driving tip (1) is driven in.

pile (2) can be driven in through the pile core (3), at least one concrete outlet channel (10) being provided which connects the cavity (9) to an upper edge (11) of the pile driving tip (1), characterised in that the at least one first support web (6) has a cross-section relative to the driving-in direction of the pile.

(E) is designed as a circular segment or circular ring segment, and that an arc (12) of the circular segment or circular ring segment extends over 40° to 120°.

2. A ramming spike according to claim 1, characterised in that the ramming spike (1) has a substantially rotationally symmetrical outer shape, wherein the axis of rotation (R) extends substantially in the ramming direction (E).
3. ~~Ramming point according to claim 1 or 2, characterised in that the at least one first support web (6) is designed as a circular segment or circular ring segment in cross-section to the ramming direction (E).~~
- 4.3. ~~Ram tip according to claim 3 of one of claims 1 or 2, characterised in that one of the circular arcs (12) of the circular segment or circular ring segment extends over less than 340°, preferably over 40° to 120°, particularly preferably over 70° to 90°.~~
- 5.4. Pile-driving spike according to one of claims 1 to 4-3, characterised in that a plurality of concrete outlet channels (10), preferably three concrete outlet channels (10), is or are provided.
- 6.5. Pile-driving spike according to claim 5-4, characterised in that in each case two concrete outlet channels (10) of the plurality of concrete outlet channels (10) are arranged in cross-section to the driving-in direction (E) along the inner wall (5) of the pile-driving spike (1) essentially at equal distances from one another.
- 7.6. Ram tip according to one of claims 1 to 6-5, characterised in that at least one radially inwardly projecting support device is provided on the inner wall (5).
(13) is provided for centring and/or positionally stable fixing of the driven pile (2).
- 8.7. Rammspitze according to claim 7-6, characterised in that the at least one radially inwardly projecting support device (13) is designed as a plurality of support ribs.

9. 8. Driving spike according to one of claims 1 to 8-7, characterised in that at least one second bearing web (6') with a second bearing surface (7') for an end face (8') of a pile end (4') is arranged on the inner wall (5) of the driving spike (1), wherein the distance (T') of the second bearing surface (7') from the edge (11) of the pile-driving spike (1) is greater than the distance (T) of the first bearing surface (7) from the edge (11) of the pile-driving spike (1) in the ramming direction (E).
10. 9. Ram tip according to one of claims 1 to 9-8, characterised in that an outer diameter (D) of the ram tip (1) is essentially continuously reduced in the ramming direction (E).
11. 10. ramming point according to one of claims 1 to 10-9, characterised in that the ramming point (1) is designed in one piece.
12. 11. ramming spike according to one of claims 1 to 11-10, characterised in that the ramming spike (1) is at least partially, preferably completely, made of cast iron.

The plaintiff is of the opinion that the contested embodiments also constitute an infringement with regard to the auxiliary claims asserted in the context of the action for annulment.

The defendants **submitted a claim** in their reply dated 20 January 2025,

Dismiss the action as unfounded also in so far as the plaintiff seeks infringement of the patent in suit in amended form by the auxiliary claims asserted in the context of the action for revocation.

Reasons

In response to the action for revocation, the patent in suit was to be maintained in a limited version. The challenged embodiments infringe the limited version of the patent in suit.

I. Responsibility of the Munich Local Chamber

The jurisdiction of the Munich Local Division for the infringement action and the revocation counterclaim follows from Art. 33 (1) (b), (3) (a) UPCA.

II. Eligibility of the applicant

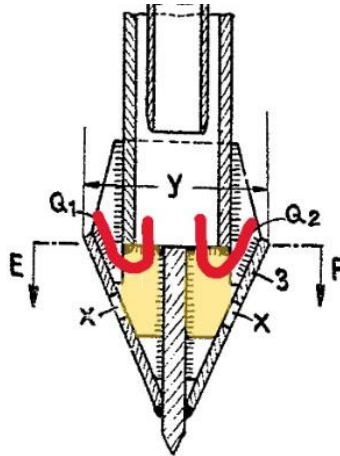
The plaintiff is the sole proprietor of the patent in suit and therefore entitled to file an application (Art. 47 (1) UPCA).

III. Subject matter of the patent in suit

The subject-matter of claim 1 of the patent in suit is a pile-driving spike.

According to the prior art described in the patent in suit (para. [0002 - [0004]], pile-driving spikes which are driven into the ground on a driven pile for the purpose of producing a jacketed pile foundation have been known for a long time; the patent specification GB 770 612 A cited as prior art in the patent in suit dates from 1955.

In a pile foundation of this type, concrete is injected through the hollow driven pile during the driving of the pile and tip and discharged again through openings in the driven pile so that a (grouted) concrete jacket can form around the pile. In the prior art, however, not only the discharge of the concrete through openings in the pile was known, but also the discharge through the driving tip. GB 770 612 A, cited as prior art, shows both possibilities, in particular also the discharge of the concrete (red) through a cavity (yellow) in the top of the pile:



The patent in suit describes it as a disadvantage of the prior art that corresponding exit openings in the pile lead to a weakening of the pipe cross-section and thus to static instabilities of a pile foundation (paragraph [0004]).

The task of the invention is therefore to improve pile driving tips in such a way that pile foundations can be produced while avoiding the disadvantages described above ([0005]).

As a solution, patent claim 1 proposes a pile driver tip whose features can be categorised as follows:

- 1 Ram tip
- 2 for an essentially tubular, in particular hollow cylindrical, driven pile with a pile core through which concrete can be introduced into the driven pile,
- 3 whereby the pile driving tip can be attached to one end of the pile,
- 4 wherein at least one first bearing web with a first bearing surface for an end face of the pile end is arranged on an inner wall of the pile tip,
- 5 wherein the pile driving tip, starting from the plane of the first bearing surface, has a cavity extending at least partially in the driving-in direction, into which concrete can be introduced by the pile core when the pile is mounted,
- 6 whereby at least one concrete outlet channel is provided, which connects the cavity with an upper edge of the pile driving tip.

IV. Interpretation of the patent in suit

The patent claim is not only the starting point, but the decisive basis for determining the scope of protection of a European patent. The interpretation of a patent claim from the point of view of a person skilled in the art does not depend solely on its exact wording in the linguistic sense. Rather, the description and the drawings must always be taken into account as explanatory aids for the interpretation of the patent claim and not only be used to resolve any ambiguities in the patent claim. However, this does not mean that the patent claim merely serves as a guideline and that its subject matter also extends to that which, after examination of the description and the drawings, appears to be the patent proprietor's request for protection. When applying these principles, appropriate protection for the patent proprietor should be combined with sufficient legal certainty for third parties. These principles for the interpretation of a patent claim apply equally to the assessment of infringement and the legal status of a European patent (UPC_CoA_335/2023).

1. In order to solve the problem described in paragraph [0004] of the patent in suit, the patent in suit in claim 1 provides for a pile driving tip with a cavity which can be placed on a hollow cylindrical pile, whereby concrete can be introduced through the pile into the cavity of the pile driving tip. At least *one* support web with a support surface should be arranged on the inner wall of such a pile driving tip, so that the end face of a driven pile end can come to rest on it. The concrete to be introduced into the cavity of the pile driving tip should then be able to exit again via at least one concrete outlet channel provided in the pile driving tip at the upper edge of the pile driving tip. The defendants rightly point out that only the pile-driving tip, but not the pile to be inserted, is the subject of the patent claim.
2. Patent claim 1 of the patent in suit requires interpretation - based on the parties' submissions relevant under Art. 76 (2) EPC - with regard to some of its features and the terms used in the patent claim in this respect.

a. *Attachable* pile driver tip

First of all, it needs to be clarified what is meant in the context of patent claim 1 by the fact that the pile driving tip *can be attached* to the pile end of a driven pile.

The defendants correctly point out that a pile must be moved into the pile-driving tip in the direction of driving in order to be attached. However, patent claim 1 does not expressly state that a fixed connection between the driven pile and the driven pile tip must be produced by form, force or material connection; the defendants are therefore correctly of the opinion that the need for a fixation, for example by clamping, latching or - as taught in the cited prior art (GB 770 612 A) - by welding, is not implied by the term "mounting". The patent in suit only provides for (positionally stable) fixing of the pile in the pile-driving tip (by means of a support device) as a preferred embodiment in sub-claim 7. The terms "attachable" and "pinned" used in claim 1 therefore leave open whether the pile and the tip are to form a fixed connection with each other. The need to create a fixed connection by means of attachment arises neither in view of the corresponding spatial-physical features (1.) of a pile-driving point according to the claim nor due to functional considerations (2.):

(1.) For fitting the pile driving tip onto a pile end, at least a first *bearing web* with a *bearing surface* arranged on an inner wall of the pile driving tip is provided in accordance with the requirements; the word "*bearing*" remains conceptually behind the term "connection" with regard to the strength of the connection to be produced.

"Plug on" and does not describe a fixed connection.

(2.) The support web (with support surface) described spatially and physically in accordance with (1.) is intended to enable the end face of the pile to rest (abut) or bear against the pile driving tip (the description of the patent in suit also refers to this as a "stop" in paragraph [0016]). From a functional point of view, the point is that the force exerted on the driven pile via the support can be transferred to the driven pile tip. However, a fixed connection between the pile and the tip is not required for the purpose of force transmission.

However, the intended purpose of the support surface resulting from the claim only determines and limits the protected subject-matter to the extent that the device element (bar with support surface) to which the functional specification relates must be physically and spatially designed in such a way that it *can* fulfil the function in question. If a device has the required suitability, it is irrelevant whether the patent-compliant properties and effects are achieved regularly, only in exceptional cases or only by chance and whether the user intends to achieve these effects.

Taking all the above circumstances into account, a "pluggability" of the pile-driving point in accordance with the claim is to be understood broadly; according to the patent claim, such webs are also suitable which enable an at least loose connection of pile and point by resting the pile end on the bearing surface of the web, so that the driving force can be transmitted to the pile-driving point.

b. *Freestanding* support bar

According to the parties' submissions, it also needs to be clarified which requirements are placed on a suitable support bar according to patent claim 1, in particular whether this must be "free-standing".

At the hearing, the defendants argued that the use of the term "web" implies that such a web must be free-standing on at least one of its two sides. Such an understanding of the term is also in accordance with the state of the art.

The fact that a support web according to the claim does not have to be free on *both* sides is already directly apparent from the patent in suit itself: The support web is to be arranged "on an inner wall of the pile-driving tip"; this also includes an arrangement directly on the inner wall, so that the support web is not free-standing at least on this side. Figure 4A of E3, for example, shows a direct arrangement on the inner wall and thus a design of a support web that is not free-standing on both sides, in which the web directly adjoins the inner wall; here, the defendants themselves argue in the context of the action for annulment that support 26a is a support web within the meaning of the plaintiff's patent.

As far as the side of the support web opposite the inner wall of the pile-driving tip (inner area of the pile-driving tip) is concerned, there is no express limitation in the wording of the claim to the effect that this side of the web is to be *free-standing*. Such a restriction can therefore only arise from a functional point of view: The support web fulfils its function by allowing the face of the pile end to rest on it; in addition, a cavity must also remain in the pile tip through which the concrete can be introduced into the pile tip and flow out through concrete outlet channels. As long as the support function of the web by a laterally adjoining component does not prevent the pile-driving tip from being attached or the concrete from being placed and discharged into a cavity in the pile-driving tip, it is not necessary for the space next to the web to remain free.

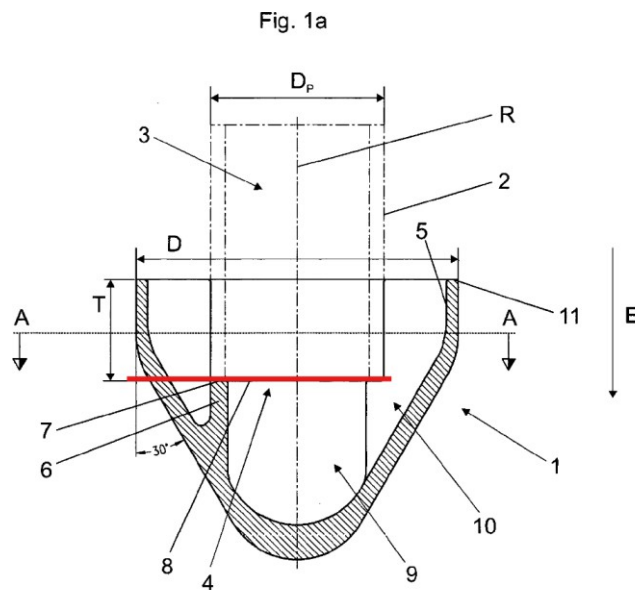
c. *Flat* support surface

According to the parties' submissions, it is also necessary to clarify whether patent claim 1 requires that the bearing surface of the support bar is "flat".

The defendants take this view. They argue that since the face of a driven pile is a (flat) surface, the corresponding support surface of the support web must also be flat. In addition, they argue that feature 5 assumes a "*plane* of the first bearing surface".

- aa. It should first be noted that claim 1 does not expressly limit the support surface to flat configurations.
- bb. Insofar as the defendants argue that the end face of a driven pile is a (flat) surface, so that the corresponding contact surface of the support web must also be *flat*, the court does not agree. The defendants are working here with the means, which is not permissible under patent law, of assuming the design of a component as given, which is not even the subject matter of the patent claim: the subject matter of the patent claim is solely the design of the pile-driving tip and not the design of a pile-driving pile; consequently, the argument that the bearing surface in the pile-driving tip must correspond to the alleged design of a pile-driving pile cannot apply either.

cc. The wording of the claim also does not speak of a "flat supporting surface", but rather uses the term "plane" exclusively in connection with and for the purpose of localising the cavity provided in the pile-driving tip in accordance with the claim ("...wherein the pile-driving tip, starting from the plane of the first supporting surface, has a cavity extending ... in the ramming direction..."). This is therefore an imaginary plane for locating the cavity, which selects the bearing surface as a reference point and is also shown in Fig. 1a of the patent in suit (red colouring to highlight the line drawn in the figure by the court):



The description is also clear in this respect (bold print by the court):

"[0016] ... The maximum insertion depth of the driven pile 2 in the driving direction E is determined by the distance T from the upper edge 11 of the driven pile tip 1 to the **plane of the first bearing surfaces 7**.

[0017] Starting from the **plane of the first bearing surfaces 7**, a cavity 9 is formed in the ramming tip 1, ..."

Taking into account the aforementioned circumstances, the following is to be considered an appropriate

"plane of the first support surface" does not mean a *flat support surface*, but merely an imaginary line (plane) whose reference point is the support surface.

dd. Also from a functional point of view, a limitation to *flat* support surfaces is not justified. Functionally, the patent in suit is concerned with

The sole purpose of the support bar is to enable contact (support/stop) between the end face of a pile end and the pile driving tip for the purpose of force transmission via its support surface. From the point of view of a specialist, a flat surface is not necessary for this; a support or stop for the purpose of transmitting force from a driven pile to the pile driving tip can be just as flat as it can be curved. The court is not aware of any physical law according to which no force can be transmitted via a curved surface.

3. Result of the interpretation

The subject matter of patent claim 1 is a pile-driving tip with a hollow space which can be attached to a hollow cylindrical pile; however, it is not necessary to establish a fixed connection between the pile and the tip in order to be able to attach it - it is sufficient to enable a loose connection by means of support for the purpose of force transmission.

At least one support web with a support surface should be arranged on the inner wall of such a pile driving tip, so that the end face of a pile end can come to rest or bear against it. A support web in accordance with the claim does not have to be free-standing; the decisive factor is that the support function of the web by laterally adjoining components (not mentioned in the patent claim) does not prevent either the pile driving tip from being attached or the concrete from being introduced into a cavity of the pile driving tip. A support surface of the support web in accordance with the claim does not have to be flat either; the decisive factor is that the support surface enables the possibility of contact (support/stop) between the end face of a pile end and the pile driving tip for the purpose of force transmission.

V. Legal validity of the patent in suit

Claim 1 of the patent in suit is not valid in the granted version. In the version of auxiliary request 3, on the other hand, the patent in suit is legally valid.

1. Audit standard

According to Art. 65(2) UPCA and Art. 138(a) EPC, a European patent may be revoked with effect in a Contracting State if its subject-matter is not patentable under Articles 52 to 57 EPC.

For the purposes of Article 54 EPC, an invention is deemed to be new if it does not form part of the state of the art. According to Article 54(2) EPC, prior art means anything which has been made available to the public by written or oral description, by use or by any other means before the filing date of the European patent application (or, where applicable, the priority date). The examination of novelty under Art. 54(1) EPC requires an examination of the entire content of the earlier publication(s). The decisive factor is whether the subject-matter of the claim with all its features is directly and unambiguously disclosed in the citation (UPC_CoA_182/2024).

According to Article 56 EPC, an inventive step is deemed to exist if the invention is not obvious to a person skilled in the art, taking into account the state of the art. When assessing whether an invention is to be regarded as obvious in the light of the prior art, the problem-solution approach (PSA) developed by the European Patent Office (EPO) is to be applied first and foremost, insofar as this is possible. This is intended to increase legal certainty and further align the case law of the Unified Patent Court with the case law of the EPO and its Boards of Appeal (Munich Local Division, decision of 4 April 2025, UPC_CFI_501/2023). In view of the high value of legal certainty, the deciding judges consider it problematic that the EPO and UPC apply different standards of examination when applying the same legal basis (Article 56 EPC).

The Boards of Appeal and the administrative bodies of the EPO regularly apply the problem-solution approach , when must be decided , whether a

claimed subject-matter involves an inventive step and fulfils the requirements of Article 56 EPC. This approach essentially comprises the following methodological steps:

- a) Determination of a suitable starting point ("realistic starting point") in the prior art from the point of view of a person skilled in the art, whereby several different starting points are also possible (see also Central Board of Appeal Munich UPC_CFI_1/2023; see also the decision of the Board of Appeal of the EPO T 1078/23),
- b) Comparison of the subject-matter of the claim at issue with the disclosure of the prior art starting point determined to be suitable and determination of the difference(s) between the two,
- c) Identification of the technical effects or results achieved by or related to this difference(s),
- d) determination of the technical problem whose solution according to the invention is intended to achieve these effects or these results, and
- e) Examination of whether the claimed technical features achieving the results according to the invention would have been obvious to a person skilled in the art in view of the state of the art within the meaning of Article 54(2) EPC.

2. **As granted, claim 1 of the patent in suit lacks the novelty required under Art. 54 EPC.** Claim 1 can therefore not be upheld in the granted version.

In any event, the patent specification submitted as E3/E3' from the relevant prior art (publication of E3' on 9 April 2009) anticipates the granted claim 1 of the patent in suit in a manner prejudicial to novelty.

- a. Figure 4A of E3/E3' in particular shows a pile-driving spike (coloured green) attached to a pile (coloured yellow) and thus attachable.

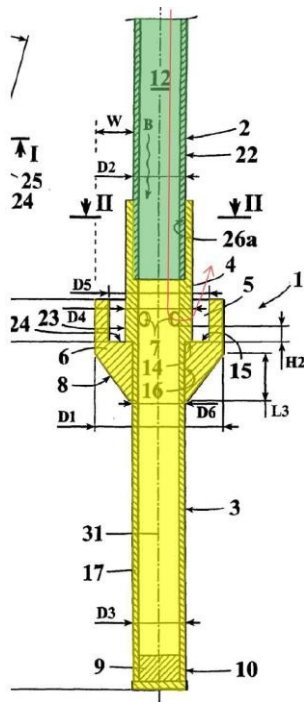


Fig. 4A

aa. Insofar as the plaintiff takes the view that the yellow-coloured part of Figure 4A is not a pile-driving point within the meaning of the patent in suit, the Court does not agree.

The "pile shoe" (1) of E3/E3' is a pile driving tip within the meaning of the patent in suit. In the E3/E3', the pile shoe is merely divided into different sections (sleeve (6), tip section (3), tool tip (10)); in paragraph [0027], the E3' explicitly specifies that the pile shoe (1) also comprises the tip section (3) and the sleeve (6) in addition to the tool tip (10). In paragraph [0032] it is described that the connecting piece 4 in one embodiment consists of "the same piece as the tip section 3". In any case, in this embodiment (shown in Fig. 4A), the connecting piece is thus also associated with the pile shoe. The question of whether the sleeve (6) is designed as a separate component can be left aside in this context, since the patent in suit also provides for a one-piece ("one-piece") design of the pile driving tip only with the dependent claim 11 and not already with claim 1.

bb. Insofar as the plaintiff is of the opinion that the pile-driving tip's *ability to be attached* to the pile is not disclosed in the E3/E3', the court does not follow this argumentation either.

According to the interpretation given above (section IV.2.a.), a claim in accordance with "Attachability" is to be understood very broadly and also includes a loose connection between the pole and the tip that is merely mediated by support.

E3/E3' shows such a connection: The "pile pipe" (2; driven pile in the sense of the patent in suit) is received by the "pile shoe" (1), whereby the recess (26a) "for receiving the lower end of the pile pipe (2)" (paragraph [0032] of the description of E3', claim 9).

- cc. Even the possible necessity of additional fastening measures in E3/E3', to which the plaintiff refers with reference to paragraph [0034] of E3', does not prevent the disclosure of the feature "attachable" in E3/E3', because such (additional) fastening measures do not lead to the denial of the attachability given in the case of E3/E3', especially since such measures are not excluded by claim 1 of the patent in suit.

In addition, paragraph [0034] also describes as a possible embodiment a "different type of clamp connection", which is already achieved by clamping the lower end of the pile tube 2 into the inner recess 26a, without the need for a welded connection, screws, bolts or rivets, which are also not shown in Fig. 4A.

- b. The plaintiff has not denied that the other features of claim 1 of the patent in suit are shown by E3/E3'. Pursuant to Art. 76 (2) UPCA, further comments by the court on the disclosure of the remaining features of claim 1 are therefore not required.

3. In the version of auxiliary request 3, claim 1 of the patent in suit is legally valid.

- a. In auxiliary request 3, claim 1 of the patent in suit is amended to the effect that

the at least one first support web (6) is designed as a circular segment or circular ring segment in cross-section with respect to the ramming direction (E), and in that an arc (12) of the circular segment or circular ring segment extends over 40° to 120°.

- b. Insofar as the defendants understand this addition to mean that this also includes pile-driving tips that provide a complete circular ring as a support web (whereby, according to the defendants' explanations, a theoretical subdivision of the circular ring would also be sufficient), the court does not follow this.

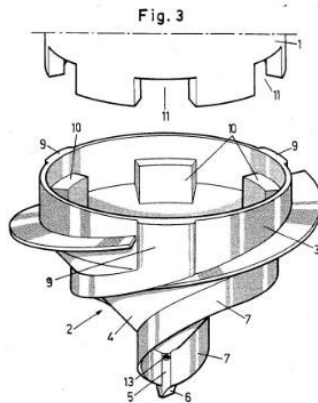
The wording of the claim (addendum) is not compatible with the understanding advocated by the defendants, since it expressly refers to the formation of *circular* segments, i.e. circular sections. This is a specification for the spatial and physical design of the pile-driving tip. A completely closed circular ring cannot be included in the "formation of one or more circular segments" for this reason alone, as a closed circular ring would lack the necessary segmentation. Such an understanding, however, also contradicts the demanding function of segment formation: Between the support webs (6), which are formed as segments, the concrete should be able to exit via exit channels 10; in the area of the webs, it cannot do this, so that a web in the form of a closed circular ring would close the exit for the concrete.

Even if it is assumed in favour of the defendant that the inner depression 26a is a circular depression as described in paragraph [0033] for the embodiments of Figures 5A and 6A, such a circular depression according to this understanding does not constitute a support ridge as described in auxiliary request 3, since the circular depression is obviously formed as a closed circle and not segmentally. In this respect, E3/E3' is not novelty-destroying for claim 1 in the version of auxiliary request 3.

- c. Insofar as the defendants take the view that claim 1 in the version of the auxiliary request 3 is not inventive, at least with regard to a combination of the E3/E3' with the E7, the court does not follow this either.

The defendants argue that a specialist would combine the E3/E3' with the E7 and thus provide support webs in the E3/E3' dimensioned in accordance with the E7. In particular, the specialist would adapt the support webs to the situation of the E3/E3' and provide for an optimum compromise between the size of the support surface and the size of the concrete outlet channels.

It is true that the E7 - for example in Figure 3 below - shows circular segments for supporting a presumably hollow cylindrical body.



However, it is not clear from the defendant's submission what task a skilled person should be confronted with on the basis of the circular recess 26a of the E3/E3', the solution of which could involve looking at the E7. It is therefore not comprehensible to the court what should cause a skilled person to interrupt the recess 26a radially and form it segmentally.

The E7 does not refer to a pile driver, but to a drill pipe with a rotating drive pipe 1 and a drill head 2 driven by the drive pipe 1, cf. sp. 5, lines 15-20. The annular ring segments of Fig.

3 create a torsionally rigid connection between drive tube 1 and drill head 2 by means of interlocking projections 10 and recesses 11. Even if such a connection must also absorb downward compressive forces during drilling operation (see ref. 5, lines 44-48) and will therefore be dimensioned accordingly, the skilled person will recognise that the combination of interlocking projections 10 and recesses 11 is primarily due to the transmission of the rotary movement.

The concrete outlet openings in the E3/E3' are designed in such a way that - unlike in the case of the patent in suit - there is no functional connection with the support web. The E7 does not relate to the feeding of concrete through the drive tube 1 and therefore does not provide for any concrete outlet channels. In this respect, neither E3/E3' nor E7 provide any recognisable reason for designing the support web in the shape of a circular segment or circular ring segment in order to create space for the concrete outlet channel in this way.

Conversely, the driving tip of the E3/E3' does not require the pile pipe 2 to be secured against twisting relative to the connecting piece 4. It therefore does not appear convincing that the skilled person would have replaced the support web of the E3/E3' with a positive connection by means of interlocking projections 10 ("projections") and recesses 11 ("recesses") corresponding to the E7.

Such a connection would also have appeared disadvantageous to the skilled person. This is because the formation of the recesses 11 requires a modification of the pile pipe 2 at its end face. An advantage of the solution according to the invention of being able to dispense with manipulation of the driven piles and in particular incisions in the casing of the driven pile (cf. para. [0007] of the patent in suit) would thus be lost. In addition, the skilled person would recognise that the positive connection by means of interlocking projections 10 and recesses 11 on the construction site requires careful alignment of the pile pipe and the pile driving tip to one another, which makes practical handling more difficult.

If the skilled person - in accordance with the alternative line of argument presented by the defendants - were to leave the end face of the pile pipe 2 as a circumferential circular ring and merely segment the inner recess 26a of the E3/E3' in accordance with the projections 10 of the E7, the full-surface contact between the pile pipe 2 and the connecting piece 4 would be lost. The specialist would consider this modification to be detrimental to force transmission. Since the concrete exits through lateral flow openings 7 at the pile driving tip of the E3/E3' and these flow openings 7 are arranged below the level of the bearing surface, there is also no reason to create space in the area of the bearing surface for the concrete to exit towards the upper edge of the pile driving tip.

Even if the skilled person had considered lowering the inner depression 26a with the aim of shortening the pile-driving tip of the E3/ E3', it seems questionable whether the skilled person would have lowered the depression just into the area of the flow openings.

7 would have been lowered and segmented there. Neither E3/E3' nor E7 provide any recognisable indication of such a design. The argumentation is based on a retrospective view with knowledge of the invention.

Even if the skilled person had made such a modification, the E7 does not disclose the angular range from 40° to 120° and does not suggest it. The E7 discloses six protrusions in sp. 5, lines 15/16, but does not indicate their dimensions or angular dimensions, nor the (angular) distances between neighbouring protrusions.

There was therefore no reason to combine the E3/E3' with the E7 from the perspective of a specialist.

- d. Insofar as the defendants argued in their statement of 6 March 2020 that auxiliary request 3 was not inventive even on the basis of one of the citations E1, E2, E4 and E5, no further details on these citations can be found in this context. Pursuant to Art. 76 (2) UPCA, there is therefore no need for the court to comment on this.

VI. Infringement of the patent in suit

The challenged embodiments make direct use of the teaching of claim 1 of the patent in suit in the version of auxiliary request 3.

1. The contested embodiments are indisputably driving tips for an essentially tubular, in particular hollow cylindrical driven pile with a pile core through which concrete can be introduced into the driven pile. The attacked embodiments also have a cavity extending at least partially in the driving-in direction, into which concrete can be introduced through the pile core when the driven pile is mounted. In the embodiments under attack, a plurality of concrete outlet channels are also provided, which connect the cavity to an upper edge of the pile driving tip.
2. The embodiments in question can also be mounted on the pile end of a driven pile according to requirements.
 - a. Burden of presentation and proof

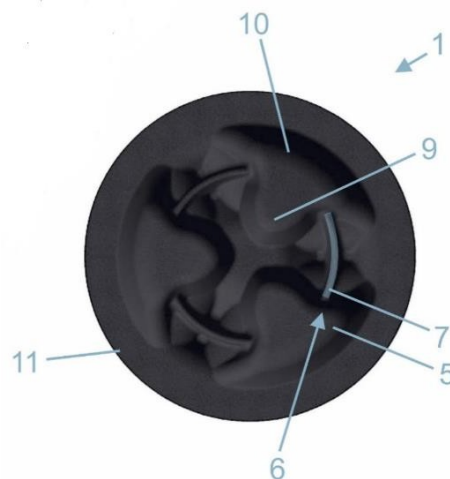
According to the defendant's correct statement, only the **design of the pile-driving tip** is decisive for attachability according to the patent claim, since only this and not the design of the pile-driving pile is the subject of the patent claim. The plaintiff has to demonstrate and prove the realisation of all claim features of the patent in suit by the attacked embodiments (pile-driving tips), since it alleges the infringement and thus the realisation of all claim features by the attacked embodiments (Art. 54 EPC; see b. below).

Insofar as the defendants defend themselves against the allegation of infringement by claiming that it is impossible to use the teaching of the patent in suit using the attacked embodiments because driven piles that can be attached to them up to the bottom of the groove do not exist and could not be provided in a technically meaningful way, this allegation concerns a circumstance outside the patent claim, namely the **design of driven piles**. Although the term "driven pile" is mentioned in the patent claim ("driven pile tip for a ... driven pile"), the scope of protection of concerns a driven pile tip

patent claim is not included. Therefore, specific requirements for driven piles and any necessary dimensions are not described and claimed in the patent claim.

If the defendants assert that the patent infringement is impossible due to circumstances outside the patent claim, the defendants bear the burden of presentation and proof for this assertion in accordance with the concept of the UPCA (Art. 54 UPCA: "The burden of proving facts shall lie with the party invoking those facts"; on the assertion of impossibility, see c. below). The infringing plaintiff is not required to provide information on the design of components outside the patent claim. For the allegation of infringement, it is sufficient for the plaintiff to demonstrate the realisation of all claim features of the patent asserted as infringed.

- b. Three bearing webs (6) with bearing surfaces (7) for the end face of a pile end are arranged on the inner wall of the pile-driving spikes (1).



- aa. Although these support bars are not *free-standing*, this is not required by the patent in suit (see IV.2.b. above).

The existence of a groove wall (rib/jaw), which in the challenged embodiments forms the inner side of the "groove" (opposite the inner wall of the pile-driving tip), does not lead out of the scope of protection of the patent in suit. This wall prevents a possible support of the end face of a driven pile, which is suitable in terms of its shape and wall thickness, on the

Groove bottom in principle not. The patent in suit does not exclude the existence of additional features such as this inner groove wall, provided that the functionality of the claim features is not impaired as a result.

With the embodiments attacked, the possibility of clamping a pile end is created by adding a groove wall on the inside; the clamping depends on how the wall thickness of the pile end is dimensioned in relation to the groove, in particular the groove base. However, this does not rule out the possibility of being able to bring a pile with a different wall thickness into contact with the groove base. Which of the technical options shown (clamping/reaching the base of the groove) is used is therefore obviously dependent on the wall thickness of the pile used and therefore affects the design of the driven pile (for suitable driven piles, see c. below).

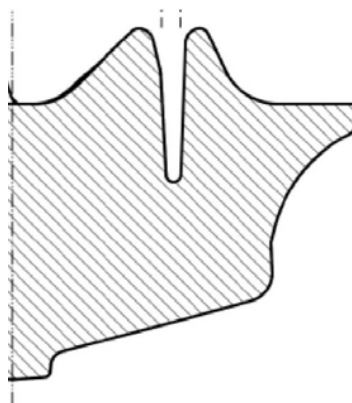
- bb. Nor does the patenting of the challenged embodiments, which was put forward by the defendant, change the realisation of the claim features. The groove wall in question is merely the addition of a further feature which does not affect the claim features. An invention that builds on another invention can utilise the basic teaching of the earlier invention even if it is itself patentable. The assumption of patent infringement therefore does not necessarily fail because the challenged embodiment is itself the subject of a patent.
- cc. The surfaces of the support webs (groove base) are designed in a sophisticated manner in the embodiments in question.

The patent in suit does not contain any specifications to the effect that these surfaces must be *flat* (see IV.2.c. above). The rounded shape of the groove bottom of the contested embodiments therefore does not in principle lead out of the scope of protection of the patent in suit. From a functional point of view, it is sufficient that the end of a pile *can* come to rest on the grooved base for the purpose of transmitting the driving force; the rounded shape of the contested embodiments does not prevent the force transmission of an adjacent pile. The design of the grooved base in the attacked

Therefore, the new design also represents a sophisticated support surface in this respect.

- dd. Insofar as the defendants argue that the pile end must actually be attached to the support surface, the Local Court does not agree. From the point of view of the Local Court, it is sufficient - as explained in section IV.2.a. - that the bearing surface is basically *suitable* for a pile end to be placed against it (can be attached) and thus a (possibly loose) connection of pile and tip can be established. This is already apparent from the wording of the claim ("pile driving point *can* be attached to the end of the pile"), but also from the fact that the purpose, effect or function specifications contained in a patent claim (here: support bar for attaching the end of the pile) define and limit the protected subject matter to the extent that the element to which they relate must be physically and spatially designed in such a way that it can fulfil the function in question. If a device has the required suitability, it is irrelevant whether the patent-compliant properties and effects are achieved regularly, only in exceptional cases or only by chance and whether the user intends to achieve these effects.

In view of this, it is sufficient that the groove base present in the contested embodiments is potentially *suitable* for receiving the end face of a pile end. In the view of the court, this is the case because the groove of the contested embodiments, which is subsequently superimposed and tapers towards the bottom of the groove, does not prevent a driven pile with a wall thickness corresponding to that of the bottom of the groove or a tapered pile from reaching the bottom of the groove.



- b. The defendants are unsuccessful with the argument that it is impossible to use the teaching of the patent in suit using the challenged embodiments, since piles that can be attached to them and can reach the bottom of the groove do not exist and could not be provided in a technically feasible manner. The court is not convinced that - as the defendants claim - it is not at all technically possible to provide piles with an end face that can reach the groove bottom of the attacked embodiments.
- aa. It is irrelevant that, according to the defendant's submission, neither the piles sold by the defendant nor other piles available on the market are dimensioned in such a way that their end faces can reach the bottom of the groove when they are placed on the attacked pile-driving spikes.

The defendants argue in this respect that the driven piles provided by the defendants are clamped in the narrowing groove before reaching the bottom of the groove due to their wall thickness. For example, the groove base of the GS115 shoe type has a width of 5 mm, whereas the wall thickness of a suitable pile from the defendant's range is at least 6.3 mm (see statement of defence, table on p. 27), so that the driven pile jams and cannot reach the groove base.

However, it is not decisive for the question of infringement of the patent in suit whether the driven piles manufactured *by the defendants or other suppliers* are dimensioned in such a way that they can reach the grooved base of the attacked embodiments. This is because the manufacture or sale of the defendants' driven piles is not the subject matter of the prohibition application at issue in the proceedings, just as the design of such driven piles - as already shown - is not the subject matter of the patent claim.

However, a prohibition relating to the challenged embodiments could not be pronounced if, taking into account all relevant parameters such as shape (cone), material, wall thickness of the pile, soil conditions, driving force, it is generally technically impossible to produce a driven pile whose end face can reach the bottom of the groove when the challenged driving spikes are inserted or driven in. In this case would have to be a

The fact that the patent can be mounted in accordance with the claim and thus the realisation of all features of the patent claim is denied, although this is a circumstance outside the patent claim.

- bb. However, the defendants have failed to provide sufficient arguments and evidence that it is technically and functionally impossible to manufacture driven piles dimensioned in accordance with the respective grooved base of the contested designs. *Technical-functional* is to be understood as meaning that an appropriately dimensioned pile must guarantee sufficient mechanical stability for a pile foundation in view of the forces acting during driving.

With reference to the declaration of the technology manager Antti Perälä submitted as Annex "L", the defendants submitted that the wall thickness of such a pile is important with regard to the required mechanical stability ("The wall thickness of the pile pipe cannot be very thin. The piles are subject to strong impacts during installation."). This premise is directly comprehensible and plausible for the court, especially since the defendants also report deformations that can occur during driving.

However, this premise is not sufficient to demonstrate the alleged impossibility. The question is precisely what *specific* wall thickness (in relation to the respective pile diameter) is technically and functionally required as a minimum in view of the other relevant parameters such as the degree of hardness of the material used for the pile, soil conditions and driving force. The defendant leaves this question unanswered. The defendant's submission is thus ultimately so generalised that it does not go beyond a mere assertion:

"If the pile pipe had such a thin wall thickness that it could penetrate to the bottom of the groove, there would be problems with impact resistance. The pile pipe would not be able to withstand ramming."

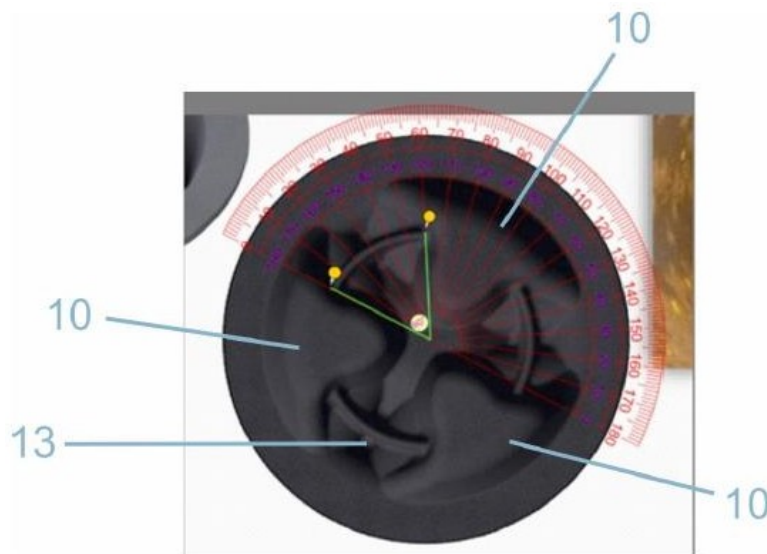
The defendants claim that a pile pipe with a wall thickness of 5 mm, with which a groove bottom of 5 mm can be achieved with the GS115 (pile pipe with such a low wall thickness that it could penetrate to the bottom of the groove), would have "problems with impact resistance" and would not withstand ramming. In contrast to tests with own piles (wall thickness according to catalogue 6.3 and 8

mm), however, there have apparently been no tests on this. The statement may therefore be incorrect,

"If the pile pipe had such a thin wall thickness that it could penetrate to the bottom of the groove, there would be problems with impact resistance. The pile pipe would not be able to withstand ramming."

is at best a presumption. However, a presumption is not an admissible statement of fact and certainly not evidence. Insofar as the defendants stated at the hearing with regard to the difference between 5 mm (sufficient to reach the groove bottom) and 6.3 mm (too wide for a groove bottom of 5 mm) that the difference was *considerable* in view of the necessary stability, this is also not technically substantiated, but merely an assessment by the defendants that is not substantiated in detail.

3. The support webs of the embodiments in question are also - as the following figure shows - designed as circular segments in cross-section to the ramming direction, with the arc of the circular segments extending over 40° to 120° .



4. The contested embodiments also realise sub-claims 4, 5, 6, 7, 9, 10 and 11 (each new version according to auxiliary request 3 of the request for amendment of the patent in suit).
 - a. The contested embodiments realise sub-claim 4 (new version according to auxiliary request 3 of the request for amendment of the patent in suit); three concrete outlet channels are provided.
 - b. The contested embodiments realise sub-claim 5 (new version according to auxiliary request 3 of the application for amendment of the patent in suit); the concrete outlet channels are arranged in cross-section to the ramming direction along the inner wall of the pile-driving tip at substantially equal distances from one another.
 - c. The attacked embodiments realise sub-claim 6 (new version according to auxiliary request 3 of the application for amendment of the patent in suit); at least one radially inwardly projecting support device for centring and/or positionally stable fixing of the driven pile is provided on the inner wall of the attacked embodiments.
 - d. The contested embodiments realise sub-claim 7 (new version according to auxiliary request 3 of the request for amendment of the patent in suit); the radially inwardly projecting support device in the contested embodiments is designed as a plurality of support ribs.
 - e. The contested embodiments realise sub-claim 9 (new version according to auxiliary request 3 of the request for amendment of the patent in suit); the outer diameter of the pile-driving tip of the contested embodiments decreases essentially continuously in the ramming direction.
 - f. The attacked embodiments realise sub-claim 10 (new version according to auxiliary request 3 of the request for amendment of the patent in suit); the pile-driving tips are designed in one piece in the attacked embodiments.

- g. The contested embodiments realise sub-claim 11 (new version according to auxiliary request 3 of the request for amendment of the patent in suit); the pile driving tips are made of cast iron.
- 5. A realisation of the recast claim 3 (extension of the arc of the circular segment or circular ring segment over 70° to 90°) is obviously not present in the attacked embodiments.

VII. Spatial scope of the ban

Insofar as the defendants have taken the view that the territorial scope of the prohibition is to be limited to Germany, Austria and Italy, as the attacked embodiments were only offered there, this view is misguided due to Art. 34 UPCA. In the case of a European patent, the decisions of the court apply to the territory of those contracting member states for which the European patent has effect.

VIII. Disproportionality of recall and destruction

Insofar as the defendants claim that a recall and destruction are disproportionate, there is no substantiation for this assertion.

IX. Publication of judgement

Insofar as the defendants believe that there is no interest worthy of protection in the publication of a judgement, as decisions of the UPC would be published anyway, the court does not agree. On this basis, an application for publication of a judgement would always have to be rejected.

It is not recognisable that publication on "LinkedIn" can incur costs; there is therefore no need to decide on reimbursement.

X. penalty payment

Which penalty payment is appropriate and sufficient in an individual case depends on the circumstances of the individual case. To give the court the necessary leeway here,

the decision states that in the event of an infringement, "a penalty payment of *up to* € 50,000.00 is to be paid".

With regard to the time limit contained in point 6 of the application, the start of the time limit was to be determined with recourse to Rule 118.8 of the Rules of Procedure.

XI. Costs

The parties have agreed on a lump-sum reimbursement of costs in the amount of EUR 120,000 in the event that one party is completely successful (infringement action and action for annulment) in the main proceedings at first instance. In the event of partial victory, the costs are to be shared in accordance with the proportion of costs awarded.

The following applies to the cost ratio:

The patent in suit is substantially limited in its claim 1 in the context of the action for revocation, which can ultimately only be maintained by a combination with two sub-claims. In this respect, the court considers the plaintiff to have lost 30% of the case.

With regard to the embodiments challenged in the infringement action, the restrictions made in the context of the action for revocation do not have any effect; however, here too, due to the limited scope of protection of the patent, the judgement is limited in comparison to the application. For the reasons stated above, the court considers the plaintiff's chances of losing the infringement action to be 10%.

This results in an overall loss ratio of 20%.

Decision

I. European patent EP 2 839 083 B9 is declared invalid with effect for all UPCA contracting member states in which the patent in suit is in force, insofar as its subject-matter extends beyond the following wording:

1. Driving tip (1) for an essentially tubular, in particular hollow-cylindrical, driven pile (2) with a pile core (3), through which concrete can be introduced into the driven pile (2), wherein the driving tip (1) can be fitted onto a pile end (4) of the driven pile (2), wherein on an inner wall (5) of the driven pile tip (1) there is a pile end (4), through which concrete can be introduced into the driven pile (2).

(1) at least one first bearing web (6) is arranged with a first bearing surface (7) for an end face (8) of the pile end (4), wherein the driving tip (1), starting from the plane of the first bearing surface (7), has a cavity (9) extending at least partially in the driving-in direction (E), into which concrete can be introduced through the pile core (3) when the driven pile (2) is mounted, at least one concrete outlet channel (10) being provided, which connects the cavity (9) to an upper edge (11) of the driven pile tip (1),

characterised in that the at least one first support web (6) is formed as a circular segment or circular ring segment in cross-section to the ramming direction (E), and in that a circular arc (12) of the circular segment or circular ring segment extends over 40° to 120°.

2. A ramming spike according to claim 1, characterised in that the ramming spike (1) has a substantially rotationally symmetrical outer shape, wherein the axis of rotation (R) extends substantially in the ramming direction (E).

3. A ramming spike according to one of claims 1 or 2, characterised in that the circular arc (12) of the circular segment or circular ring segment extends over 70° to 90°.

4. Pile-driving spike according to one of claims 1 to 3, characterised in that a plurality of concrete outlet channels (10), preferably three concrete outlet channels (10), is or are provided.

5. Pile-driving spike according to claim 4, characterised in that in each case two concrete outlet channels (10) of the plurality of concrete outlet channels (10) have a cross-section with respect to the ramming direction (E) along the inner wall (5) of the

ramming tip (1) are arranged at essentially equal distances from one another.

6. A ramming spike according to any one of claims 1 to 5, characterised in that at least one radially inwardly projecting support device is provided on the inner wall (5). (13) is provided for centring and/or positionally stable fixing of the driven pile (2).
7. A ramming spike according to claim 6, characterised in that the at least one radially inwardly projecting support device (13) is formed as a plurality of support ribs.
8. Driving spike according to one of claims 1 to 7, characterised in that at least one second bearing web (6') with a second bearing surface (7') for an end face (8') of a pile end (4') is arranged on the inner wall (5) of the driving spike (1), wherein the distance (T') of the second bearing surface (7') from the edge (11) of the pile driving point (1) is greater than the distance (T) of the first bearing surface (7) from the edge (11) of the pile driving point (1) in the ramming direction (E).
9. Ramming point according to one of claims 1 to 8, characterised in that an outer diameter (D) of the ramming point (1) is reduced substantially continuously in the ramming direction (E).
10. Driving spike according to one of claims 1 to 9, characterised in that the driving spike (1) is designed in one piece.
11. Driving spike according to one of claims 1 to 10, characterised in that the driving spike (1) consists at least partially, preferably completely, of cast iron.

II. In all other respects, the action for annulment is dismissed.

III. The Registry is instructed to transmit a copy of this decision to the European Patent Office and to the national patent offices of all the Contracting Member States concerned once it has become final.

IV. It is held that the manufacture, offering for sale, placing on the market, use or importation of the defendant's pile-driving tips according to the attacked embodiments or the possession of such pile-driving tips for these purposes constitutes an infringement of claim 1 of EP 2 839 083 B9 as amended in accordance with point I. above and of claims 4, 5, 6, 7, 9, 10 and 11 (as amended in accordance with point I. of this decision) relating to this version of the claim.

V. The defendants are ordered to refrain from, in one or more of the territories of the States Germany, Austria, Belgium, Denmark, Finland, France, Italy, Luxembourg, Netherlands, Portugal, Slovenia and Sweden

Driving spikes for an essentially tubular, in particular hollow-cylindrical, driven pile with a pile core through which concrete can be introduced into the driven pile, wherein the driving spike can be fitted onto a pile end of the driven pile, wherein at least one first bearing web with a first bearing surface for an end face of the pile end is arranged on an inner wall of the driving spike, wherein, starting from the plane of the first bearing surface, the pile driving tip has a cavity which extends at least partially in the driving-in direction and into which concrete can be introduced through the pile core when the pile is inserted, wherein at least one concrete outlet channel is provided which connects the cavity to an upper edge of the pile driving tip,

characterised in that the at least one first support web is formed as a circular segment or circular ring segment in cross-section with respect to the ramming direction, and in that an arc of the circular segment or circular ring segment extends over 40° to 120°.

(new version claim 1),

especially if a plurality of concrete outlet ducts, preferably three concrete outlet ducts, is or are provided

(new version claim 4),

in particular if in each case two concrete outlet ducts of the plurality of concrete outlet ducts are arranged in cross-section to the ramming direction along the inner wall of the pile driving tip at substantially equal distances from one another

(new version claim 5),

and/or at least one radially inwardly projecting support device is provided on the inner wall for centring and/or positionally stable fixing of the driven pile

(new version claim 6),

especially if the at least one radially inwardly inward is formed as a plurality of support ribs

(new version claim 7),

and/or an outer diameter of the pile-driving tip is reduced essentially continuously in the direction of ramming

(new version claim 9)

and/or the pile driving tips are designed in one piece

(new version claim 10)

and/or the pile driving tips are at least partially, preferably completely, made of cast iron

(new version claim 11),

to manufacture, offer, place on the market, use or import or possess for the aforementioned purposes.

- VI. The defendants are ordered to recall the infringing pile-driving tips pursuant to Section V. from the distribution channels at their own expense, to permanently remove them from the distribution channels and to destroy them, and to destroy moulds and casting tools for the manufacture of the infringing pile-driving tips pursuant to Section V. at their own expense, insofar as they have geometric shapes or negatives thereof.

- VII. The defendants are ordered to provide the plaintiff with information on
- Origin and distribution channels of the infringing ramming spikes according to item V.,
 - the quantities produced, manufactured, delivered, received and ordered and the prices paid for the infringing pile-driving points in accordance with Clause V, and
 - the identity of all third parties involved in the manufacture or distribution of infringing ramming spikes pursuant to Section V.
- VIII. The plaintiff is authorised to announce and publish the decision in whole or in part in the following public media at the defendant's expense:
- Austrian Construction Journal (Der Wirtschaftsverlag)
 - SOLID trade magazine for business & technology in construction (WEKA Industrie Medien)
 - OIB aktuell The trade magazine for building law and technology (Austrian Institute for Building Technology)
 - GEOTECHNIK magazine (German Society for Geotechnics)
- IX. In all other respects, the action for infringement is dismissed.
- X. The defendants are ordered to pay a penalty payment of up to € 50,000.00 for each individual case of non-compliance with the order under V. and for each day of non-compliance or incorrect compliance with the orders under VI. or VII. after the expiry of a two-week period beginning with the notification of the intention to enforce pursuant to Rule 118.8 VerfO.
- XI. The judgement is immediately enforceable.
- XII. The defendants are ordered to compensate the plaintiff for all damage which she has suffered or will suffer as a result of the manufacture, offering, placing on the market, use or importation or possession for the aforementioned purposes.
- XIII. The plaintiff shall bear 20% and the defendants 80% of the costs of the legal dispute.

INFORMATION ON THE APPOINTMENT

An appeal against this decision may be lodged with the Court of Appeal within two months of notification of the decision by any party whose petitions were unsuccessful in whole or in part (Art. 73(1) UPCA, R. 220.1(a), 224.1(a) RP).

INFORMATION ON ENFORCEMENT (ART. 82 EPGÜ, ART. ART. 37(2) EPGs, R. 118.8, 158.2, 354, 355.4 VERFO):

A certified copy of the enforceable judgement is issued by the Deputy Registrar at the request of the enforcing party, R. 69 RegR.

Munich, 6 June 2025

Dr Zigann (Presiding Judge)	Matthias ZIGANN  Digitally signed by Matthias ZIGANN Date: 2025.06.05 10:35:00 +02'00'
Coke (legally qualified judge)	(Margot) (Elsa) KOKKE  Digitally signed by Margot Elsa KOKKE Date: 2025.06.05 11:59:45 +02'00'
Kretschmann (technically qualified judge)	Dennis Kretschmann  Digitally signed by Dennis Kretschmann Date: 2025.06.05 10:46:33 +02'00'
Pichlmaier (legally qualified judge; rapporteur)	Tobias Günther Pichlmaier  Digitally signed by Tobias Günther Pichlmaier Date: 2025.06.05 10:03:45 +02'00'
For the Deputy Chancellor	Veronika Ruisinger  Digitally signed by Veronika Ruisinger Date: 2025.06.06 11:28:08 +02'00'