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European Technical Assessment

ETA-12/0067 of 08.02.2022

General part

Technical Assessment Body issuing the European Technical Assessment	Österreichisches Institut für Bautechnik (OIB) Austrian Institute of Construction Engineering
Trade name of the construction product	Sherpa XS, S, M, L, XL and XXL
Product family to which the construction product belongs	Three dimensional nailing plate (joist end connector for wood to wood connections and wood to concrete or steel connections)
Manufacturer	Vinzenz Harrer GmbH Badl 31 8130 Frohnleiten Austria
Manufacturing plant	Manufacturing plant 1
This European Technical Assessment contains	144 pages including 7 Annexes which form an integral part of this assessment.
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of	European Assessment Document (EAD) 130186-00-0603 “Three-dimensional nailing plates”.
This European Technical Assessment replaces	European Technical Assessment ETA-12/0067 of 17.09.2019.

Remarks

Translations of the European Technical Assessment in other languages shall fully correspond to the original issued document and should be identified as such.

Communication of this European Technical Assessment, including transmission by electronic means, shall be in full. However, partial reproduction may be made with the written consent of Austrian Institute of Construction Engineering. Any partial reproduction has to be identified as such.

Specific parts

1 Technical description of the product

1.1 General

This European Technical Assessment (ETA)[1] applies to the beam hanger to be used in load-bearing timber to timber or timber to concrete or steel connections "**Sherpa**". **Sherpa** comprises two pieces following the tongue and groove principle. The overall thickness of **Sherpa** series XS, S, M, L, XL and XXL is shown in Table 1. Installation of the two pieces of the beam hanger into the timber is carried out with special screws from carbon steel with diameters according to Table 1. The screws are hardened, antifriction coated and are electrogalvanized and passivated (yellow or blue), provided with a zinc-nickel coating or hot-dip galvanised. Installation of the beam hanger to members made of concrete / steel is carried out with suitable anchors / screws. Optionally **Sherpa** series XS, S, M, L, XL and XXL can be provided with a lift lock.

Table 1: Overall thickness of Sherpa and diameter of screws for installation in wood

Sherpa series	Overall thickness	Diameter of screws
	mm	mm
XS	12	4.5
S	12	4.5
M	14	6.5
L	18	8
XL	20	8
XXL	20	8

Sherpa corresponds to the specifications given in the Annexes 1 to 3 and 5. The material characteristics, dimensions and tolerances of **Sherpa**, not indicated in these Annexes, are given in the technical file[2] of the European Technical Assessment.

[1] The ETA-12/0067 was firstly issued in 2012 as European technical approval with validity from 15.06.2012, amended in 2013 with validity from 23.05.2013, amended and converted in 2018 to the European Technical Assessment ETA-12/0067 of 04.06.2018, amended in 2019 to the European Technical Assessment ETA-12/0067 of 17.09.2019 and amended in 2021 to the European Technical Assessment ETA-12/0067 of 08.02.2022.

[2] The technical file of the European Technical Assessment is deposited at Österreichisches Institut für Bautechnik and, in so far as is relevant to the tasks of the notified factory production control certification body involved in the assessment and verification of constancy of performance procedure, is handed over to the notified factory production control certification body.

1.3 Components

1.3.1 Beam hanger

Sherpa XS, S, M and L is produced of aluminium EN AW - 6082 according to EN 755-2[3].

Sherpa XL and XXL is produced of aluminium EN AW - 5083 according to EN 755-2.

The production series **Sherpa** XS, S, M, L, XL and XXL includes 39 different types of beam hangers for wood to wood connections:

→ XS 5, XS 10, XS 15, XS 20,

→ S 5, S 10, S 15, S 20,

→ M 15, M 20, M 25, M 30, M 40,

→ L 30, L 40, L 50, L 60, L 80, L100, L120,

→ XL 55, XL 70, XL 80, XL 100, XL 120, XL 140, XL 170, XL 190, XL 220, XL 250,

→ XXL 100, XXL 120, XXL 140, XXL 170, XXL 190, XXL 220, XXL 250, XXL 280 and XXL 300.

In addition 31 different types of beam hangers of **Sherpa** M, L, XL and XXL are produced for wood to concrete or steel connections:

→ M 15 CS, M 20 CS, M 25 CS, M 30 CS, M 40 CS,

→ L 30 CS, L 40 CS, L 50 CS, L 60 CS, L 80 CS, L100 CS, L120 CS,

→ XL 55 CS, XL 70 CS, XL 80 CS, XL 100 CS, XL 120 CS, XL 140 CS, XL 170 CS, XL 190 CS, XL 220 CS, XL 250 CS,

→ XXL 100 CS, XXL 120 CS, XXL 140 CS, XXL 170 CS, XXL 190 CS, XXL 220 CS, XXL 250 CS, XXL 280 CS and XXL 300 CS.

The beam hangers are also produced in type “DUO”. Hereby, the tongue and groove geometry is placed side by side in one aluminium plate.

The beam hangers together with their most important dimensions are shown in Annex 2.

1.3.2 Screws

The screws for installation of the two beam hanger parts into the timber are described in Annex 1. The screws from special carbon steel are hardened. They are antifriction coated and are electrogalvanized and passivated (yellow or blue), provided with a zinc-nickel coating or hot-dip galvanised.

1.3.3 Lift lock

Optionally **Sherpa** XS, S, M, L, XL and XXL can be provided with a lift lock. One hole is drilled into the upper piece of the beam hanger for **Sherpa** XS, S and M. Two holes are drilled into the upper piece of the beam hanger for **Sherpa** L, XL and XXL.

Thread rolling screws made of galvanized, hardened and tempered steel are screwed into the predrilled holes to join the two pieces, see Annex 1.

[3] Reference documents are listed in Annex 7.

2 Specification of the intended use(s) in accordance with the applicable European Assessment Document

2.1 Intended use

The beam hangers are intended to be used in load bearing connections of timber structures as end grain to side grain, end grain to end grain or side grain to side grain connections, e.g. between beams as well as connections between timber and a concrete structure or a steel member.

The beam hangers are used for connections in load bearing timber structures between the following wood-based members:

- Solid timber of softwood of strength class C24 or better according to EN 338 and EN 14081-1,
- Glued laminated timber and glued solid timber of softwood of strength class GL24c or better according to EN 14080 or glued laminated timber of hardwood according to European Technical Assessments or national provisions that apply on the installation site,
- Laminated veneer lumber LVL according to EN 14374 or according to European Technical Assessments or national provisions that apply on the installation site,
- Cross laminated timber according to European Technical Assessments or national provisions that apply on the installation site,
- Strand lumber (e.g. Laminated Strand Lumber - Intrallam, Parallel Strand Lumber - Parallam) according to European Technical Assessments or national provisions that apply on the installation site.

The typical installation of the beam hangers is shown in Annex 3.

The beam hangers shall be subjected to static and quasi static actions only.

The beam hangers are intended to be used in service classes 1 and 2 according to EN 1995-1-1.

Sherpa installed with hot-dip galvanised screws with a minimum thickness of the zinc coating of 55 µm may be used in conditions defined by service class 3.

2.2 General assumptions

Sherpa is manufactured in accordance with the provisions of the European Technical Assessment using the manufacturing process as identified in the inspection of the manufacturing plant by Österreichisches Institut für Bautechnik and laid down in the technical file.

The manufacturer shall ensure that the requirements in accordance with the Clauses 1, 2 and 3 as well as with the Annexes of the European Technical Assessment are made known to those who are concerned with design and execution of the works.

Design

The European Technical Assessment only applies to the manufacture and use of the beam hangers. Verification of stability of the works including application of loads on the product is not subject to the European Technical Assessment.

The following conditions shall be observed:

- Design of connections with beam hangers is carried out under the responsibility of an engineer experienced in timber structures.
- Design of the works shall account for the protection of the connection to maintain the respective service class according to EN 1995-1-1.
- The beam hangers are installed correctly.

- For the forces R_2, R_3 and R_{45} according to Annex 4 it shall be checked in accordance with EN 1995-1-1 that splitting will not occur.

  Areas subjected to transverse tensile stress are to be considered as transverse connections (main beam) or notches (secondary beam) according to EN 1995-1-1 and verified accordingly.

  For determination of the effective height (h_e or h_{ef} according to EN 1995-1-1) splitting may be assumed in the area of the moment screws, see Annex 4.

  The parameter x (for notches according to EN 1995-1-1) or t_{ef} (for unilateral transverse connections according to ÖNORM B 1995-1-1) may be considered by L_{Screw}*0.5 for simplification.

  For notches in direction of $R_{4/5}$, the width b for calculation of the effective width b_{ef} is limited to the width of the respective Sherpa. The parameter i (for notches according to EN 1995-1-1) shall be taken as 1.0.

- Taking into consideration whether or not a lift-lock has been applied.

Design of connections with beam hangers may be according to EN 1995-1-1 taking into account the Annexes of the European Technical Assessment. Standards and regulations in force at the place of use shall be considered.

Design of connections with beam hangers in wood to concrete or steel connections in accordance with Eurocode 2, 3, 5 or 9 and Annex 5.

Packaging, transport, storage, maintenance, replacement and repair

Concerning product packaging, transport, storage, maintenance, replacement and repair it is the responsibility of the manufacturer to undertake the appropriate measures and to advise his clients on the transport, storage, maintenance, replacement and repair of the product as he considers necessary.

Installation

It is assumed that the product will be installed according to the manufacturer's instructions or (in absence of such instructions) according to the usual practice of the building professionals.

The beam hangers shall be screwed as specified in Annex 1 and Annex 3.

The screws may be driven into the wood-based member of softwood without pre-drilling. The inclined screws may be driven into glued laminated timber of hardwood or laminated veneer lumber of hardwood without predrilling whereas the moment screws shall be predrilled.

The screws are either driven into the wood-based member of softwood without pre-drilling or in predrilled holes with a diameter not exceeding the inner thread diameter.

The structural members which are connected with the beam hangers shall be

- as detailed in Annex 3, either restrained against rotation, or for the case that main beam or column cannot prevented from rotation in a satisfying way or are arranged rotatable according to plan, the characteristic load bearing capacity shall be attenuated according to Annex 5;
- wood-based members according to clause 2.1;
- free from wane under the beam hanger;
- with plane surfaces against the beam hangers;
- without virtually gap between the timber members;
- with minimum spacing and edge distances are in accordance with EN 1995-1-1 and ETA-12/0373.

The rules for wood to wood connections are also applicable for the connection between wood to concrete or steel.

Installation of the beam hanger to members made of concrete / steel is carried out with suitable anchors / screws. Standards and regulations in force at the place of use shall be considered.

2.3 Working life/Durability

The provisions made in the European Technical Assessment (ETA) are based on an assumed intended working life of **Sherpa** of 50 years, when installed in the works, provided that the product is subject to appropriate installation, use and maintenance (see Clause 2.2). These provisions are based upon the current state of the art and the available knowledge and experience[4].

The indications given as to the working life of the construction product cannot be interpreted as a guarantee neither given by the product manufacturer or his representative nor by EOTA nor by the Technical Assessment Body, but are regarded only as a means for choosing the appropriate products in relation to the expected economically reasonable working life of the works.

3 Performance of the product and reference to the methods used for its assessment

3.1 Essential characteristics of the product

Table 2: Essential characteristics of the product and assessment methods

№	Essential characteristic	Product performance
Basic requirement for construction works 1: Mechanical resistance and stability		
1	Joint strength	3.1.1
2	Joint stiffness	3.1.2
3	Joint ductility	No performance assessed.
4	Resistance to seismic actions	No performance assessed.
5	Resistance to corrosion and deterioration	3.1.3
Basic requirement for construction works 2: Safety in case of fire		
6	Reaction to fire	3.1.4
7	Resistance to fire	3.1.5

3.1.1 Joint strength

The joint strength of the beam hangers are determined by calculation assisted by testing. The beam hangers are installed with a defined number of screws with respective nominal diameter as specified in Annex 1. Kinematic restraints are defined in Annex 4.

The values of the characteristic load bearing capacities for the loading directions R_1, R_2, R_3, R_{45} and $R_{tor,}$ as defined in Annex 4, are given in Annex 5.

If the beam hangers are connected to structural members made of concrete or steel, anchors or suitable screws are used. The same load bearing capacities shall be used as for timber-to-timber connections given in Annex 5, provided the anchors / screws are designed to exceed the load bearing capacities of the beam hanger to timber connections. In addition, for loading in direction of insertion, the specifications for connections between wooden members and concrete and steel members given in Annex 5 shall be considered.

[4] The real working life of a product incorporated in a specific works depends on the environmental conditions to which that works is subject, as well as on the particular conditions of the design, execution, use and maintenance of that works. Therefore, it cannot be excluded that in certain cases the real working life of the product can also be shorter than the assumed working life.

3.1.2 Joint stiffness

The stiffness of the beam hangers was determined by calculation assisted by testing. The beam hangers are installed with a defined number of screws with respective nominal diameter as specified in Annex 1. The stiffness values are given in Annex 5.

3.1.3 Resistance to corrosion and deterioration

The product is intended to be used in service classes 1 and 2 according to EN 1995-1-1.

Sherpa installed with hot-dip galvanised screws with a minimum thickness of the zinc coating of 55 µm may be used in conditions defined by service class 3.

The beam hangers of **Sherpa** series XS, S, M and L are made of aluminium EN AW - 6082 and the beam hangers of **Sherpa** series XL and XXL are made of aluminium EN AW - 5083 according to EN 755-2.

The screws for installation are made of carbon steel and galvanised. The screws are electrogalvanized and passivated (yellow or blue), provided with a zinc-nickel coating or hot-dip galvanised. The minimum thickness of the zinc coating of the screws is 5 µm and the minimum thickness of the zinc-nickel coating is 4 µm. The minimum thickness of the zinc coating of hot-dip galvanised screws is 55 µm.

For the lift lock thread rolling screws made of hardened and tempered steel are used.

3.1.4 Reaction to fire

The beam hangers are made from aluminium and the screws are made from carbon steel, both classified as Euroclass A1 in accordance with Commission Decision 96/603/EC as amended.

3.1.5 Resistance to fire

Resistance to fire of the beam hangers is determined by testing. The beam hangers are installed with a defined number of screws with respective nominal diameter as specified in Annex 1.

The boundary conditions for the classification R30, R60, R90 and R120 are defined in Annex 6.

3.2 Assessment methods

3.2.1 General

The assessment of the essential characteristics in Clause 3.1 of **Sherpa** for the intended use, and in relation to the requirements for mechanical resistance and stability and for safety in case of fire in the sense of the basic requirements for construction works № 1 and 2 of Regulation (EU) № 305/2011 has been made in accordance with the European Assessment Document EAD 130186-00-0603 “Three-dimensional nailing plates”.

3.2.2 Identification

The European Technical Assessment for **Sherpa** is issued on the basis of agreed data that identify the assessed product. Changes to materials, to composition, to characteristics of the product, or to the production process could result in these deposited data being incorrect. Österreichisches Institut für Bautechnik should be notified before the changes are implemented, as an amendment of the European Technical Assessment is possibly necessary.

4 Assessment and verification of constancy of performance (thereafter AVCP) system applied, with reference to its legal base

4.1 System of assessment and verification of constancy of performance

According to Commission Decision 97/638/EC the system of assessment and verification of constancy of performance to be applied to **Sherpa** is System 2+. System 2+ is detailed in Commission Delegated Regulation (EU) № 568/2014 of 18 February 2014, Annex, 1.3, and provides for the following items

(a) The manufacturer shall carry out:

(i) an assessment of the performance of the construction product carried out on the basis of testing (including sampling), calculation, tabulated values or descriptive documentation of that product;

(ii) factory production control;

(iii) testing of samples taken at the manufacturing plant by the manufacturer in accordance with a prescribed test plan[5].

(b) The notified factory production control certification body shall decide on the issuing, restriction, suspension or withdrawal of the certificate of conformity of the factory production control on the basis of the outcome of the following assessments and verifications carried out by that body:

(i) initial inspection of the manufacturing plant and of factory production control;

(ii) continuing surveillance, assessment and evaluation of factory production control.

4.2 AVCP for construction products for which a European Technical Assessment has been issued

Manufacturers undertaking tasks under Systems 2+ shall consider the European Technical Assessment issued for the construction product in question as the assessment of the performance of that product. Manufacturers shall therefore not undertake the tasks referred to in point 4.1 (a)(i).

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable European Assessment Document

5.1 Tasks for the manufacturer

5.1.1 Factory production control

In the manufacturing plant the manufacturer shall establish and continuously maintain a factory production control. All procedures and specification adopted by the manufacturer shall be documented in a systematic manner. The factory production control shall ensure the constancy of performances of the product with regard to the essential characteristics.

The manufacturer shall only use raw materials supplied with the relevant inspection documents as laid down in the control plan. The incoming raw materials shall be subject to controls by the manufacturer before acceptance. Check of incoming materials shall include control of inspection documents presented by the manufacturer of the raw materials.

The frequencies of controls and tests conducted during manufacturing and on the assembled product are defined by taking account of the manufacturing process of the product and are laid down in the control plan.

[5] The prescribed test plan has been deposited with Österreichisches Institut für Bautechnik and is handed over only to the notified factory production control certification body involved in the procedure for the assessment and verification of constancy of performance. The prescribed test plan is also referred to as control plan.

The results of factory production control are recorded and evaluated. The records include at least the following data:

- Designation of the product, basic materials and components
- Type of control or test
- Date of manufacture of the product and date of testing of the product or basic materials or components
- Results of controls and tests and, if appropriate, comparison with requirements
- Name and signature of person responsible for factory production control

The records shall be presented to the notified factory production control certification body involved in continuous surveillance. On request the records shall be presented to Österreichisches Institut für Bautechnik.

5.1.2 Declaration of performance

The manufacturer is responsible for preparing the declaration of performance. When all the criteria of the assessment and verification of constancy of performance are met, including the certificate of conformity of the factory production control issued by the notified factory production control certification body, the manufacturer shall draw up a declaration of performance.

5.2 Tasks for the notified factory production control certification body

5.2.1 Initial inspection of the manufacturing plant and of factory production control

The notified factory production control certification body shall verify the ability of the manufacturer for a continuous and orderly manufacturing of **Sherpa** according to the European Technical Assessment. In particular the following items shall be appropriately considered.

- Personnel and equipment
- The suitability of the factory production control established by the manufacturer
- Full implementation of the control plan

5.2.2 Continuous surveillance, assessment and evaluation of factory production control

The notified factory production control certification body shall visit the factory at least once a year for routine inspection. In particular the following items shall be appropriately considered.

- The manufacturing process including personnel and equipment
- The factory production control
- The implementation of the control plan

The results of continuous surveillance shall be made available on demand by the notified factory production control certification body to Österreichisches Institut für Bautechnik. When the provisions of the European Technical Assessment and the control plan are no longer fulfilled, the certificate of conformity of the factory production control shall be withdrawn.

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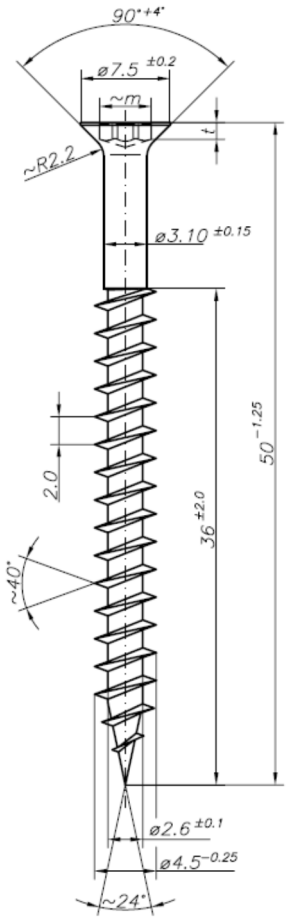
The original document is signed by:

Rainer Mikulits

Managing Director

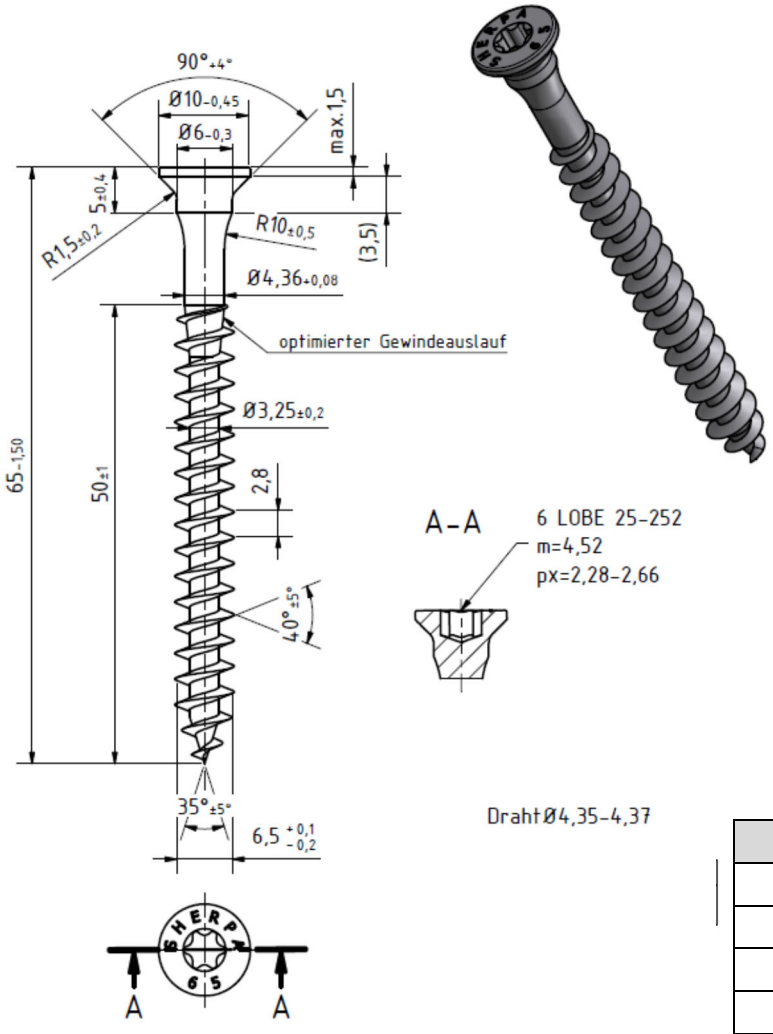
Type	Number of Sherpa special-screws		Nominal diameter of screws	Nominal Length of screws		Tensile strength of screws
	side grain (moment/inclined)	end grain (moment/inclined)		side grain	end grain	
-	-	-	mm	mm	mm	N/mm²
XS 5	6 (4/2)	6 (4/2)	4.5	50	50	≥ 600
XS 10	8 (4/4)	10 (4/6)				
XS 15	9 (4/5)	12 (4/8)				
XS 20	11 (4/7)	14 (4/10)				
S 5	6 (4/2)	6 (4/2)				
S 10	8 (4/4)	10 (4/6)				
S 15	9 (4/5)	12 (4/8)				
S 20	11 (4/7)	14 (4/10)				



Dimensions	mm
Head diameter d_k	7.5
Outer thread diameter d_1	4.5
Inner thread diameter d_2	2.6
Flange diameter d_3	3.1
Length L	50
Pitch P	2.0

Sherpa – Series XS and S	Annex 1
Fastener specification – special screws	of European Technical Assessment ETA-12/0067 of 08.02.2022

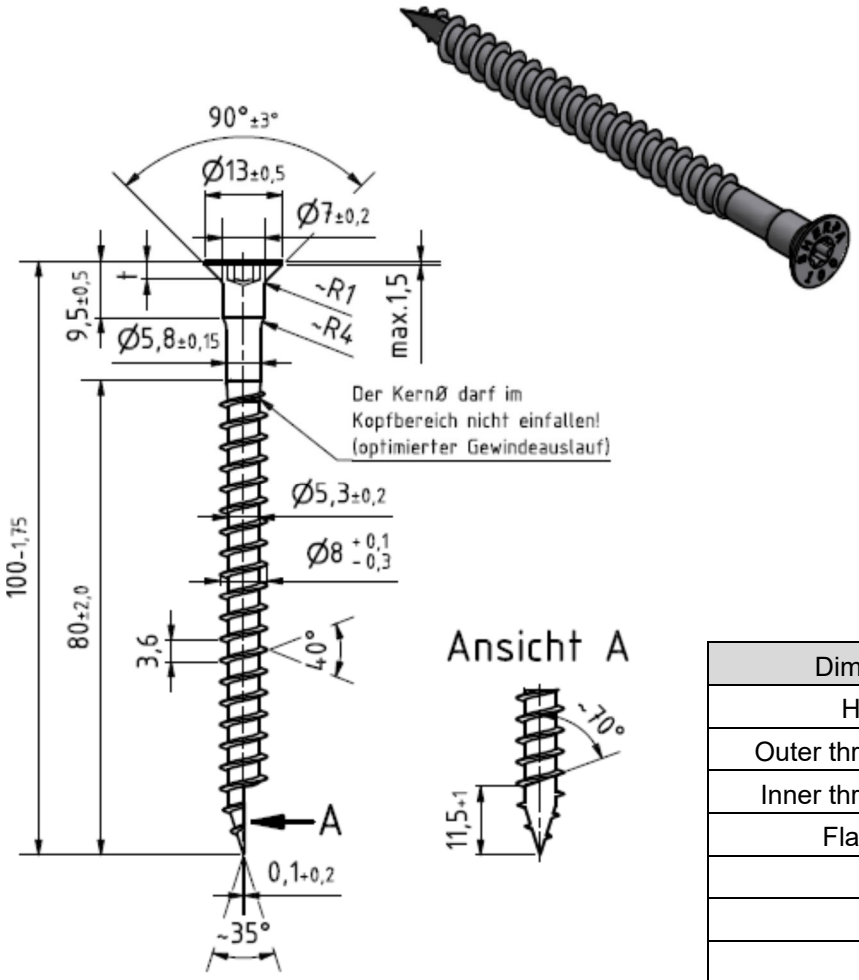
Type	Number of Sherpa special-screws		Nominal diameter of screws	Nominal Length of screws		Tensile strength of screws
	side grain (moment/inclined)	end grain (moment/inclined)		side grain	end grain	
-	-	-	mm	mm	mm	N/mm²
M 15	7 (4/3)	9 (5/4)	6.5	65/85/105	65/85/105	≥ 600
M 20	9 (4/5)	11 (5/6)				
M 25	10 (4/6)	13 (5/8)				
M 30	11 (4/7)	15 (5/10)				
M 40	13 (4/9)	17 (5/12)				



Dimensions	mm
Head diameter d_k	10
Outer thread diameter d_1	6.5
Inner thread diameter d_2	3.25
Flange diameter d_3	6
Length L	65/85/105
Pitch P	2.8

Sherpa –M	Annex 1
Fastener specification – special screws	of European Technical Assessment ETA-12/0067 of 08.02.2022

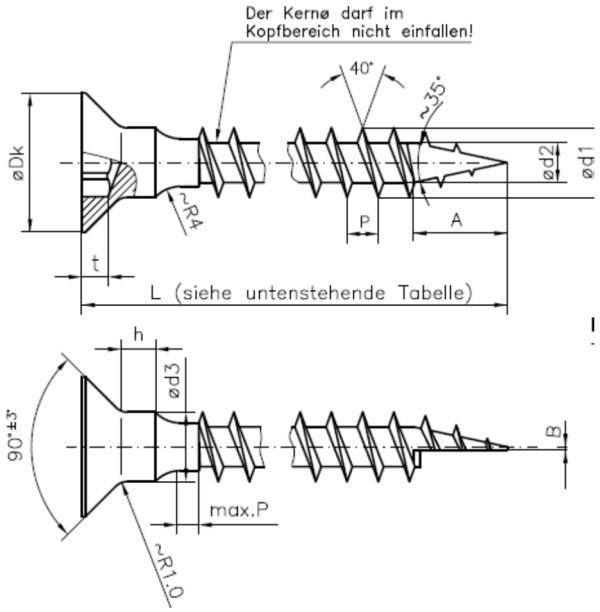
Type	Number of Sherpa special-screws		Nominal diameter of screws	Nominal Length of screws		Tensile strength of screws
	side grain (moment/inclined)	end grain (moment/inclined)		side grain	end grain	
-	-	-	mm	mm	mm	N/mm²
L 30	6 (2/4)	9 (5/4)	8	100/120/140	100/120/140	≥ 600
L 40	7 (2/5)	11 (5/6)				
L 50	8 (2/6)	13 (5/8)				
L 60	10 (2/8)	15 (5/10)				
L 80	12 (2/10)	17 (5/12)				
L 100	14 (2/12)	19 (5/14)				
L 120	16 (2/14)	21 (5/16)				



Dimensions	mm
Head diameter d_k	13
Outer thread diameter d_1	8
Inner thread diameter d_2	5.3
Flange diameter d_3	7
Length L	100/120/140
Pitch P	3.6
Milling length A	11.5
Center distance B	0.1

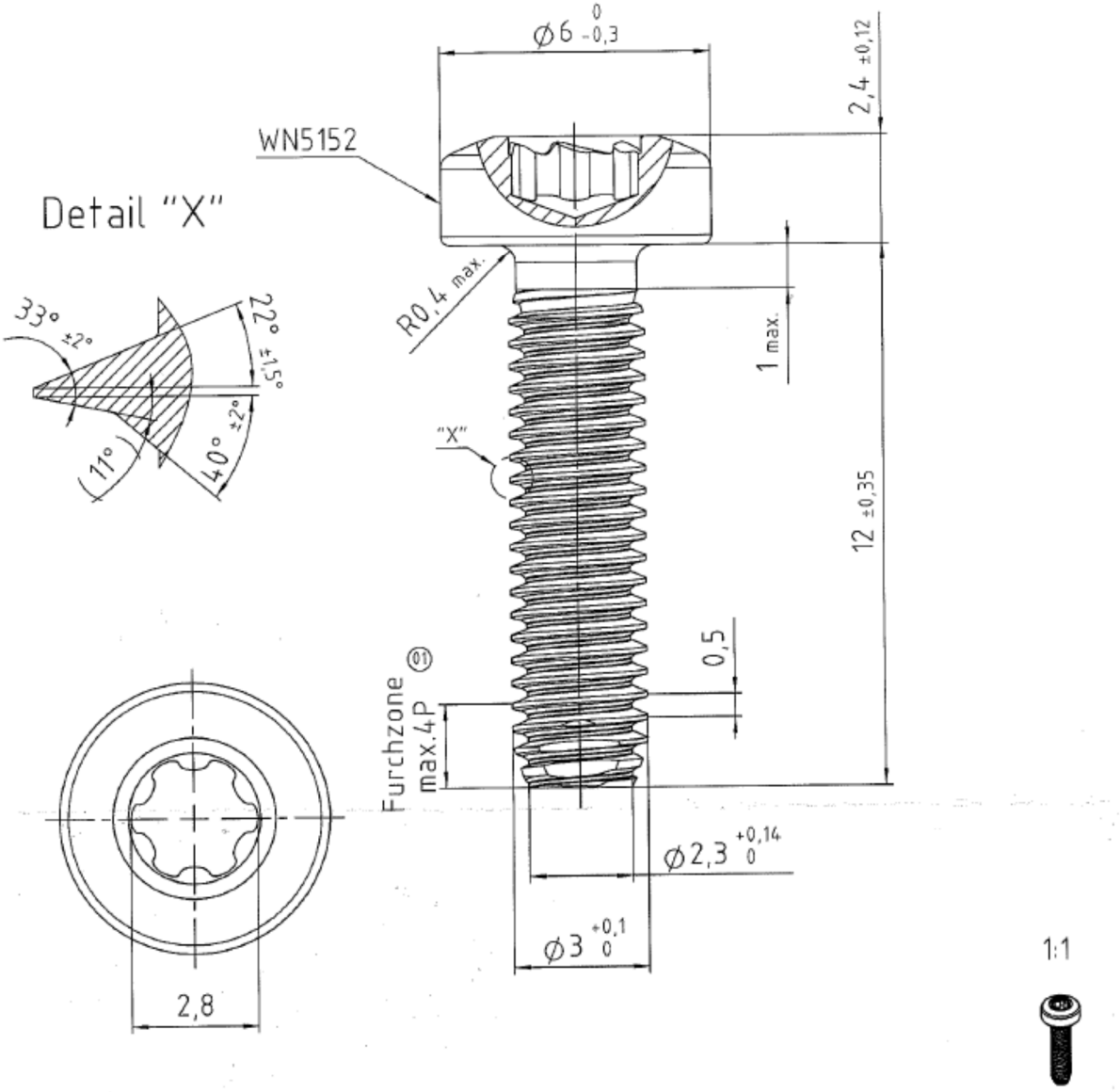
Sherpa –L	Annex 1
Fastener specification – special screws	of European Technical Assessment ETA-12/0067 of 08.02.2022

Type	Number of Sherpa special-screws		Nominal diameter of screws	Nominal Length of screws		Tensile strength of screws
	side grain (moment/inclined)	end grain (moment/inclined)		side grain	end grain	
-	-	-	mm	mm	mm	N/mm²
XL 55	8 (4/4)	10 (6/4)	8	100 to 200	100 to 200	≥ 600
XL 70	9 (4/5)	12 (6/6)				
XL 80	10 (4/6)	14 (6/8)				
XL 100	11 (4/7)	14 (6/8)				
XL 120	13 (4/9)	16 (6/10)				
XL 140	14 (4/10)	18 (6/12)				
XL 170	16 (4/12)	20 (6/14)				
XL 190	18 (4/14)	22 (6/16)				
XL 220	20 (4/16)	24 (6/18)				
XL 250	22 (4/18)	26 (6/20)				
XXL 100	10 (4/6)	12 (6/6)				
XXL 120	12 (4/8)	15 (6/9)				
XXL 140	14 (4/10)	18 (6/12)				
XXL 170	16 (4/12)	21 (6/15)				
XXL 190	18 (4/14)	24 (6/18)				
XXL 220	20 (4/16)	27 (6/21)				
XXL 250	22 (4/18)	30 (6/24)				
XXL 280	24 (4/20)	30 (6/24)				
XXL 300	26 (4/22)	33 (6/27)				

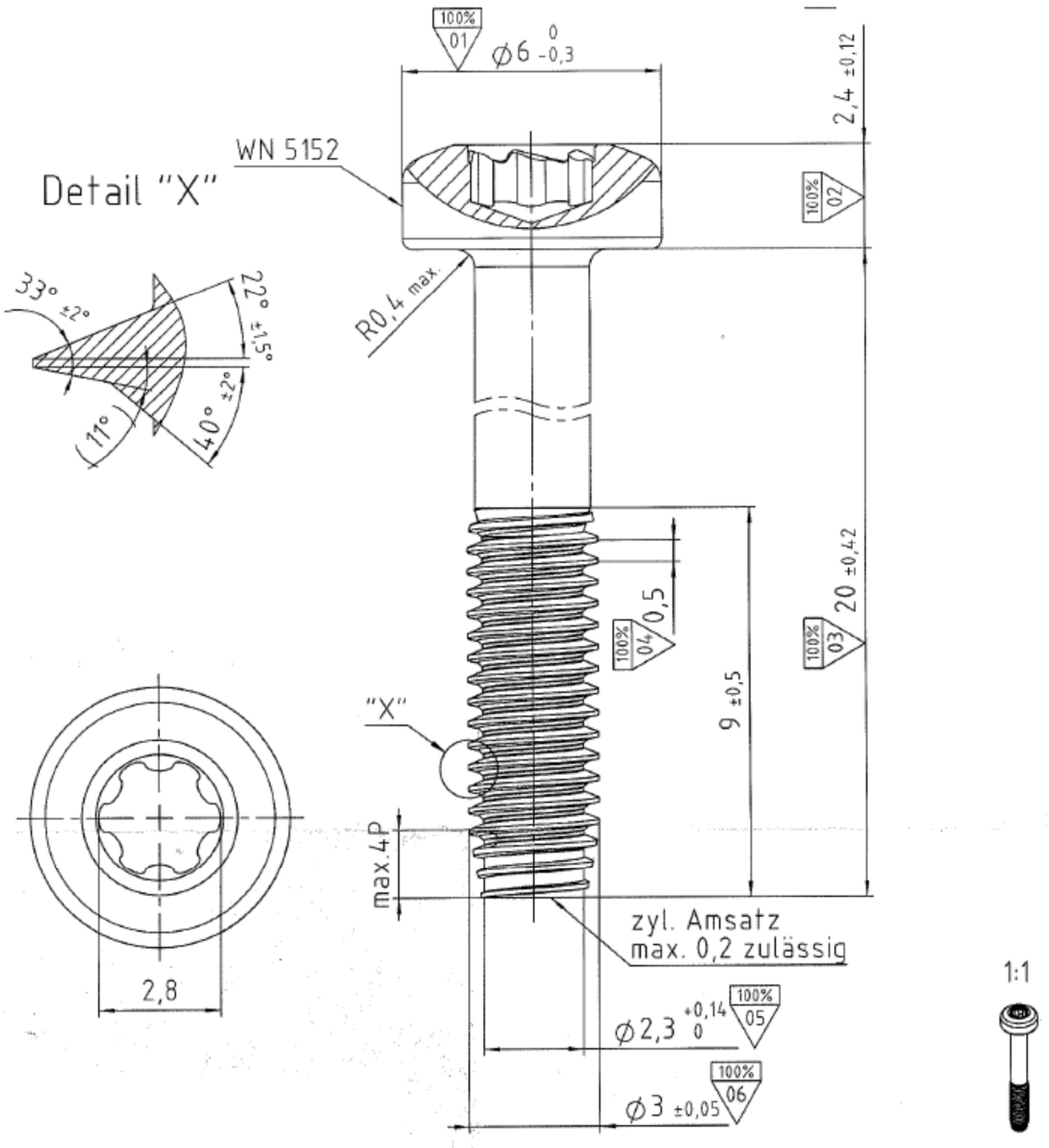


Dimensions	mm
Head diameter d_k	15.0
Outer thread diameter d_1	8.0
Inner thread diameter d_2	5.3
Flange diameter d_3	7.8
Length L	100 to 200
Pitch P	3.6
Milling length A	11
Center distance B	0.1

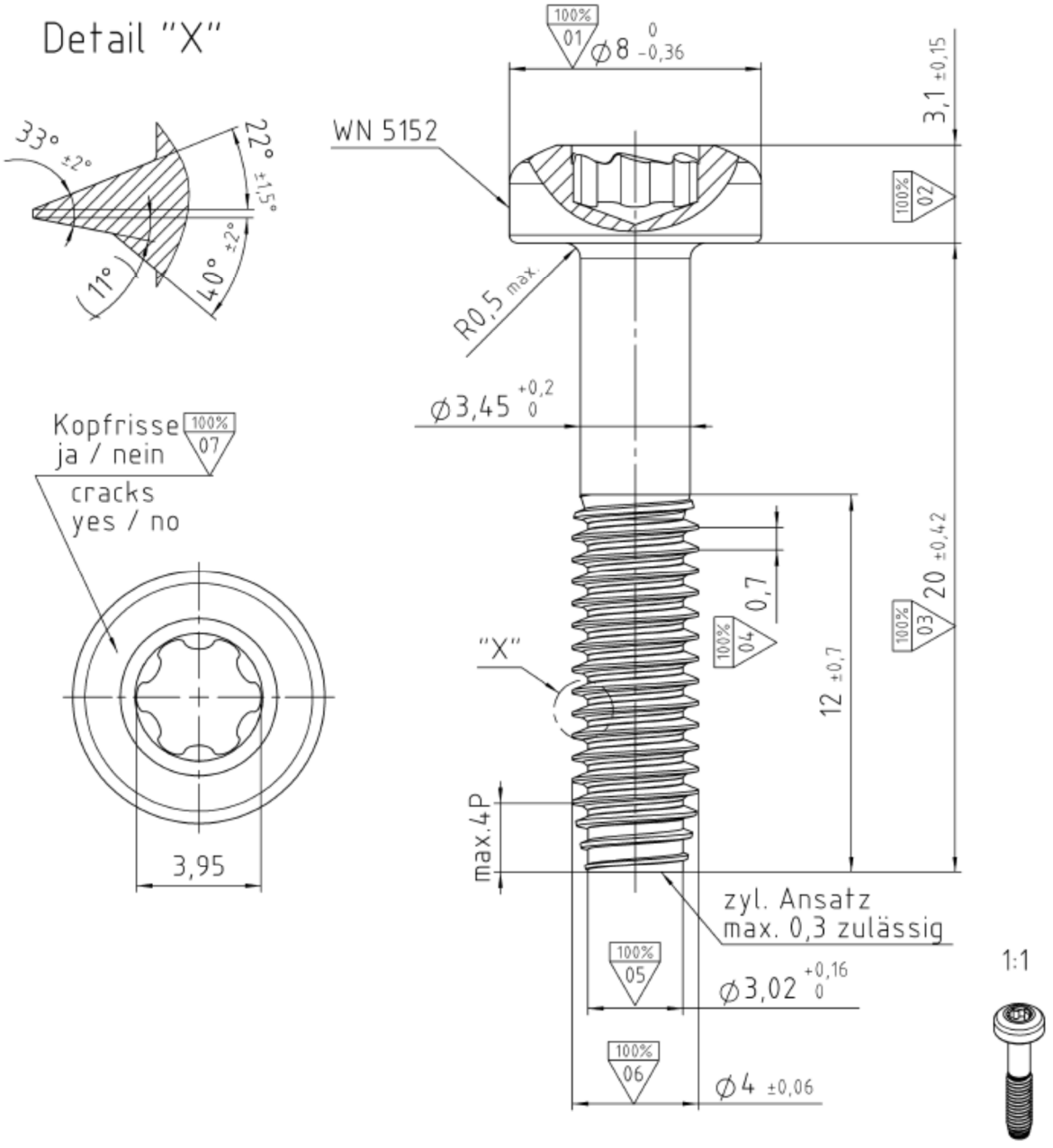
Sherpa – XL and XXL	Annex 1
Fastener specification – special screws	of European Technical Assessment ETA-12/0067 of 08.02.2022



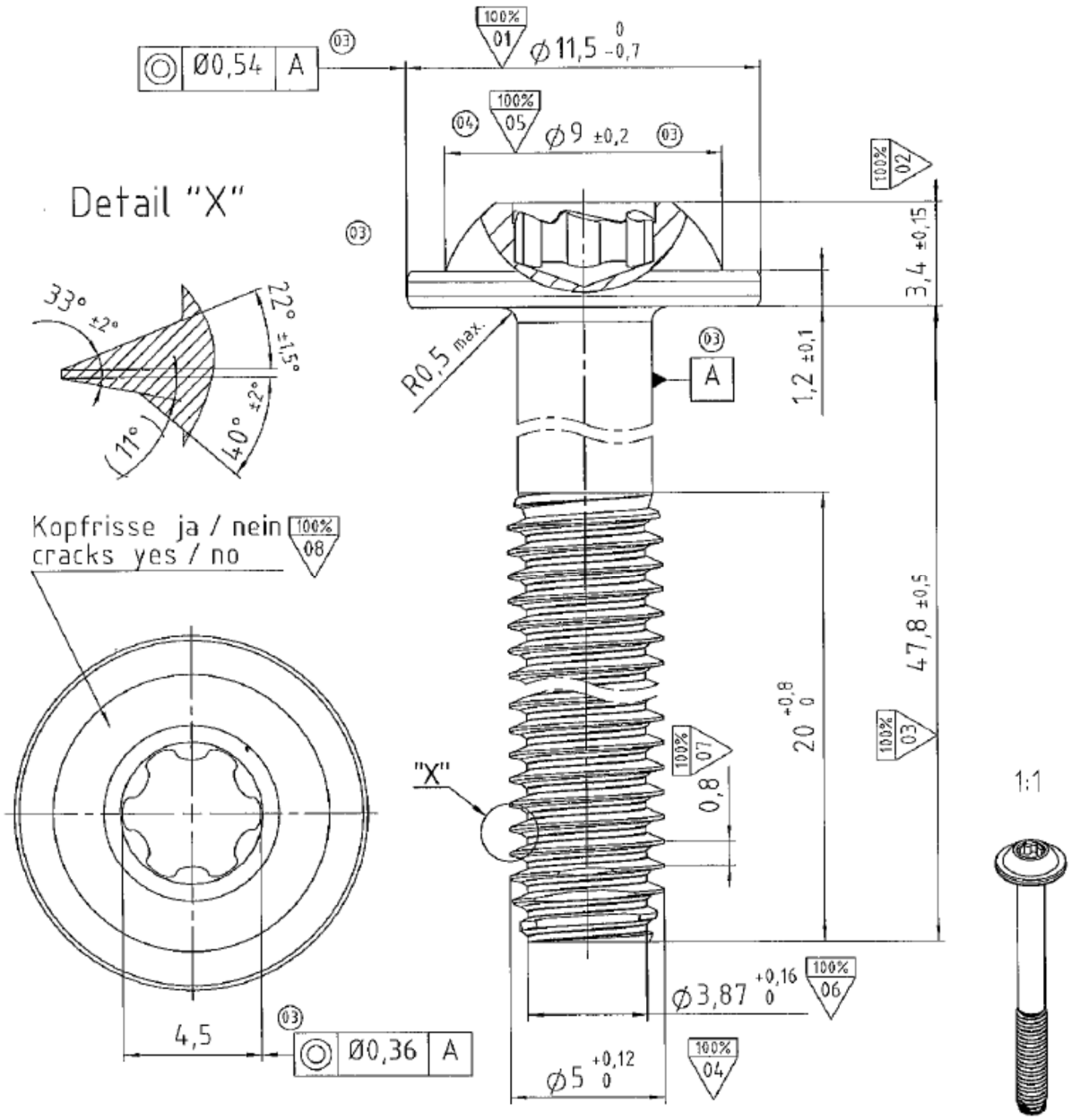
Sherpa – XS	Annex 1
Fastener specification – Lift lock	of European Technical Assessment ETA-12/0067 of 08.02.2022



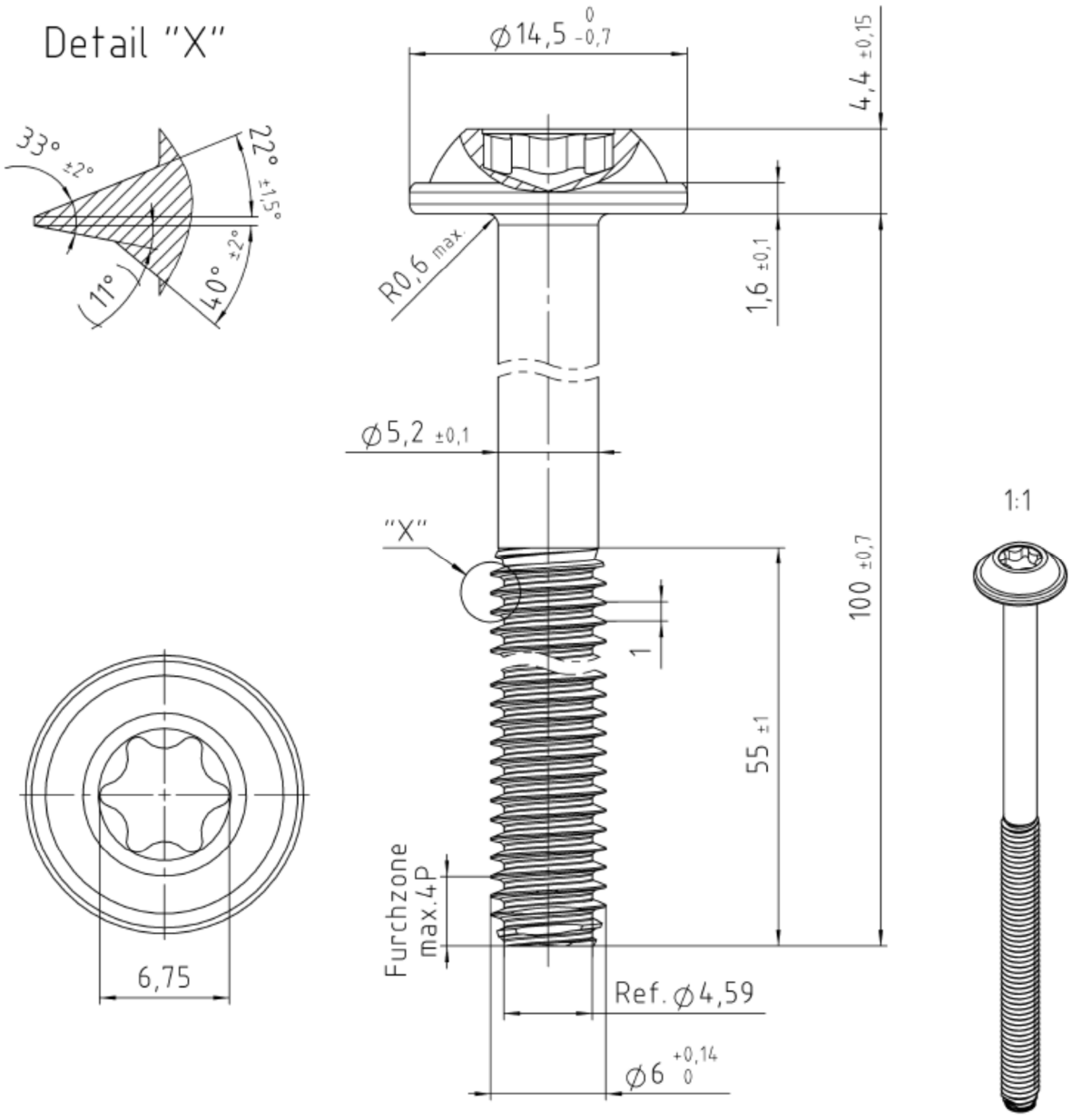
Sherpa – S	Annex 1
Fastener specification – Lift lock	of European Technical Assessment ETA-12/0067 of 08.02.2022



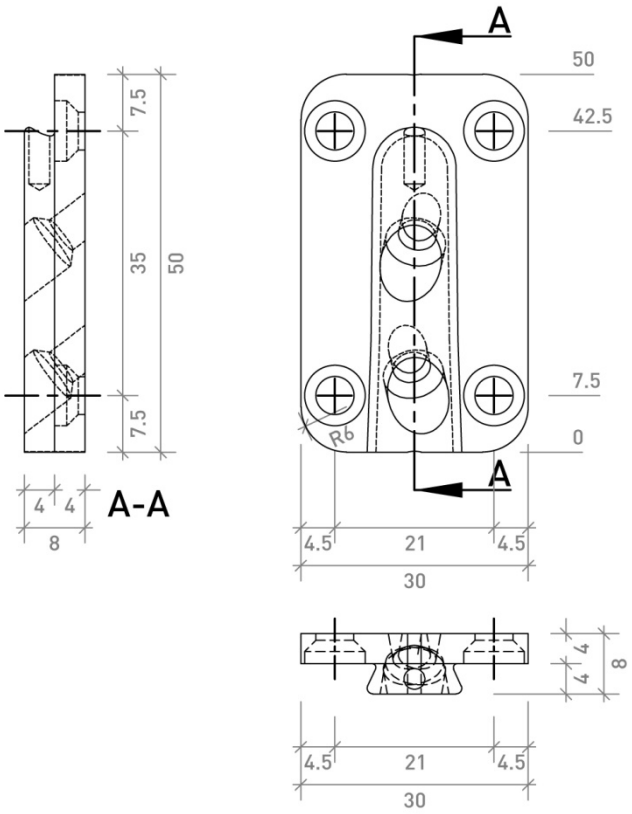
Sherpa – M	Annex 1
Fastener specification – Lift lock	of European Technical Assessment ETA-12/0067 of 08.02.2022



Sherpa – L	Annex 1
Fastener specification – Lift lock	of European Technical Assessment ETA-12/0067 of 08.02.2022

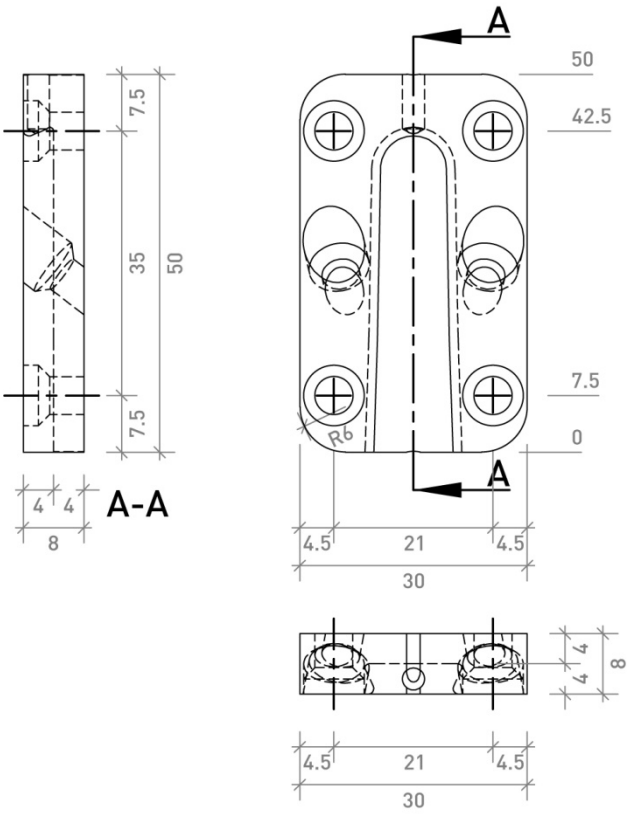


Sherpa – XL and XXL	Annex 1
Fastener specification – Lift lock	of European Technical Assessment ETA-12/0067 of 08.02.2022



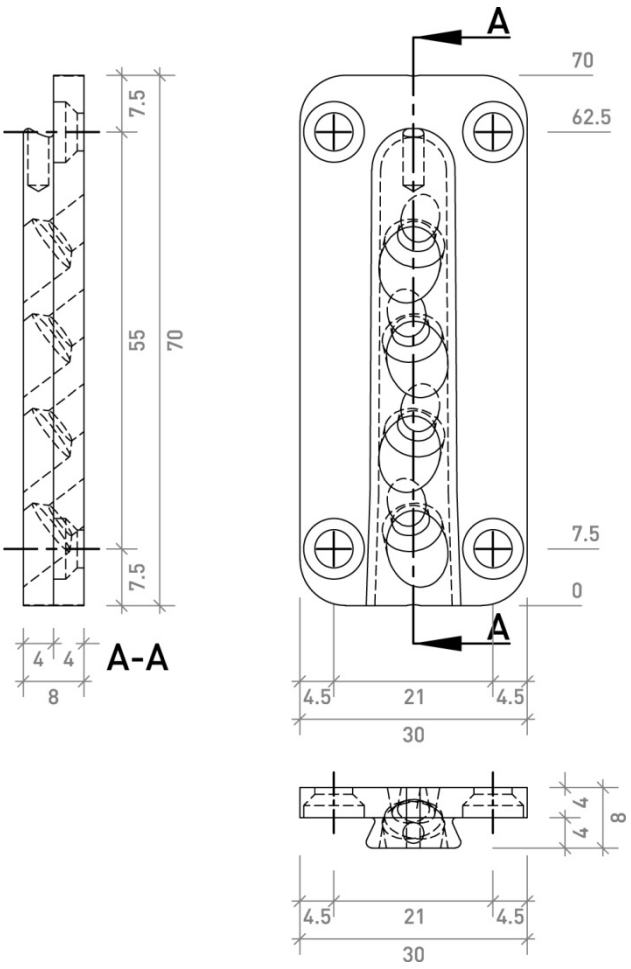
Dimensions in mm

Sherpa – XS	Annex 2
Product details definitions: Type XS 5 12/30/50 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



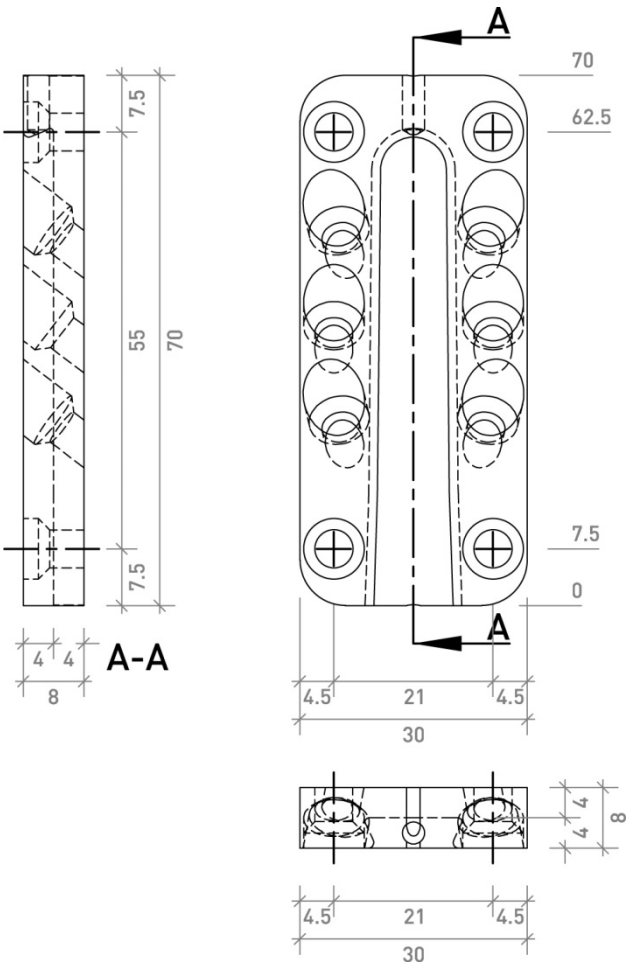
Dimensions in mm

Sherpa – XS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XS 5 12/30/50 Mounting: secondary beam	



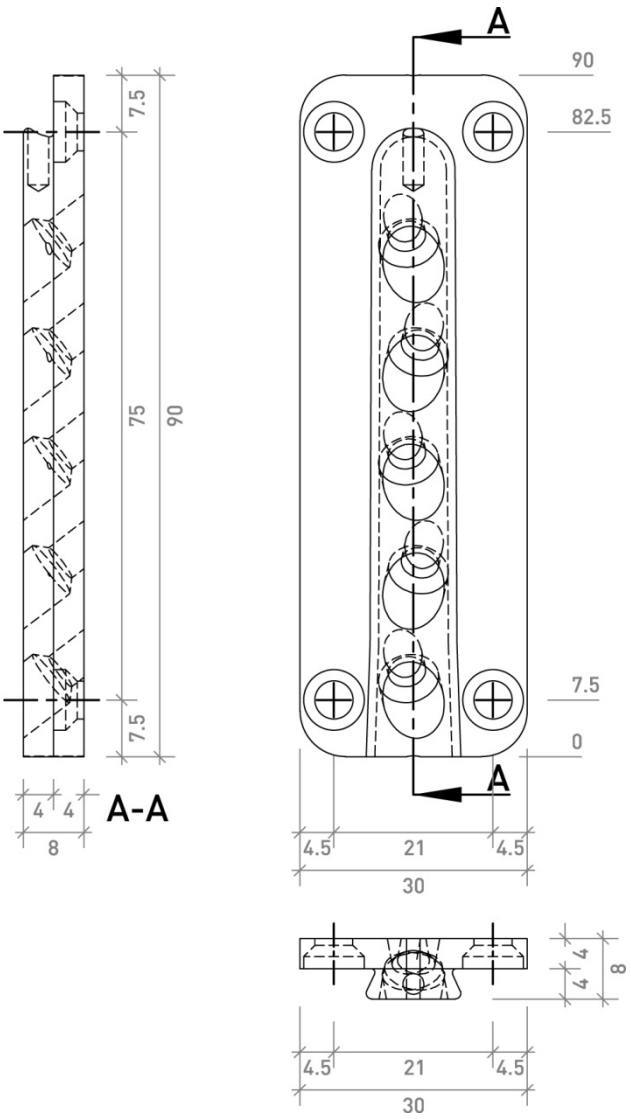
Dimensions in mm

Sherpa – XS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XS 10 12/30/70 Mounting: main beam or column	



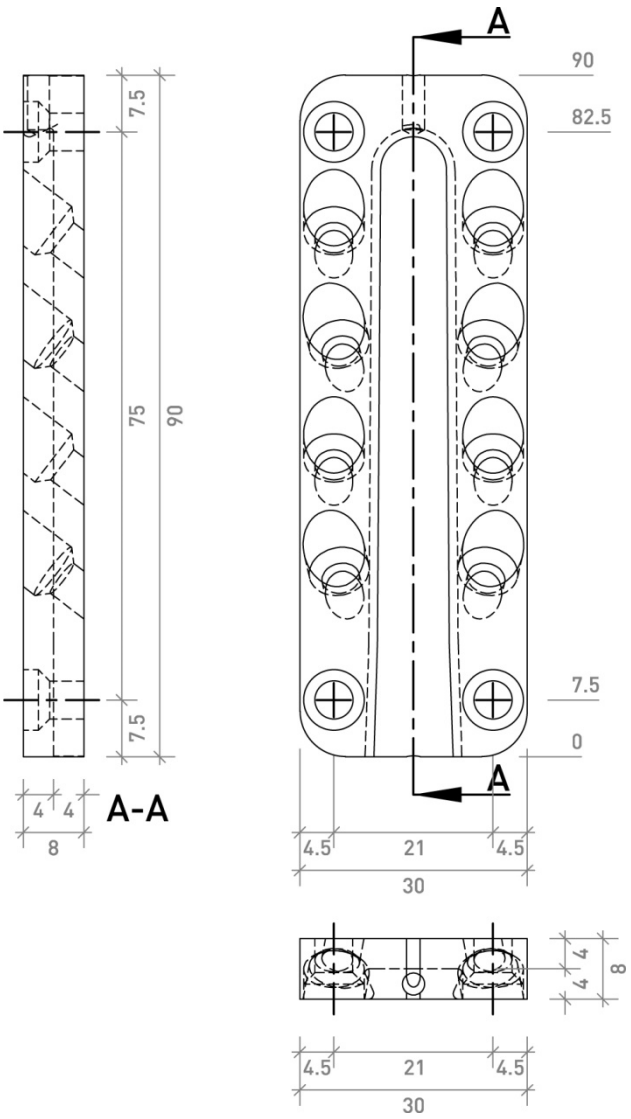
Dimensions in mm

Sherpa – XS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XS 10 12/30/70 Mounting: secondary beam	



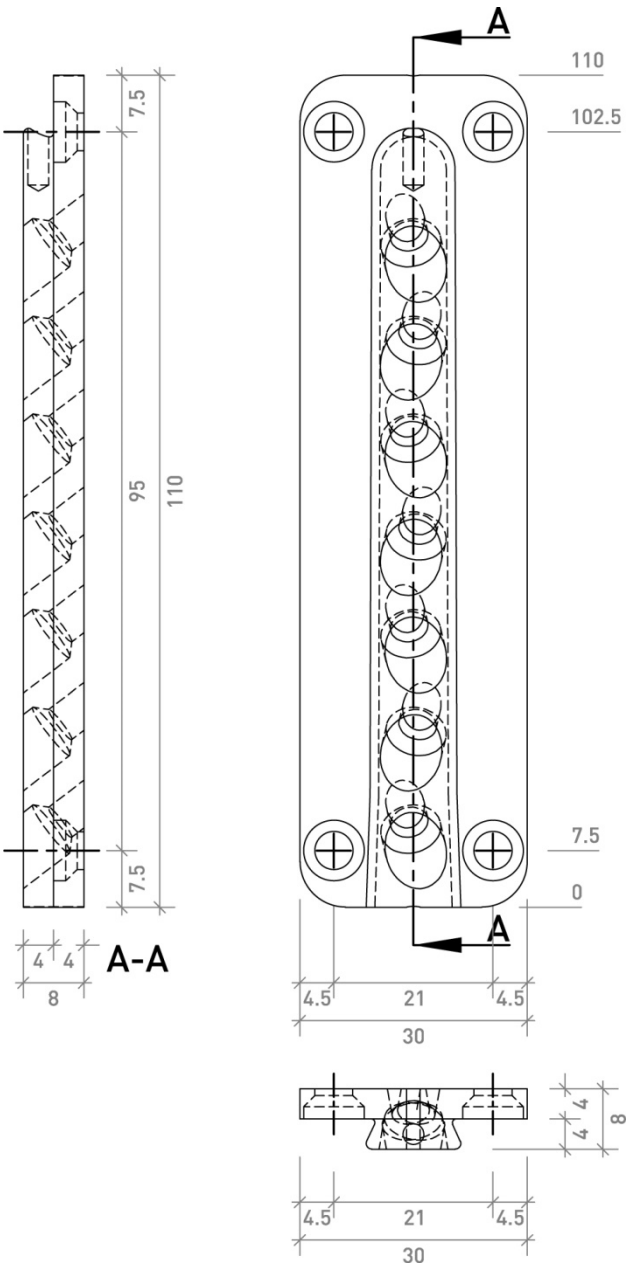
Dimensions in mm

Sherpa – XS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XS 15 12/30/90 Mounting: main beam or column	



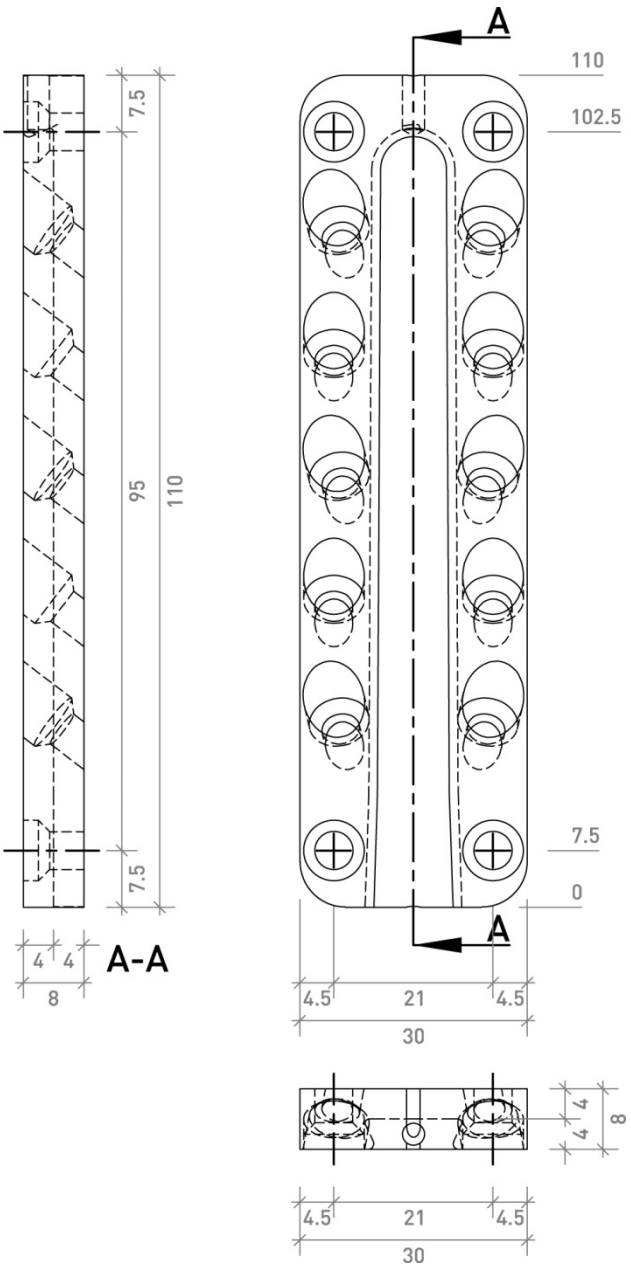
Dimensions in mm

Sherpa – XS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XS 15 12/30/90 Mounting: secondary beam	



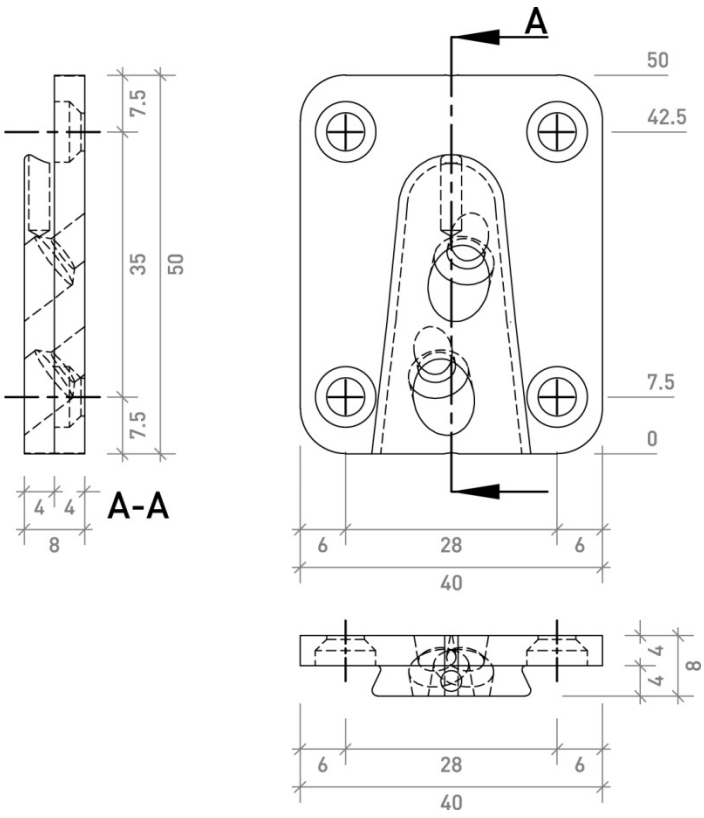
Dimensions in mm

Sherpa – XS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XS 20 12/30/110 Mounting: main beam or column	



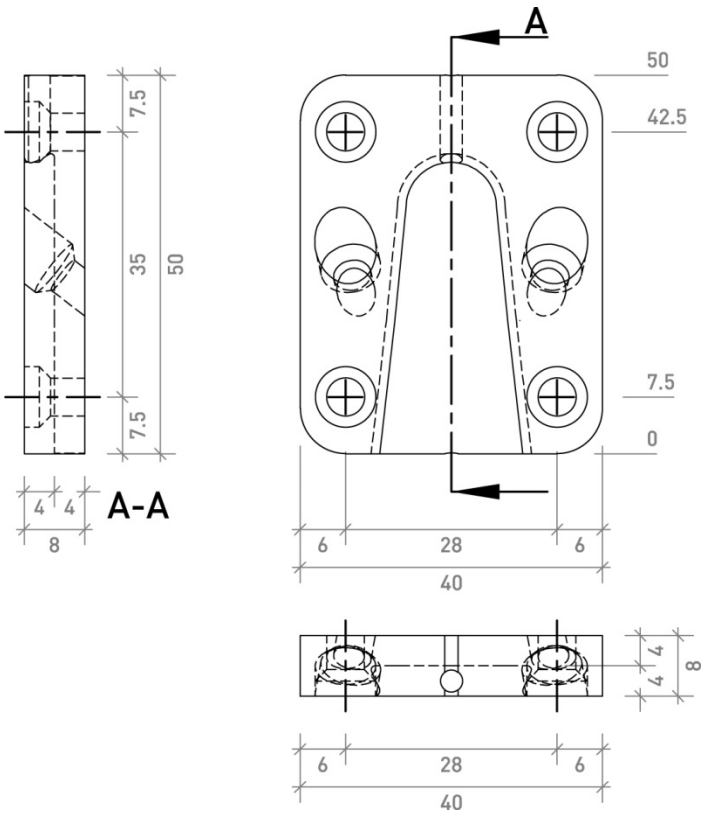
Dimensions in mm

Sherpa – XS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XS 20 12/30/110 Mounting: secondary beam	



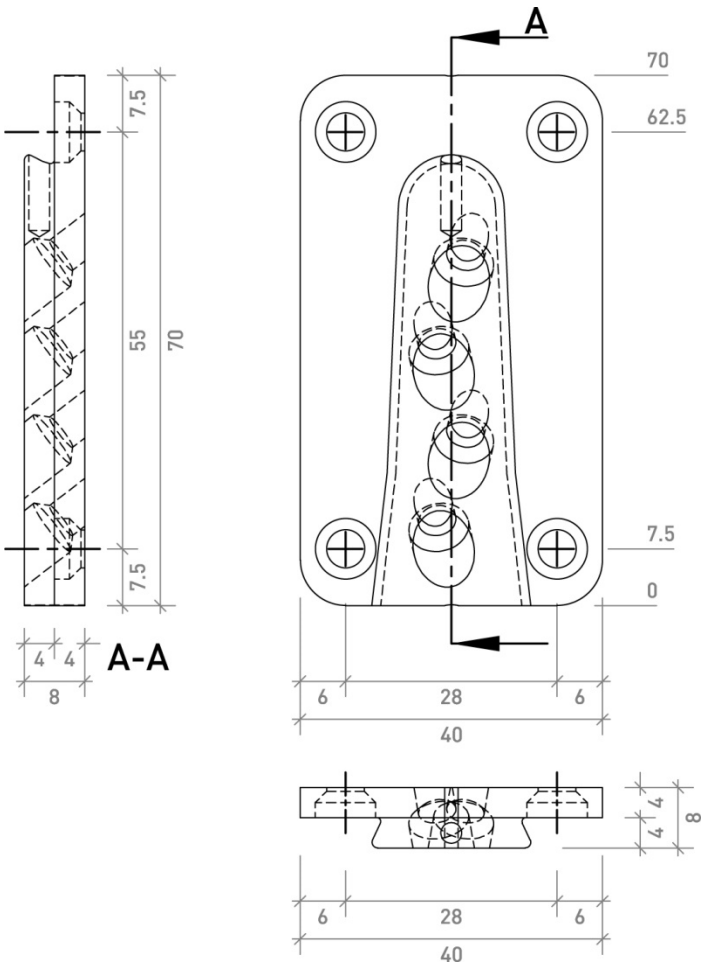
Dimensions in mm

Sherpa – S	Annex 2
Product details definitions: Type S 5 12/40/50 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



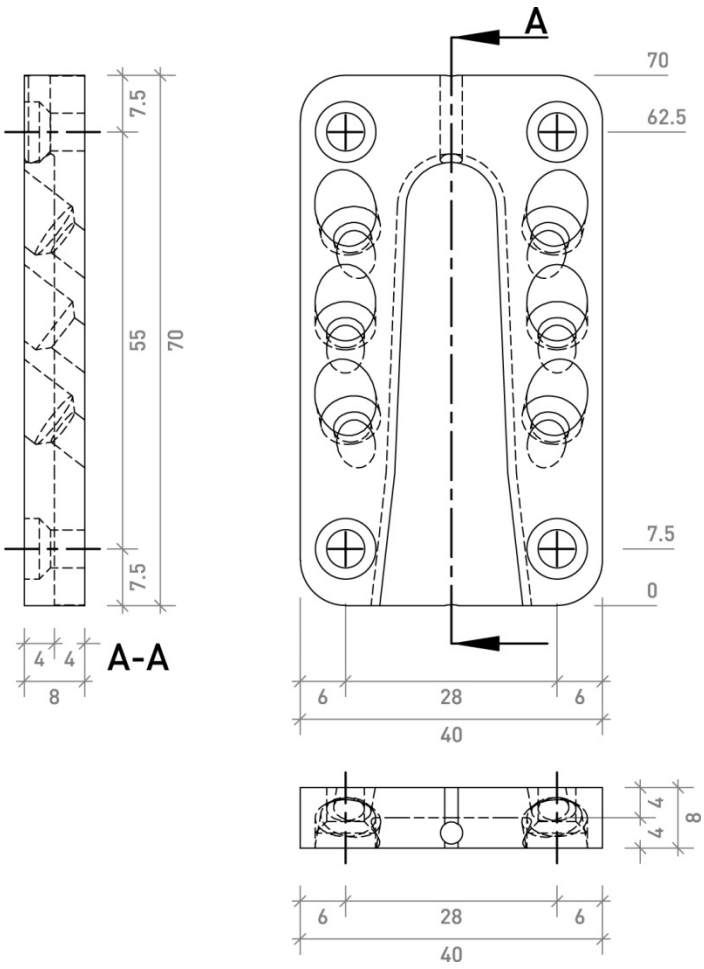
Dimensions in mm

Sherpa – S	Annex 2
Product details definitions: Type S 5 12/40/50 Mounting: secondary beam	of European Technical Assessment ETA-12/0067 of 08.02.2022



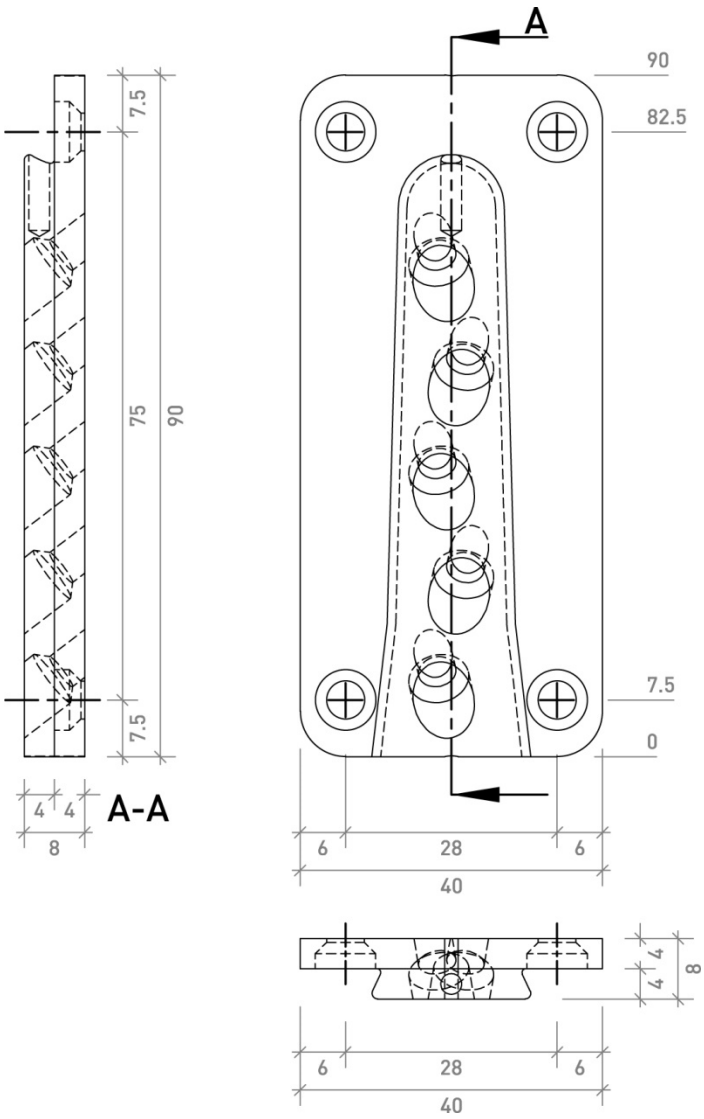
Dimensions in mm

Sherpa – S	Annex 2
Product details definitions: Type S 10 12/40/70 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



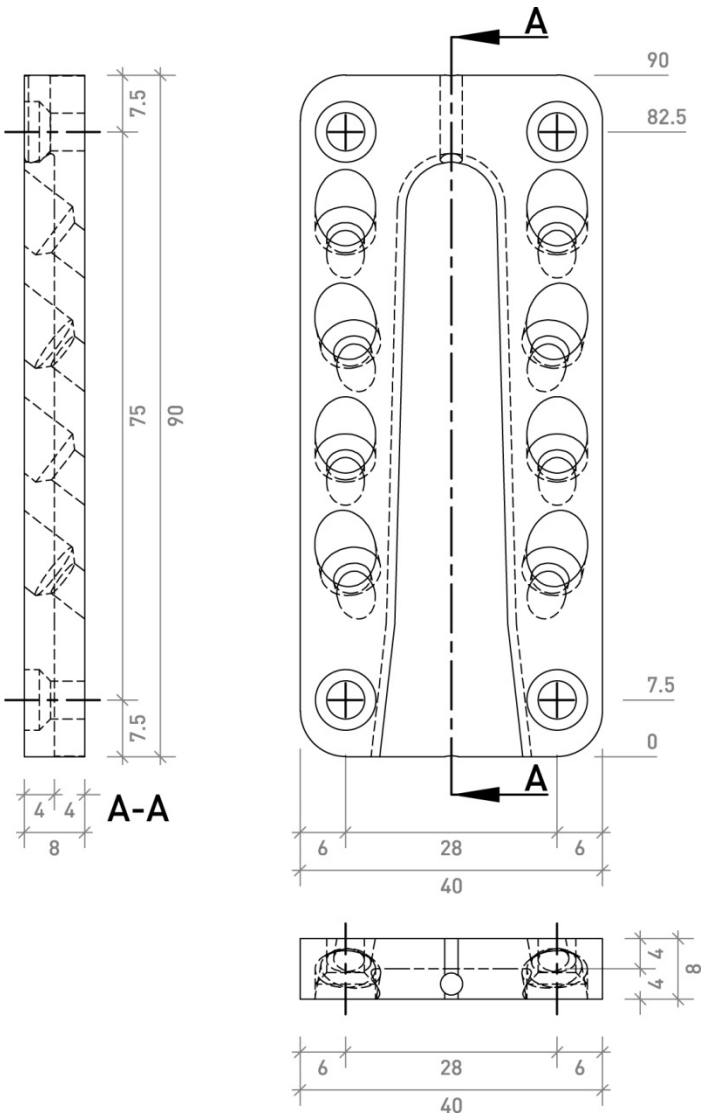
Dimensions in mm

Sherpa – S	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type S 10 12/40/70 Mounting: secondary beam	



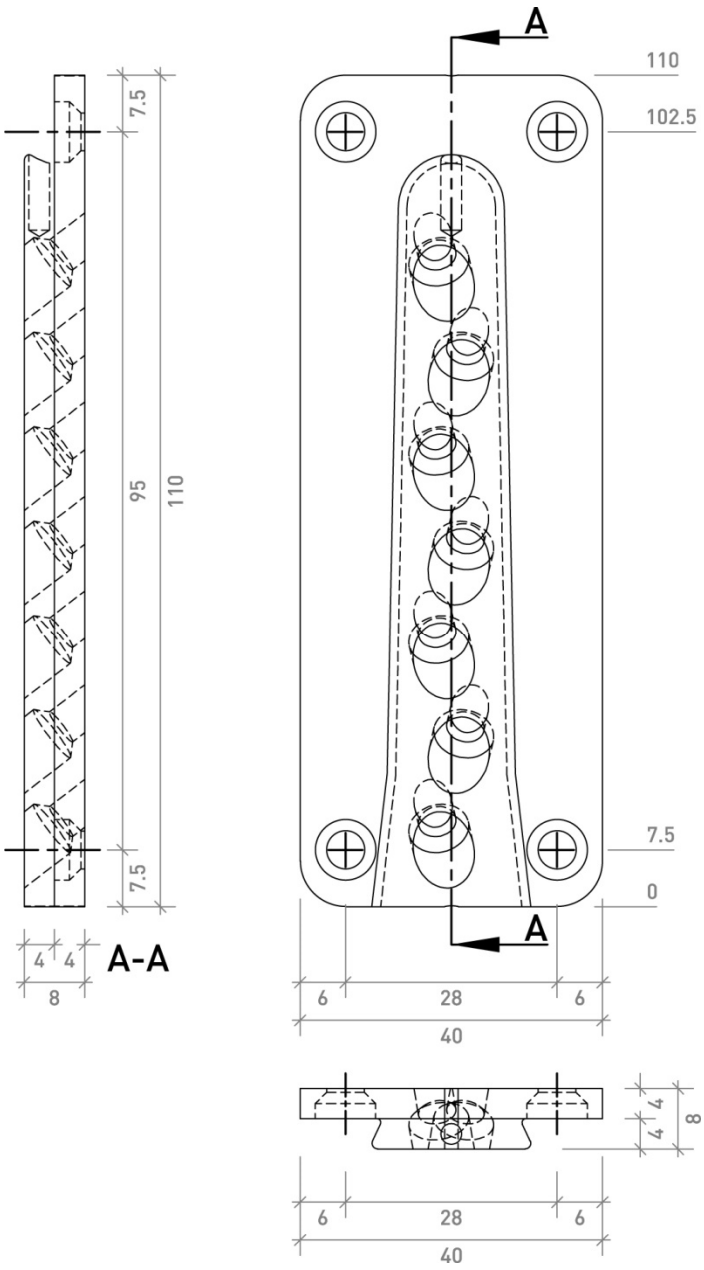
Dimensions in mm

Sherpa – S	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type S 15 12/40/90 Mounting: main beam or column	



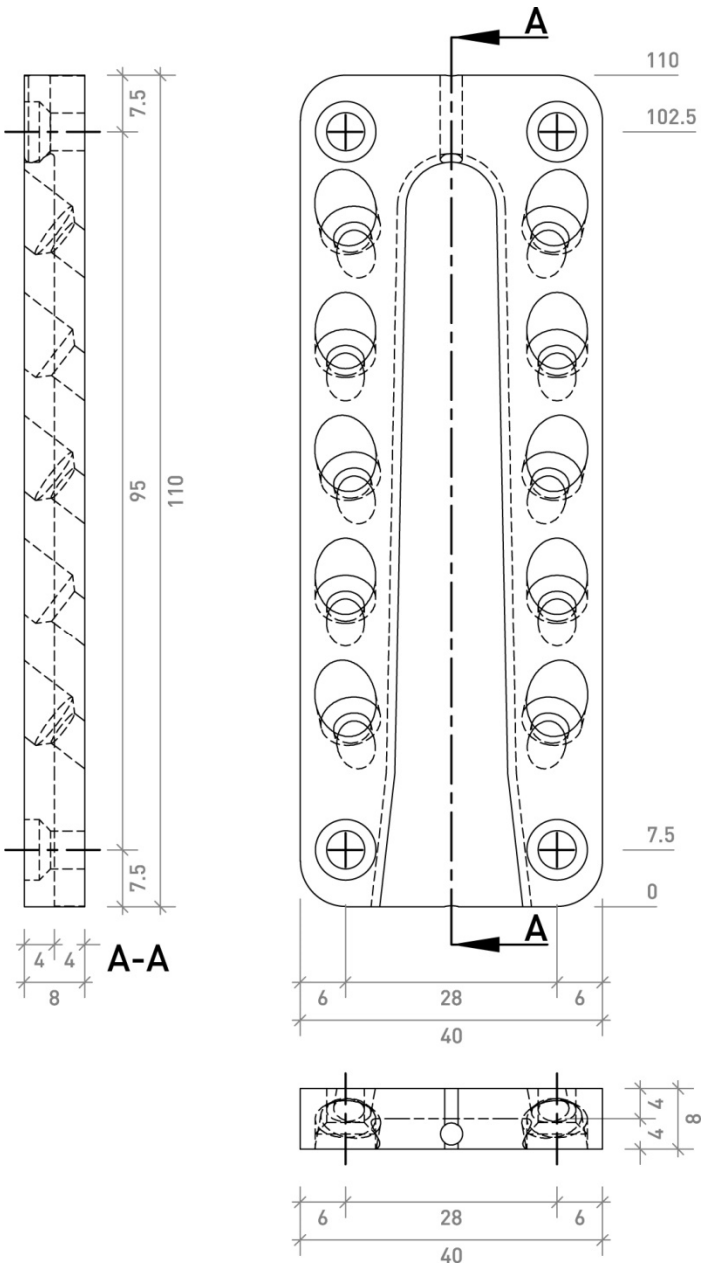
Dimensions in mm

Sherpa – S	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type S 15 12/40/90 Mounting: secondary beam	



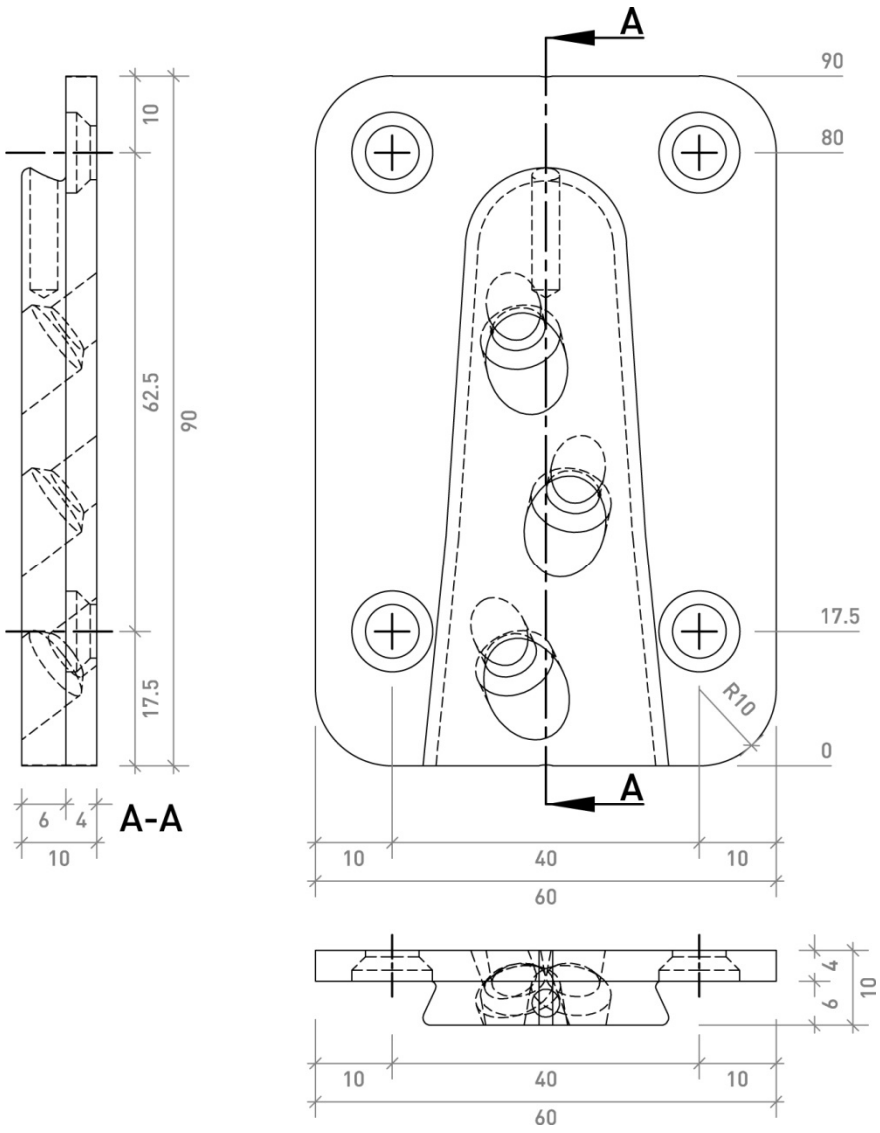
Dimensions in mm

Sherpa – S	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type S 20 12/40/110 Mounting: main beam or column	



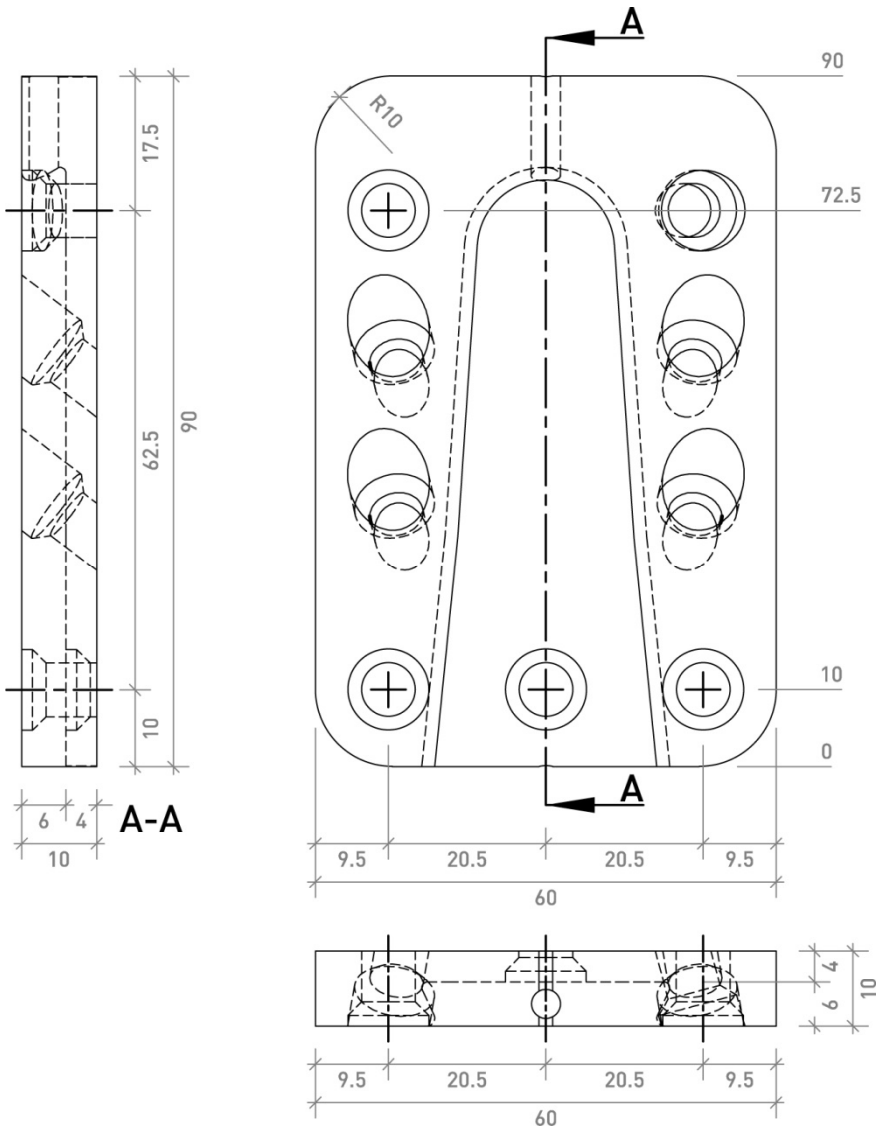
Dimensions in mm

Sherpa – S	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type S 20 12/40/110 Mounting: secondary beam	



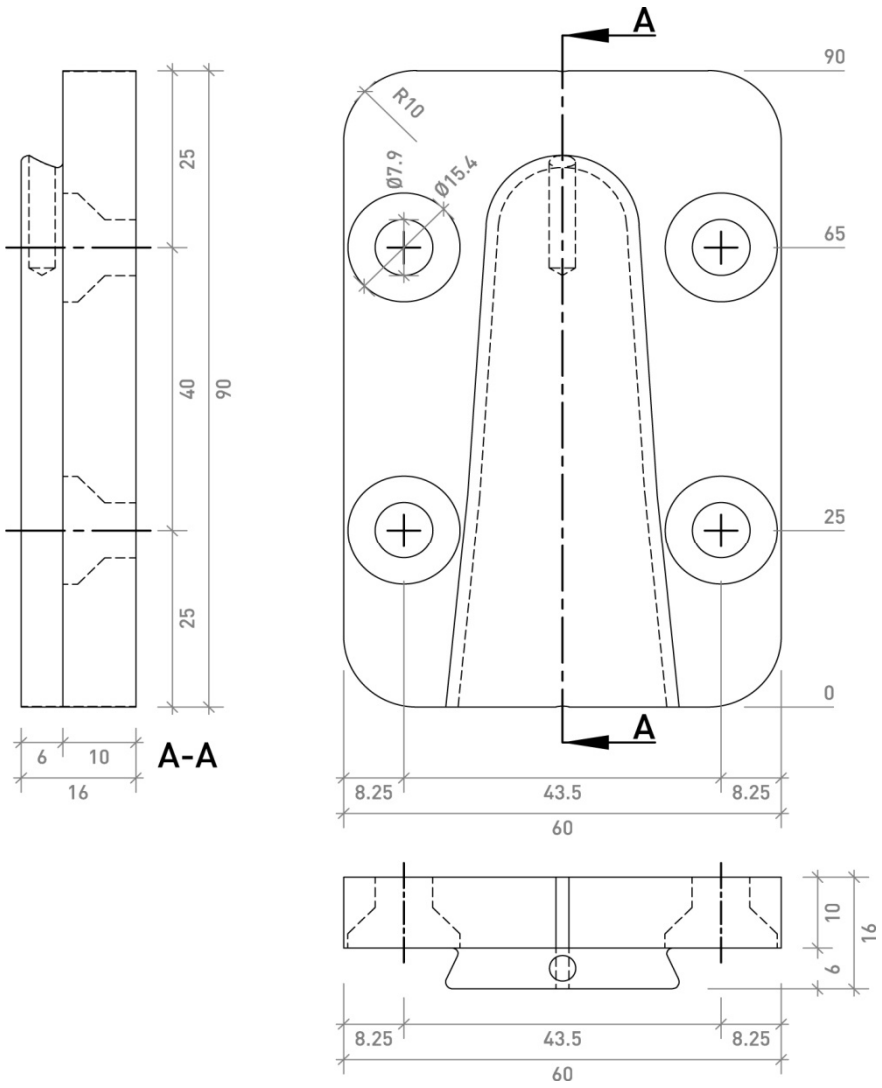
Dimensions in mm

Sherpa – M	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type M 15 14/60/90 Mounting: main beam or column	



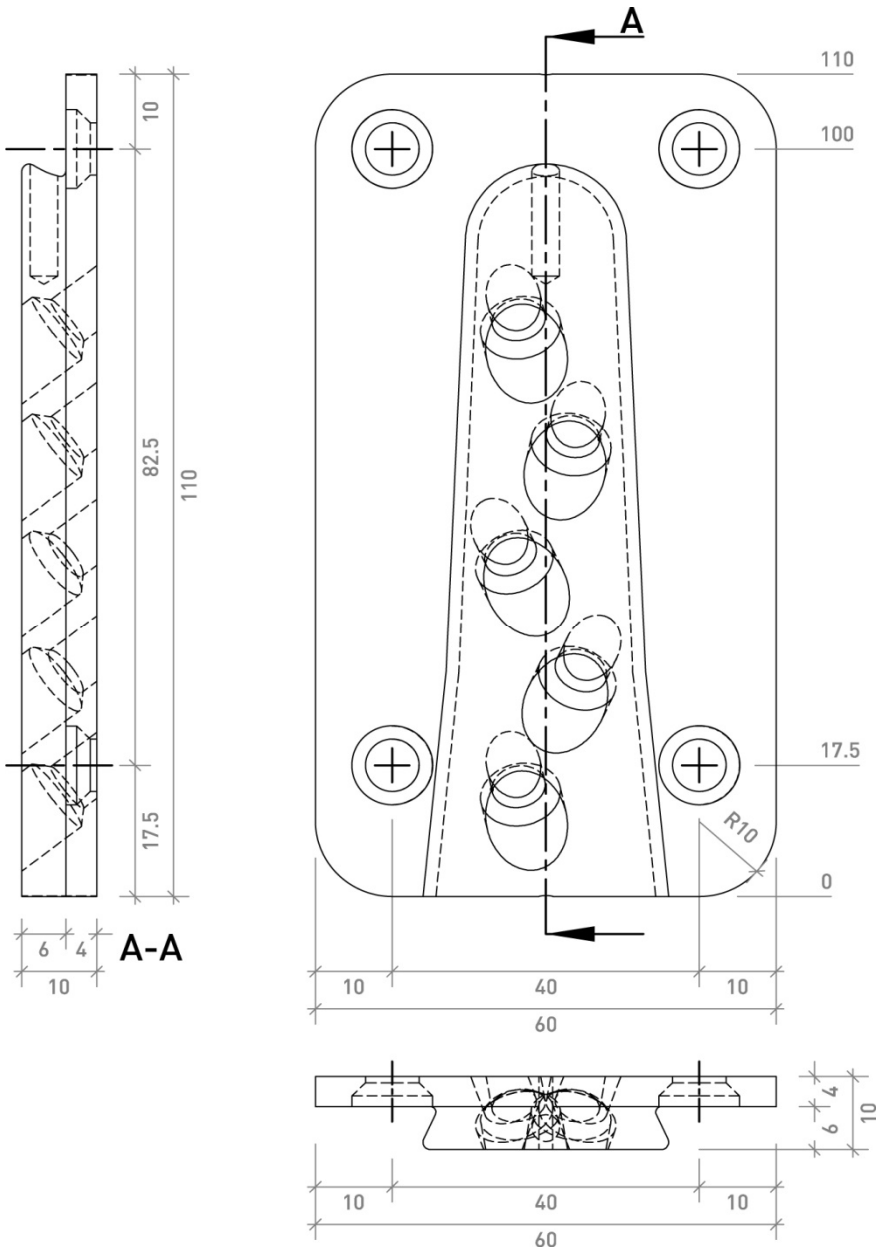
Dimensions in mm

Sherpa – M	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type M 15 14/60/90 Mounting: secondary beam	



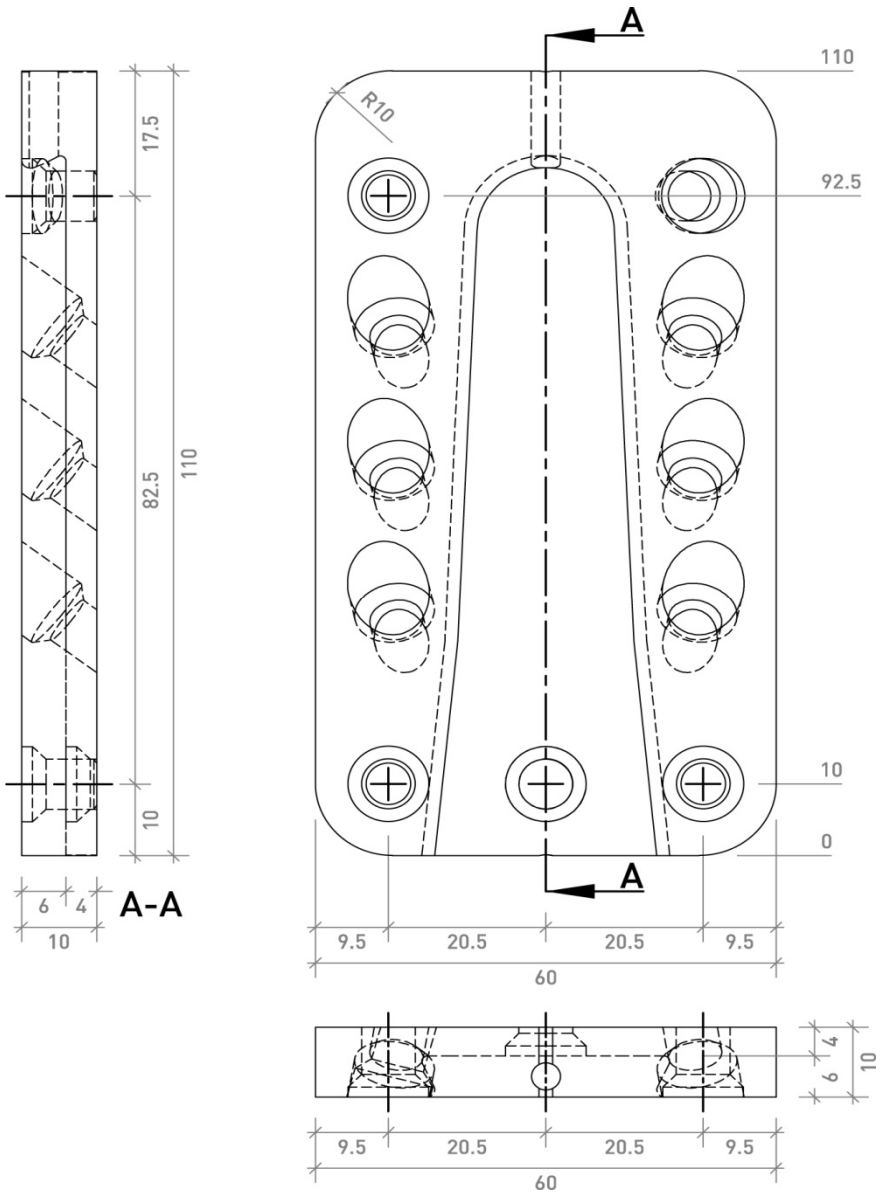
Dimensions in mm

Sherpa – M CS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type M 15 CS 14/60/90 Mounting: main beam or column	



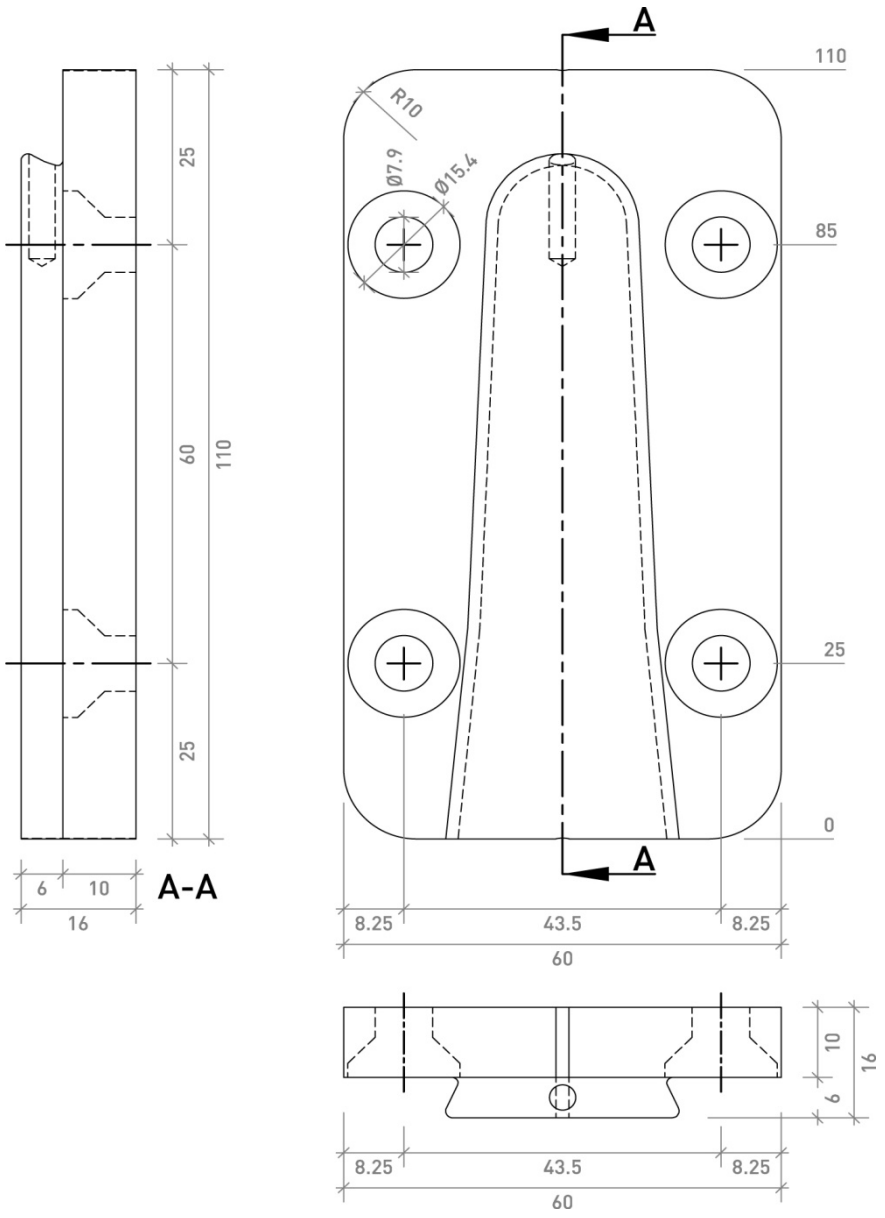
Dimensions in mm

Sherpa – M	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type M 20 14/60/110 Mounting: main beam or column	



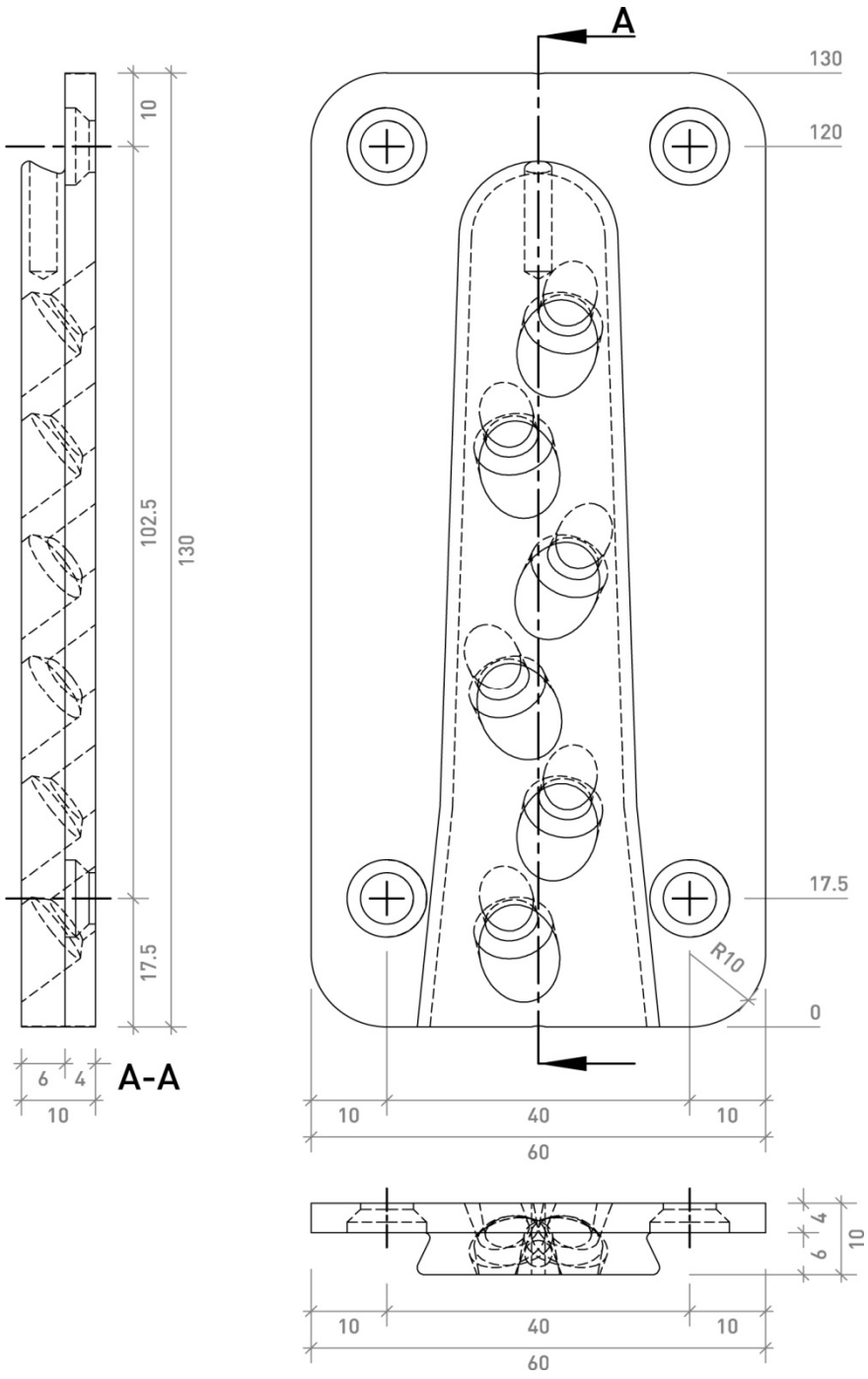
Dimensions in mm

Sherpa – M	Annex 2
Product details definitions: Type M 20 14/60/110 Mounting: secondary beam	of European Technical Assessment ETA-12/0067 of 08.02.2022



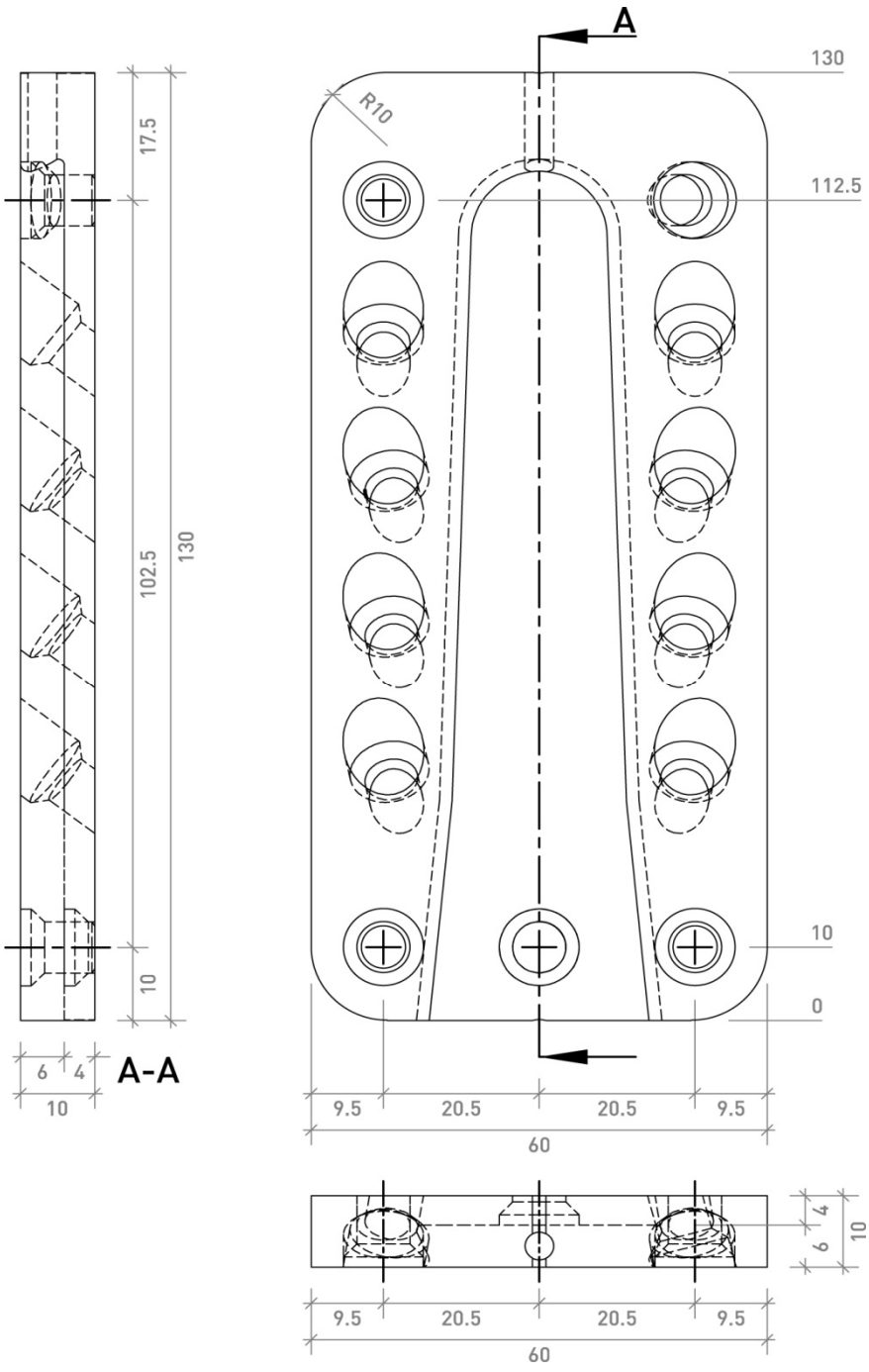
Dimensions in mm

Sherpa – M CS	Annex 2
Product details definitions: Type M 20 CS 14/60/110 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



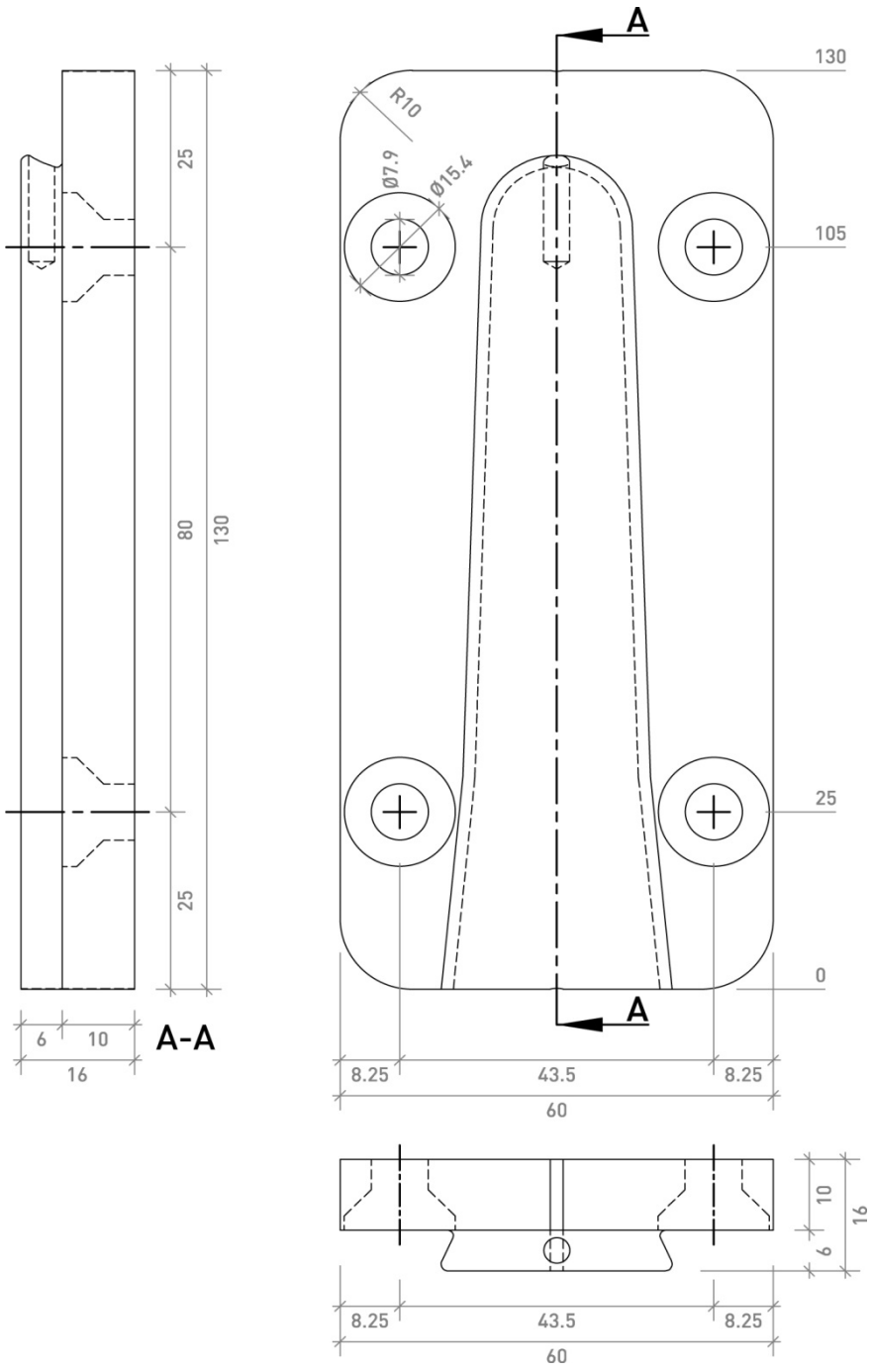
Dimensions in mm

Sherpa – M	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type M 25 14/60/130 Mounting: main beam or column	



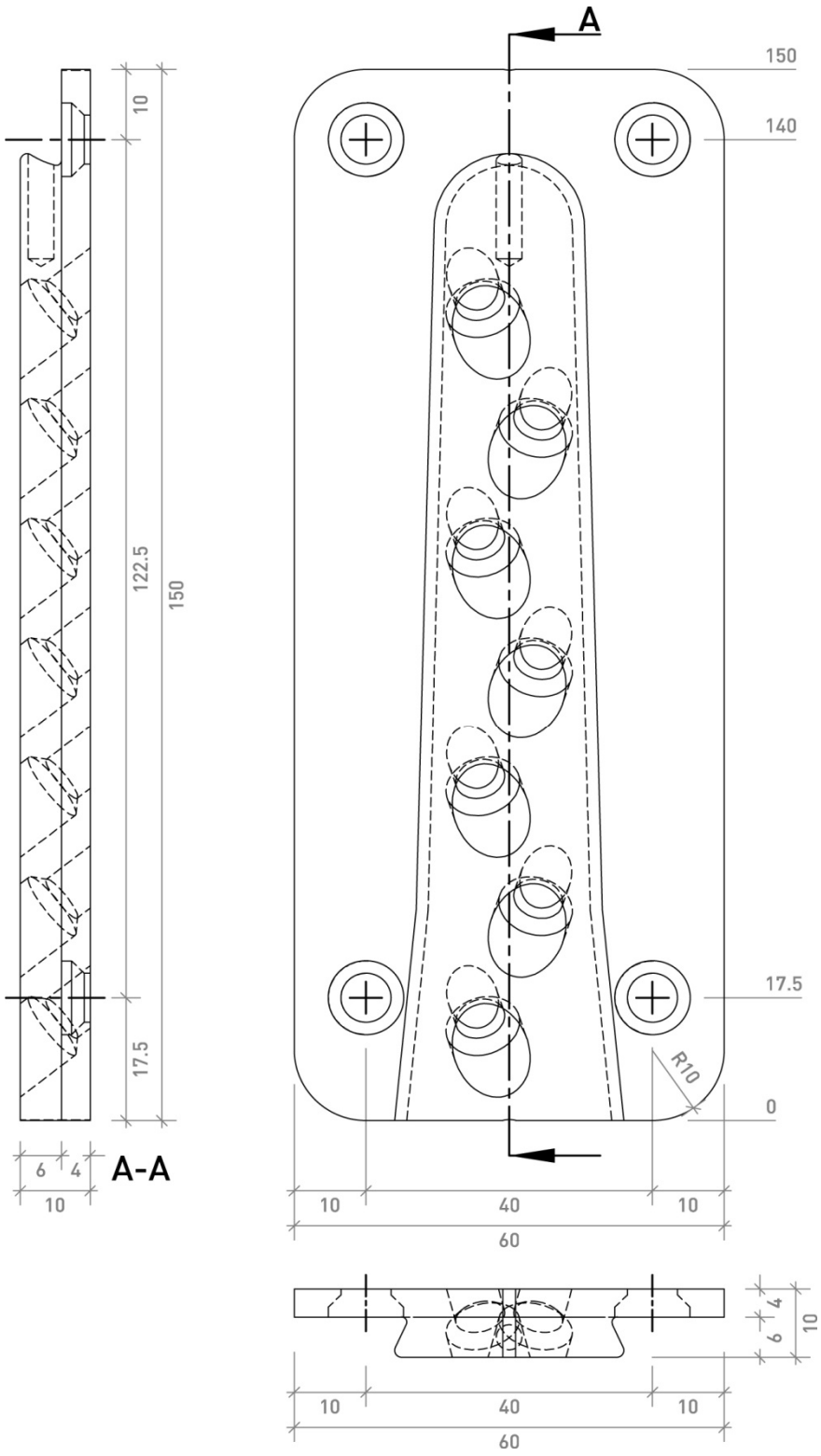
Dimensions in mm

Sherpa – M	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type M 25 14/60/130 Mounting: secondary beam	



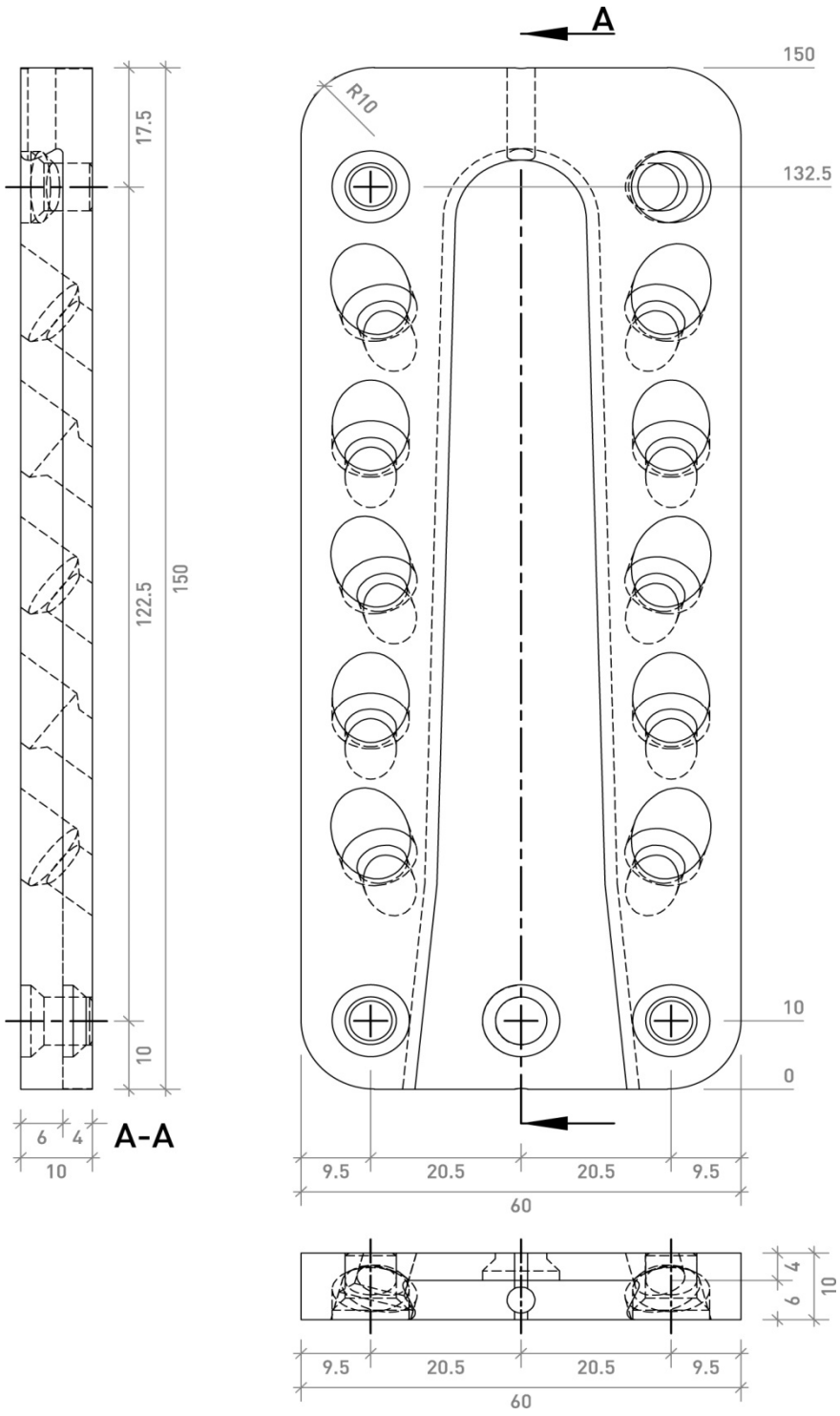
Dimensions in mm

Sherpa – M CS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type M 25 CS 14/60/130 Mounting: main beam or column	



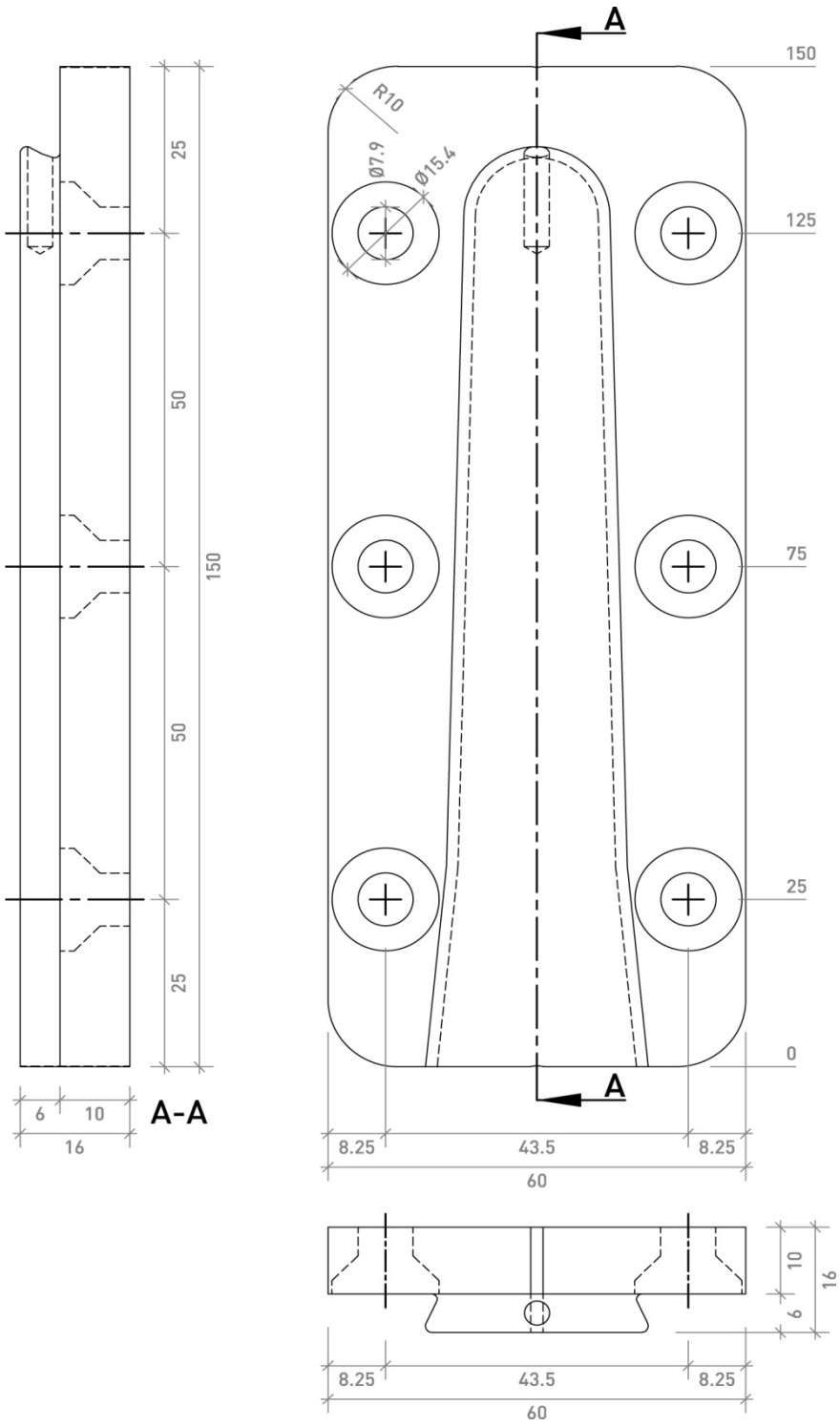
Dimensions in mm

Sherpa – M	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type M 30 14/60/150 Mounting: main beam or column	



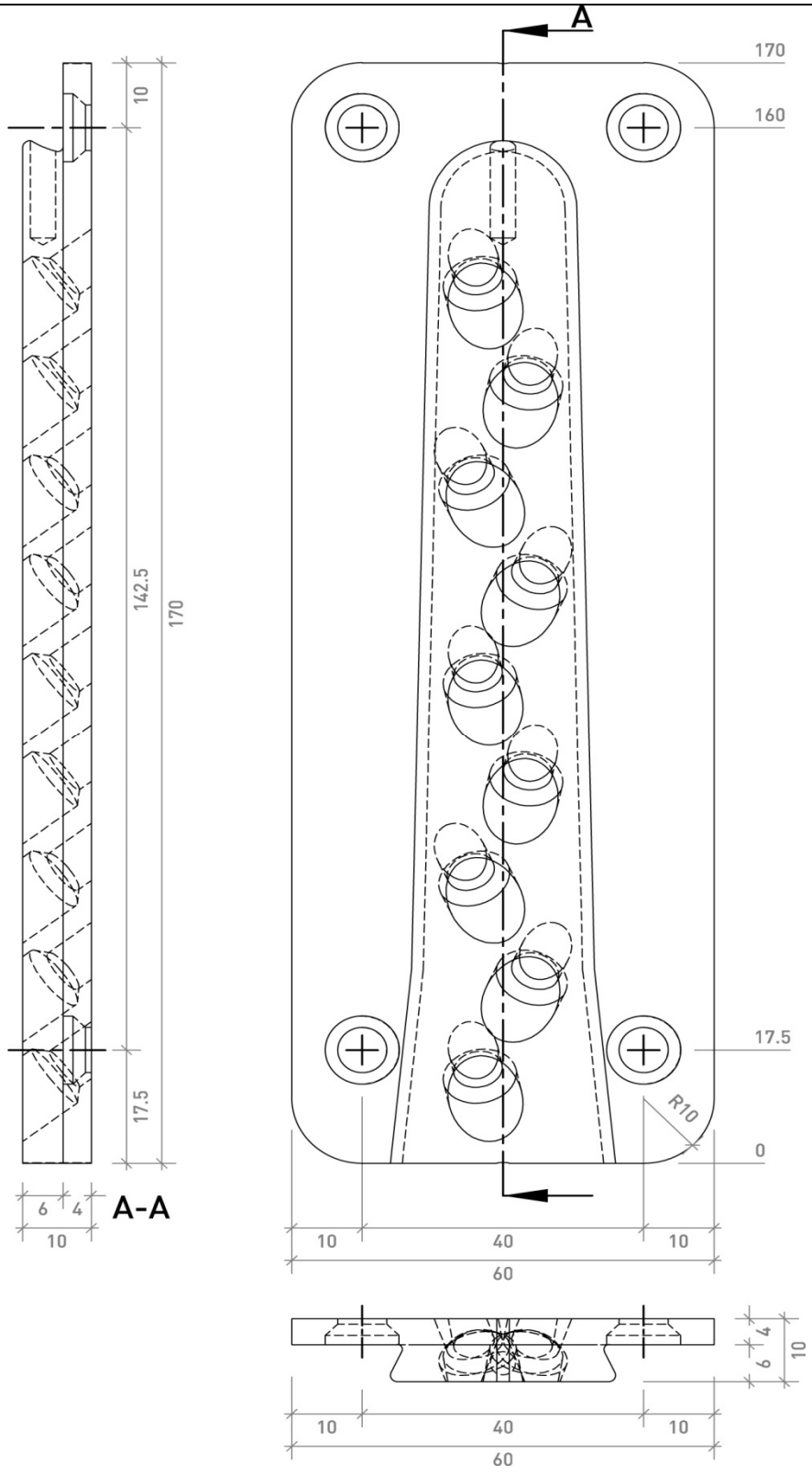
Dimensions in mm

Sherpa – M	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type M 30 14/60/150 Mounting: secondary beam	



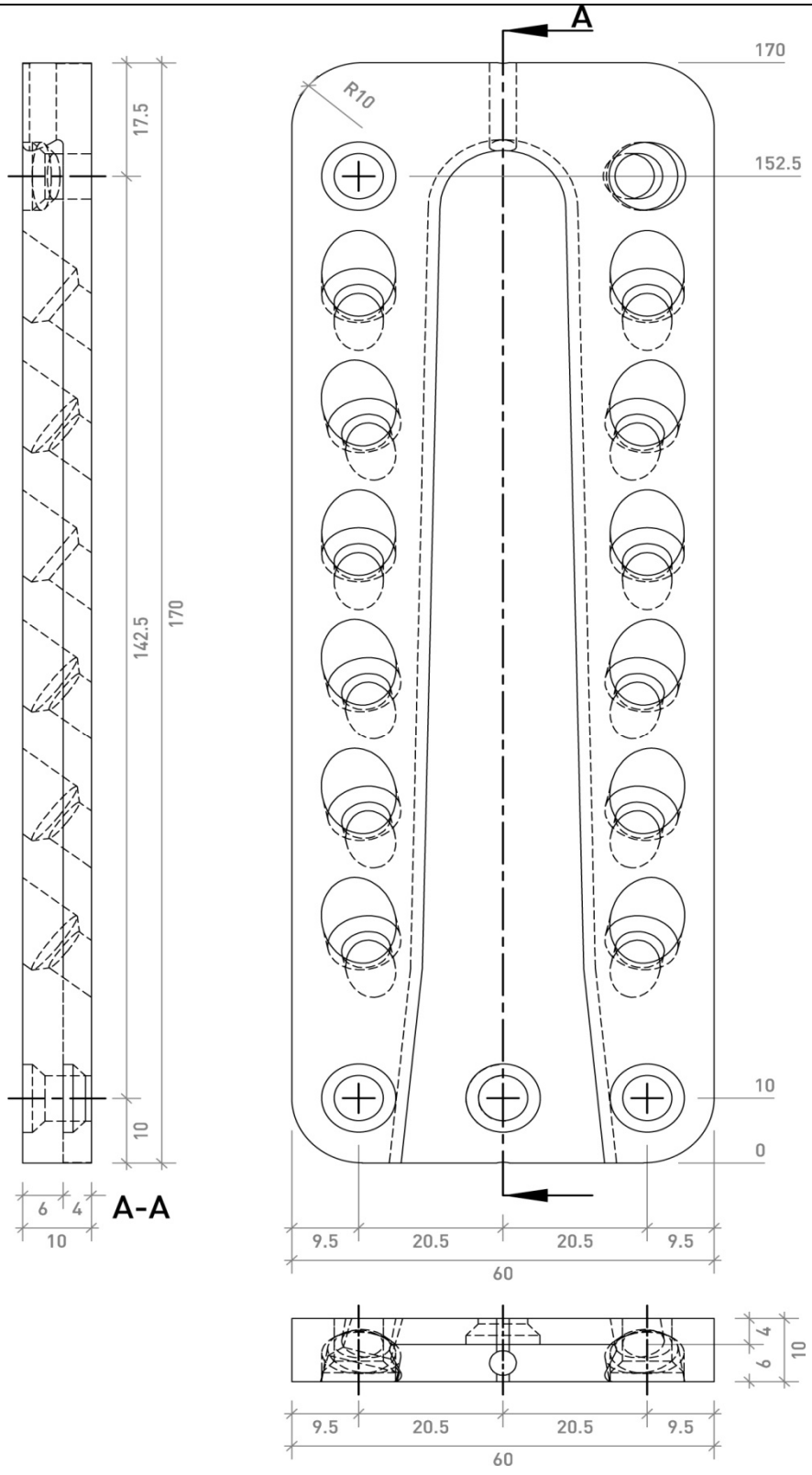
Dimensions in mm

Sherpa – M CS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type M 30 CS 14/60/150 Mounting: main beam or column	



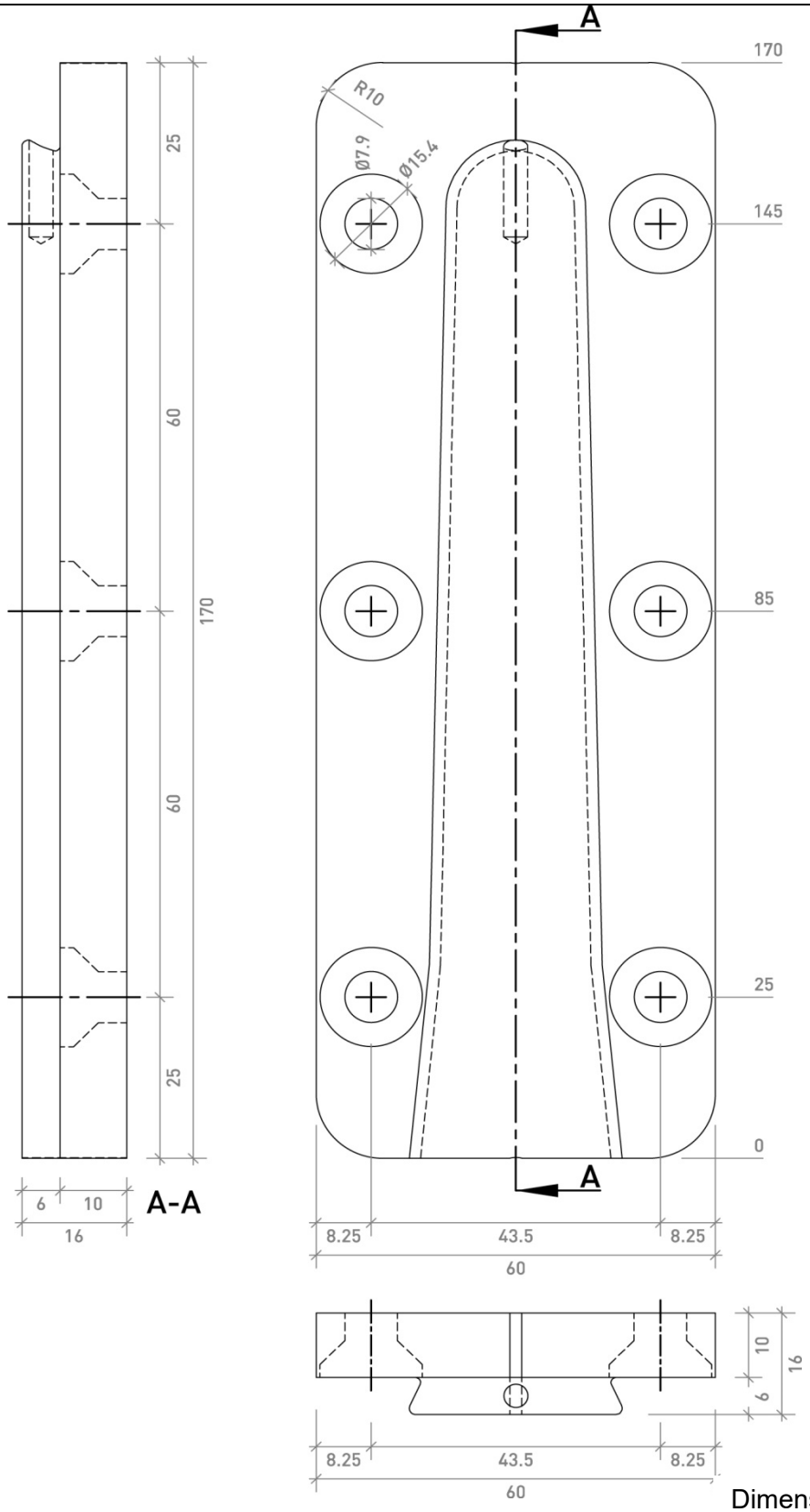
Dimensions in mm

Sherpa – M	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type M 40 14/60/170 Mounting: main beam or column	



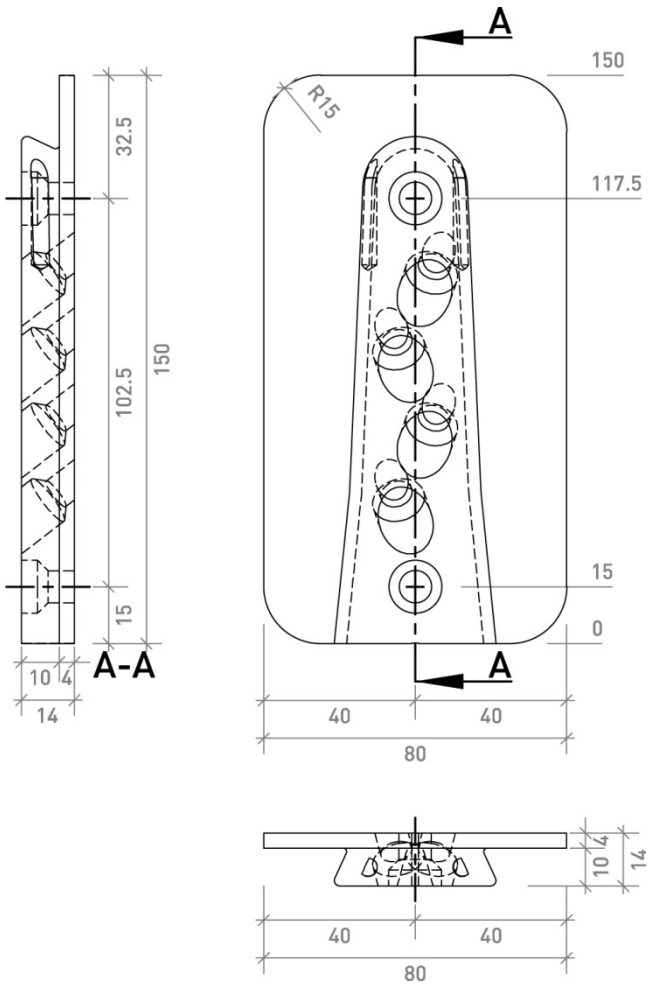
Dimensions in mm

Sherpa – M	Annex 2
Product details definitions: Type M 40 14/60/170 Mounting: secondary beam	of European Technical Assessment ETA-12/0067 of 08.02.2022



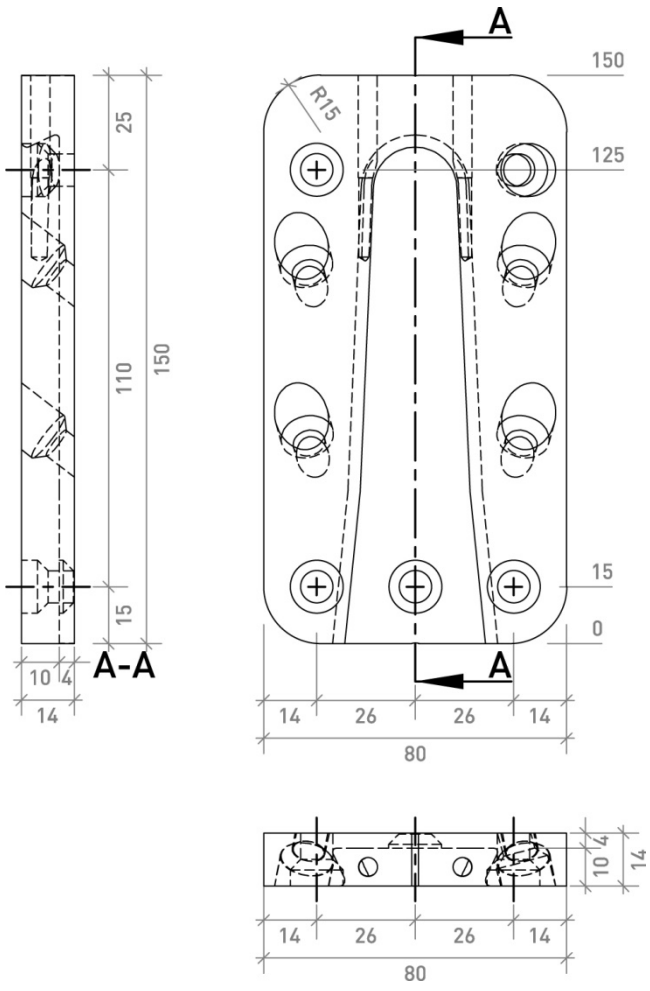
Dimensions in mm

Sherpa – M CS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type M 40 CS 14/60/170 Mounting: main beam or column	



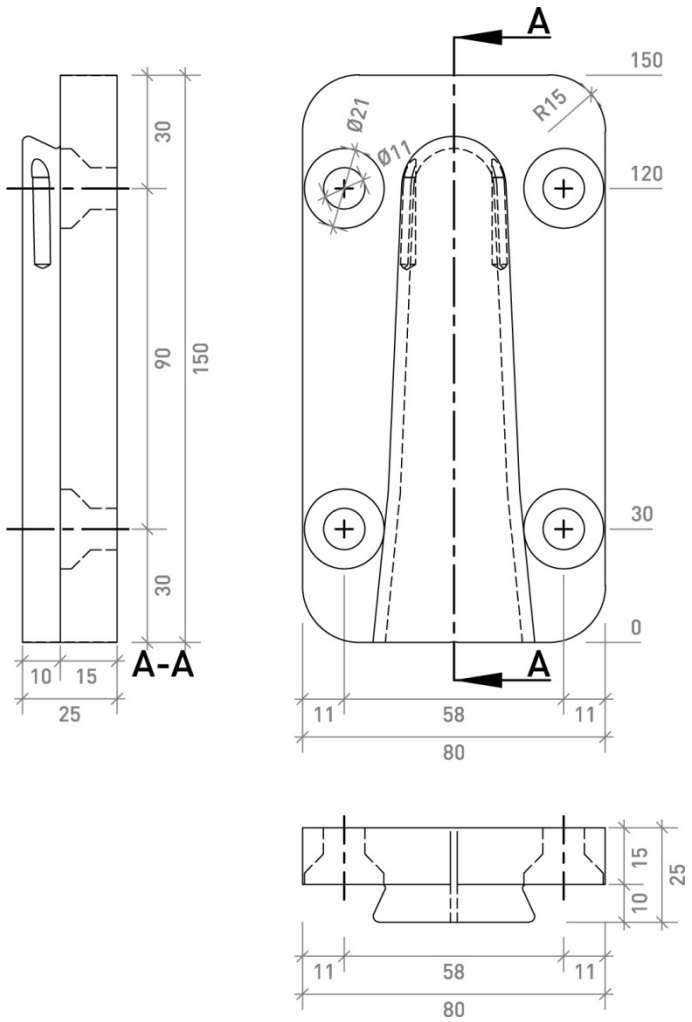
Dimensions in mm

Sherpa – L	Annex 2
Product details definitions: Type L 30 18/80/150 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



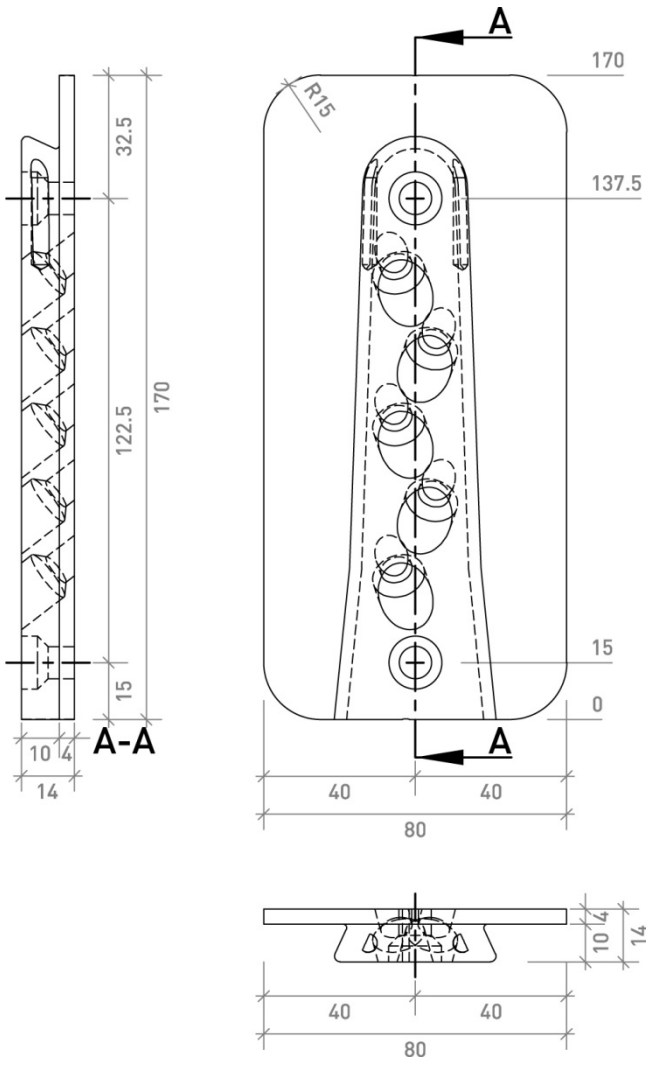
Dimensions in mm

Sherpa – L	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 30 18/80/150 Mounting: secondary beam	



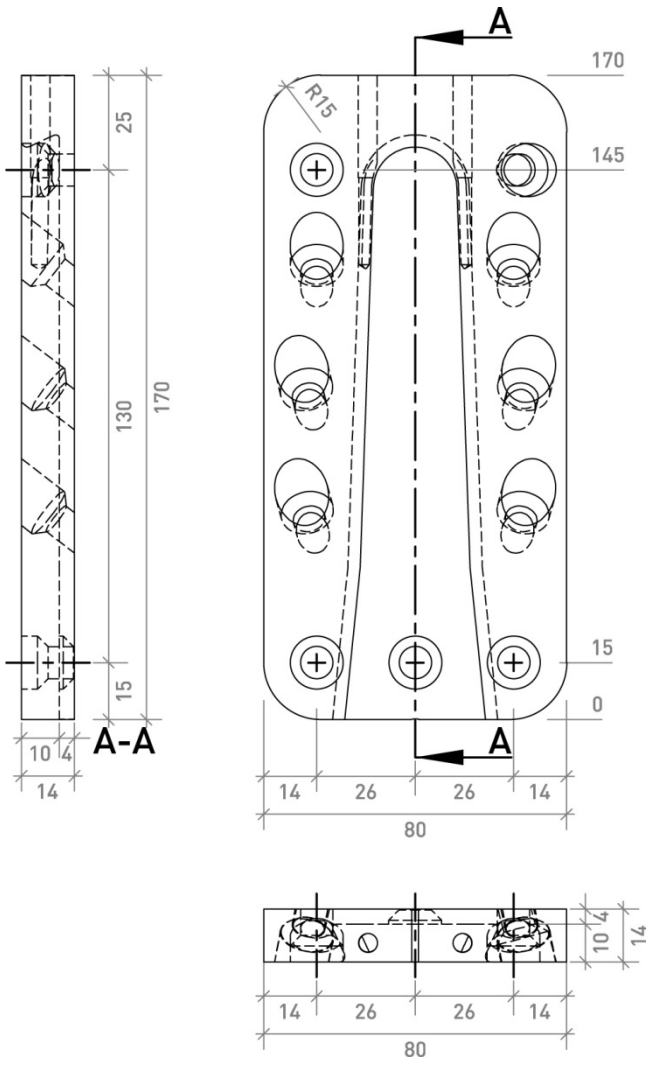
Dimensions in mm

Sherpa – L CS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 30 CS 18/80/150 Mounting: main beam or column	



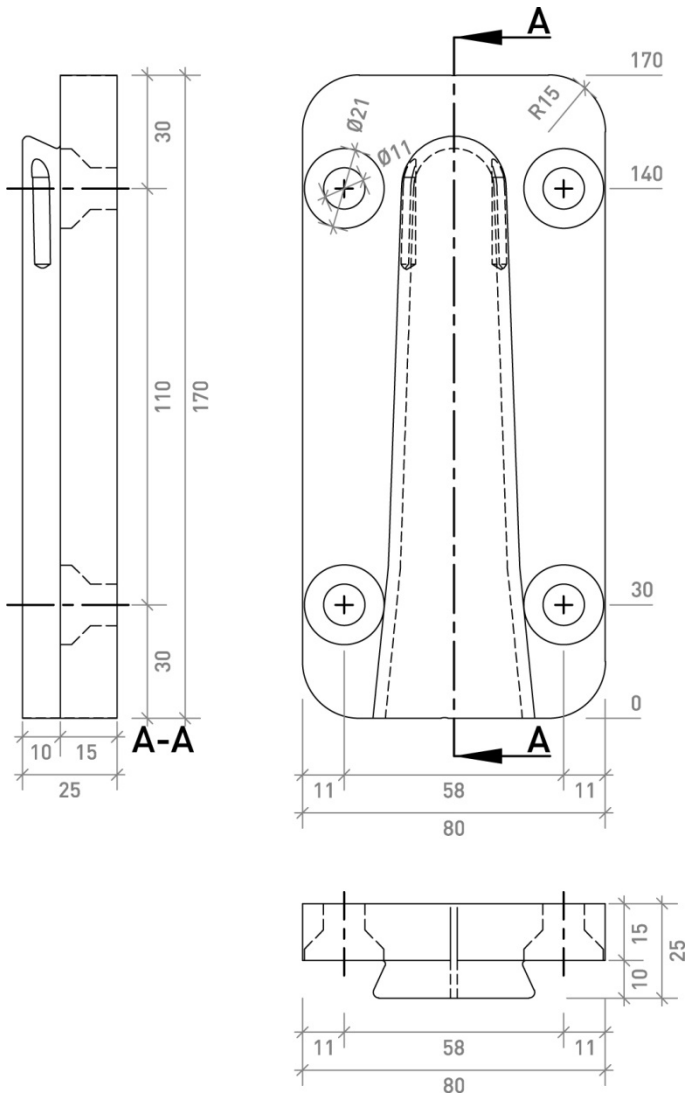
Dimensions in mm

Sherpa – L	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 40 18/80/170 Mounting: main beam or column	



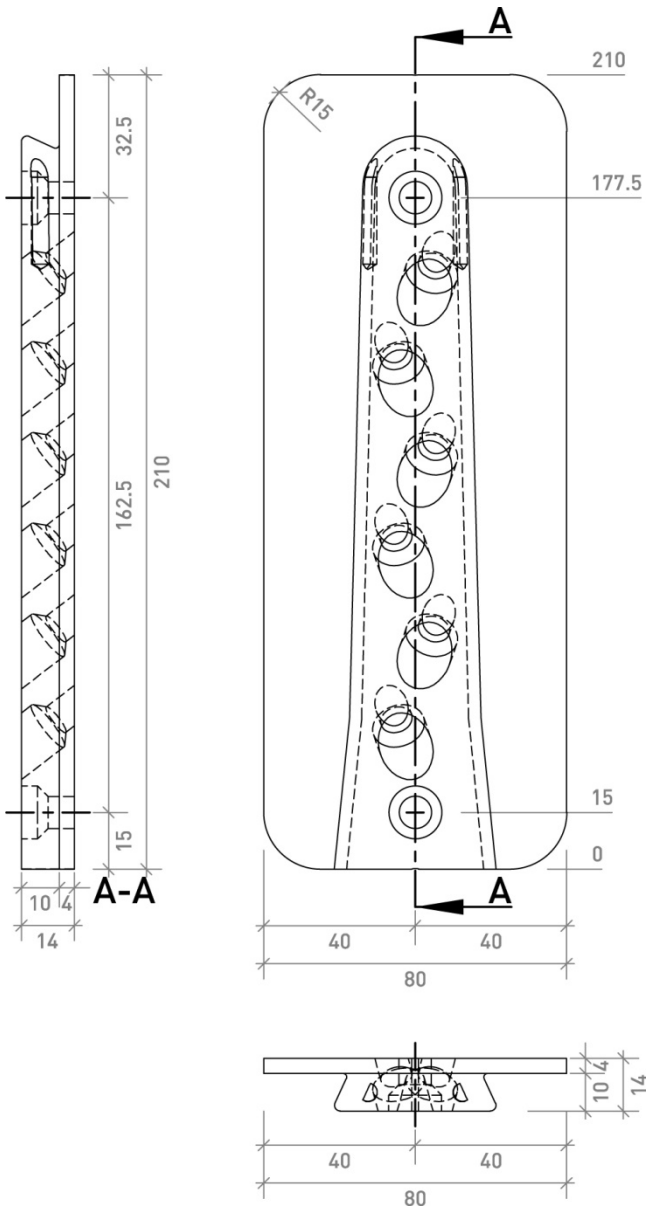
Dimensions in mm

Sherpa – L	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 40 18/80/170 Mounting: secondary beam	



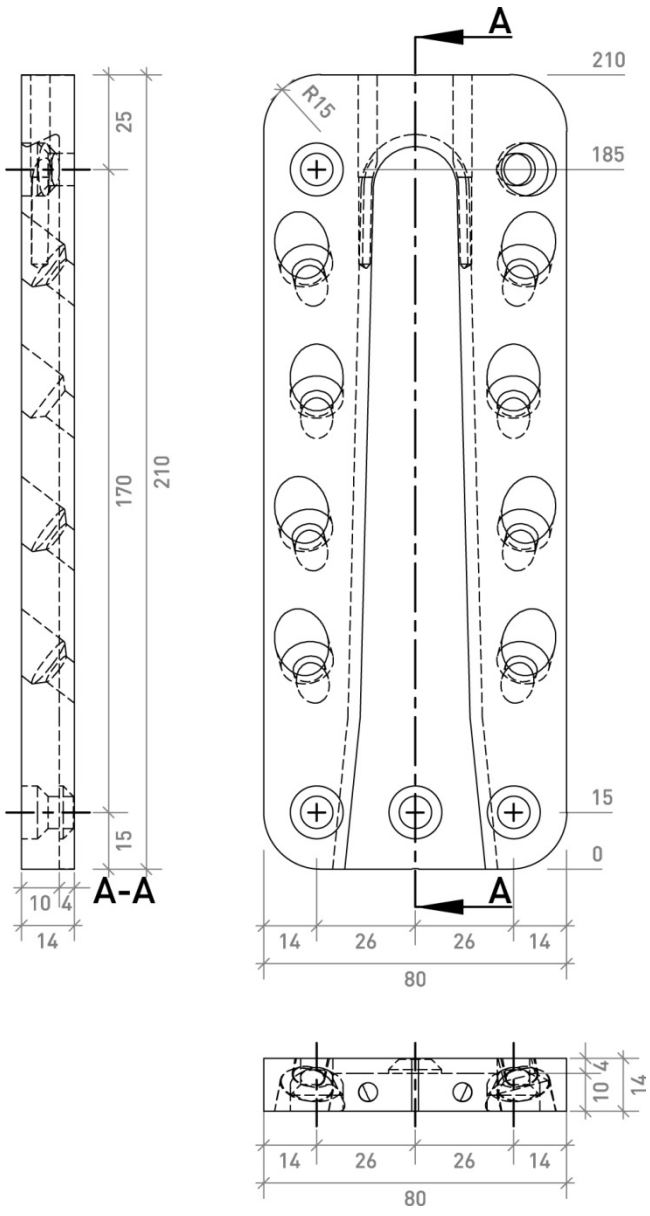
Dimensions in mm

Sherpa – L CS	Annex 2
Product details definitions: Type L 40 CS 18/80/170 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



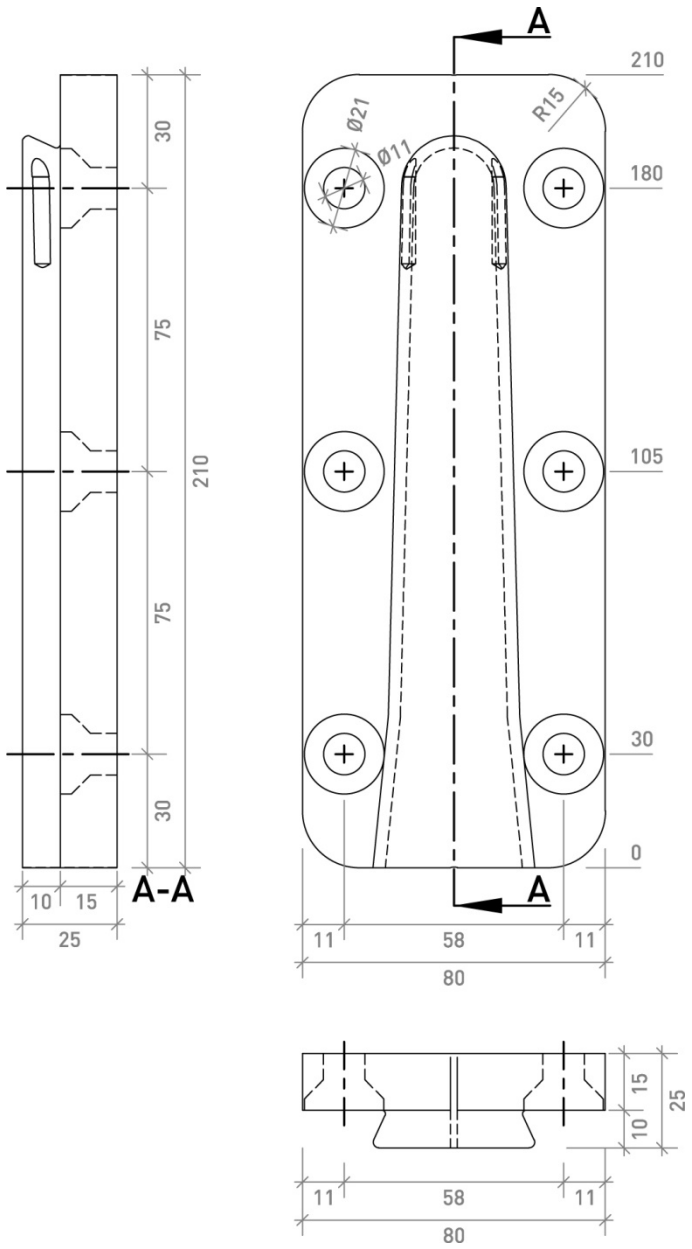
Dimensions in mm

Sherpa – L	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 50 18/80/210 Mounting: main beam or column	



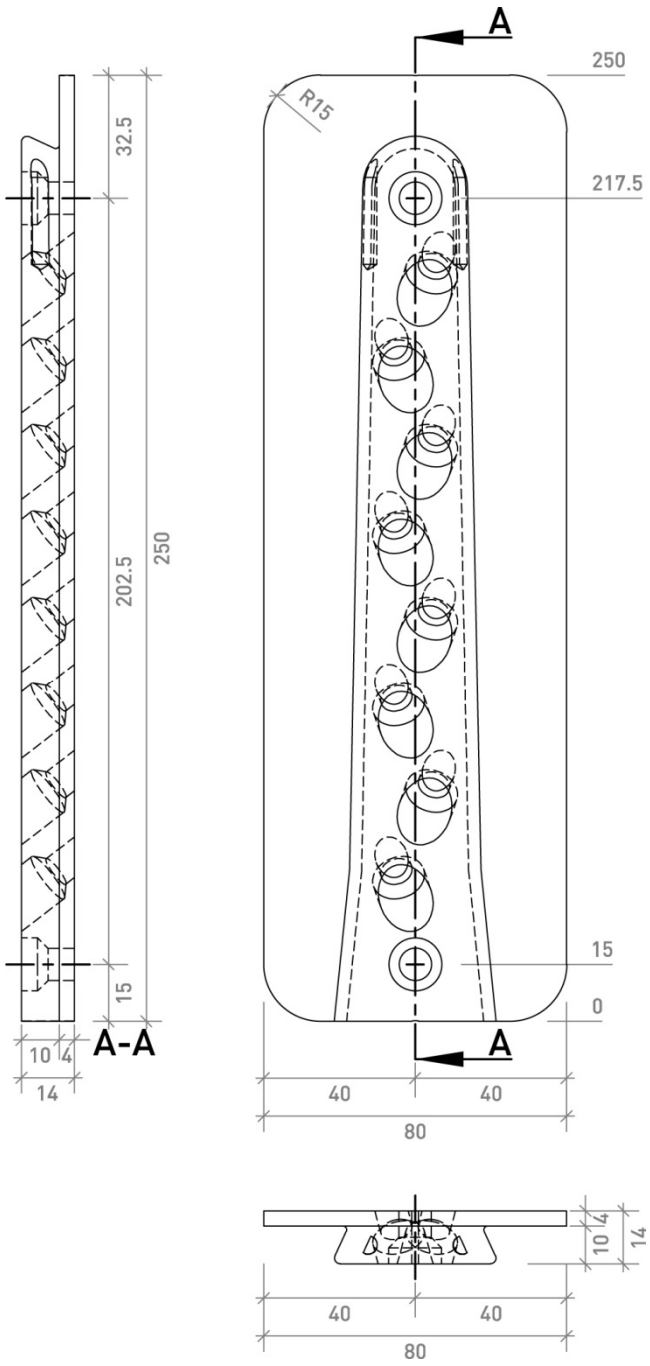
Dimensions in mm

Sherpa – L	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 50 18/80/210 Mounting: secondary beam	



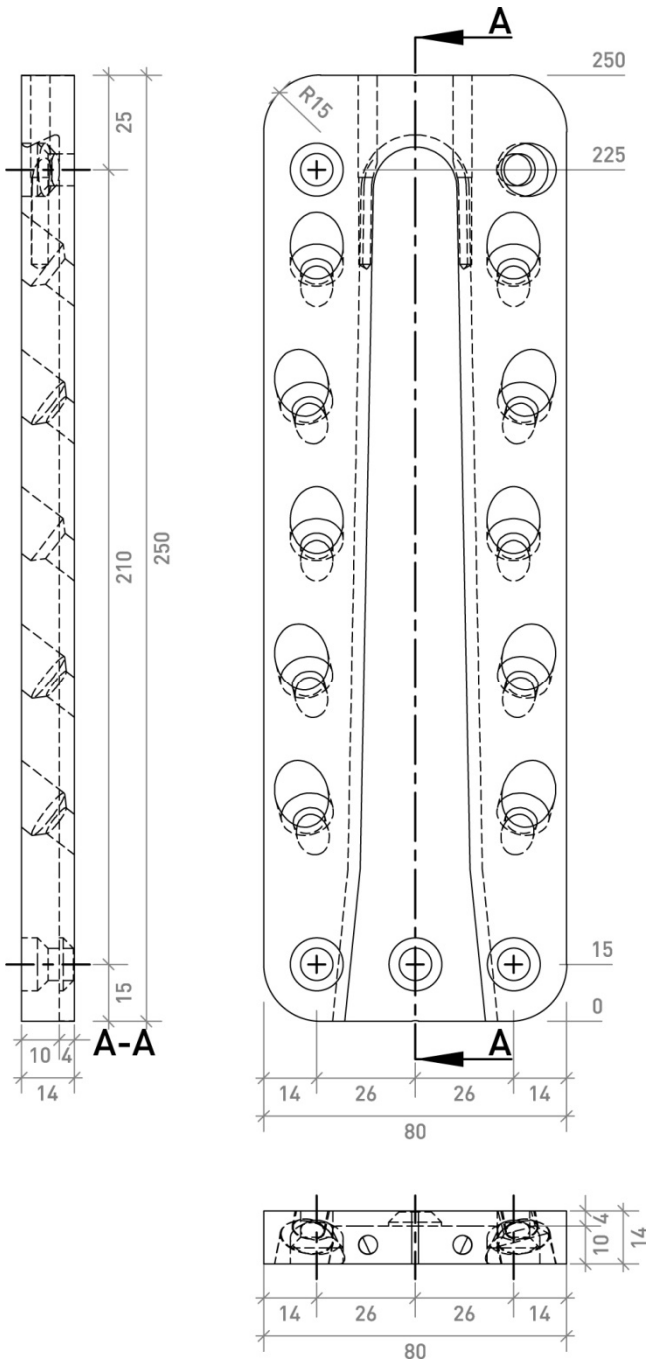
Dimensions in mm

Sherpa – L CS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 50 CS 18/80/210 Mounting: main beam or column	



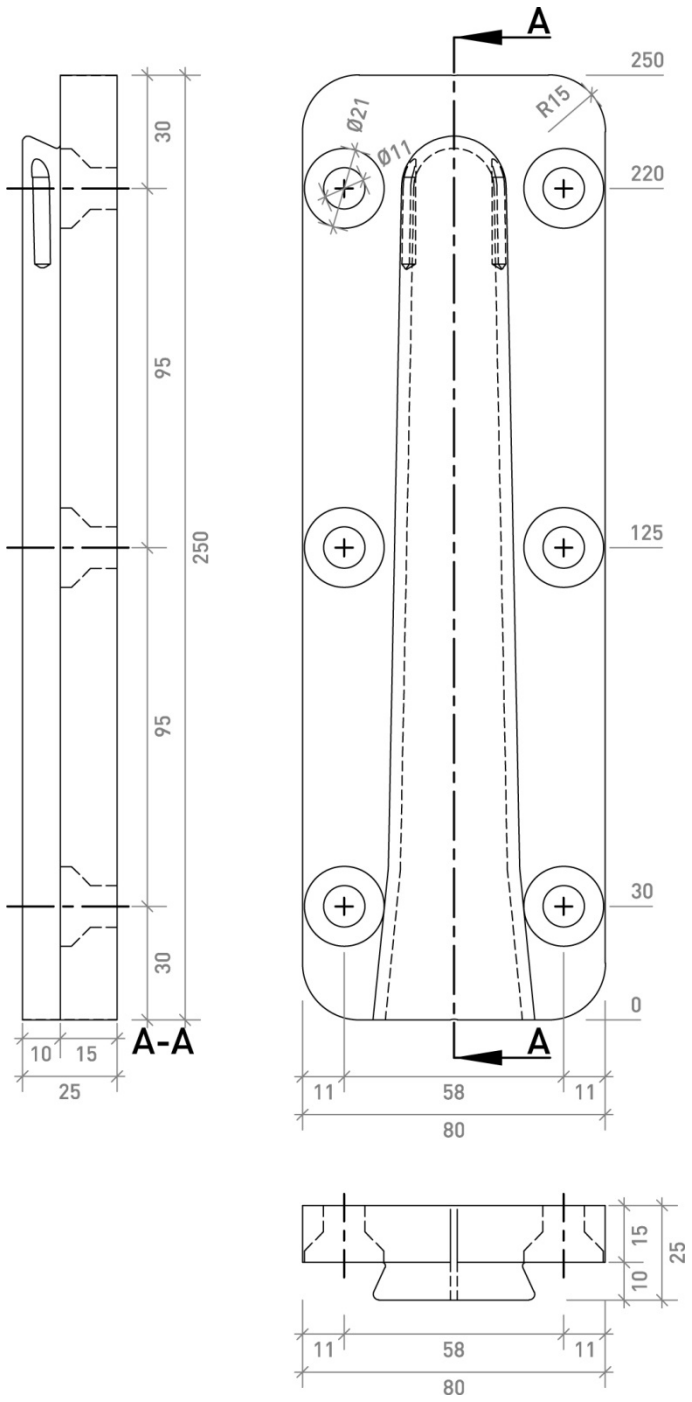
Dimensions in mm

Sherpa – L	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 60 18/80/250 Mounting: main beam or column	



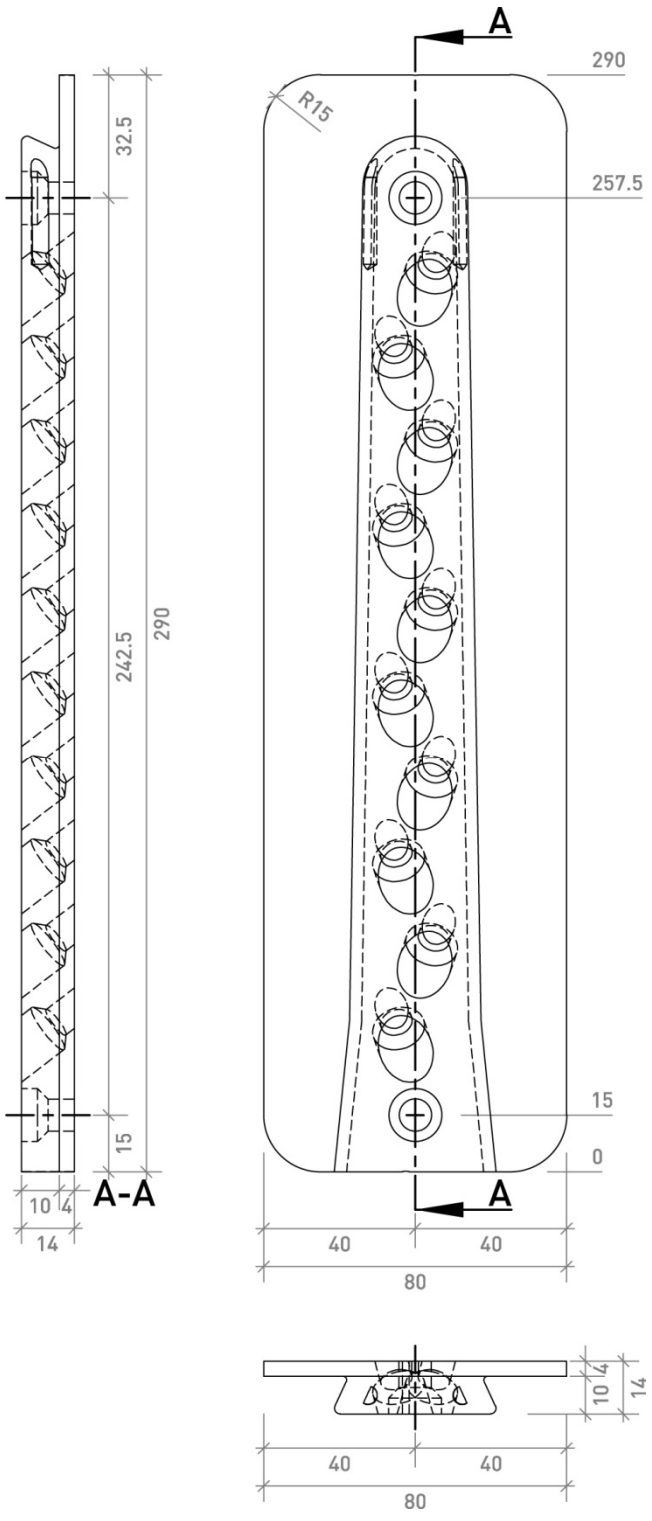
Dimensions in mm

Sherpa – L	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 60 18/80/250 Mounting: secondary beam	



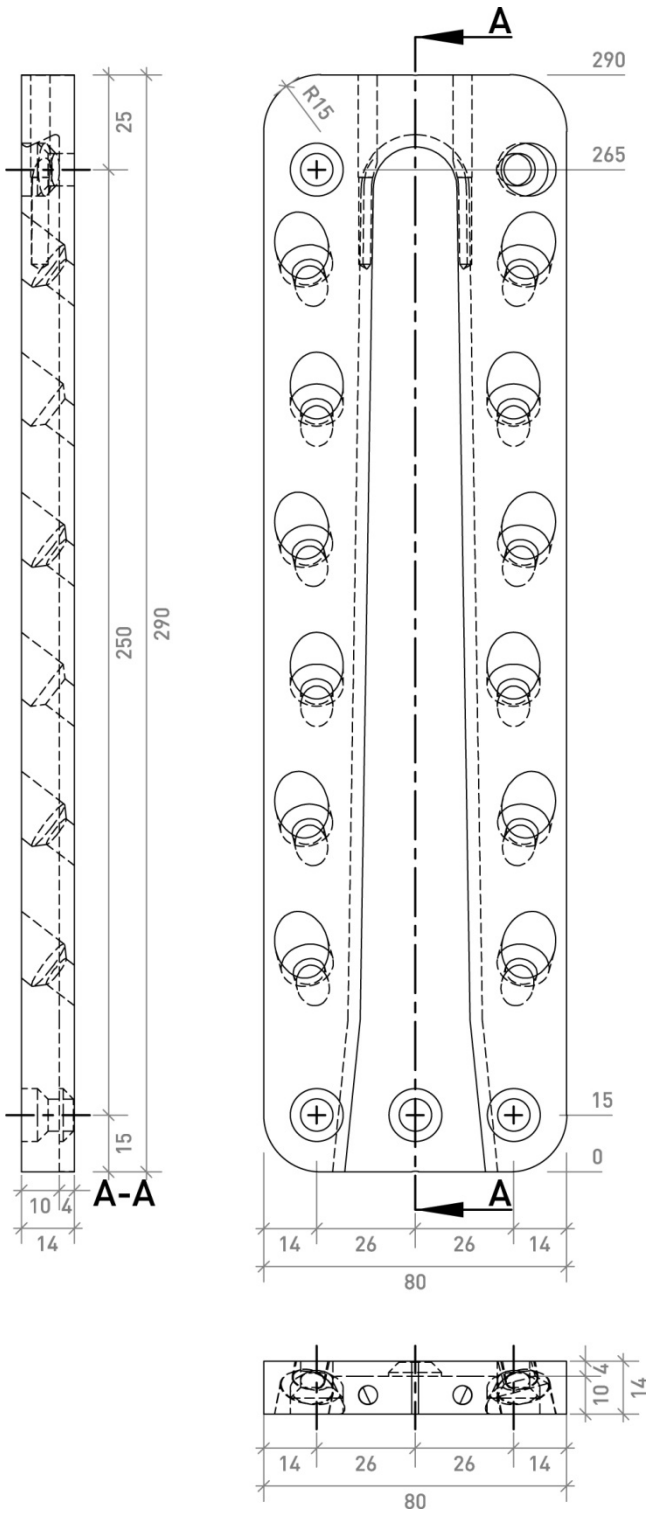
Dimensions in mm

Sherpa – L CS	Annex 2
Product details definitions: Type L 60 CS 18/80/250 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



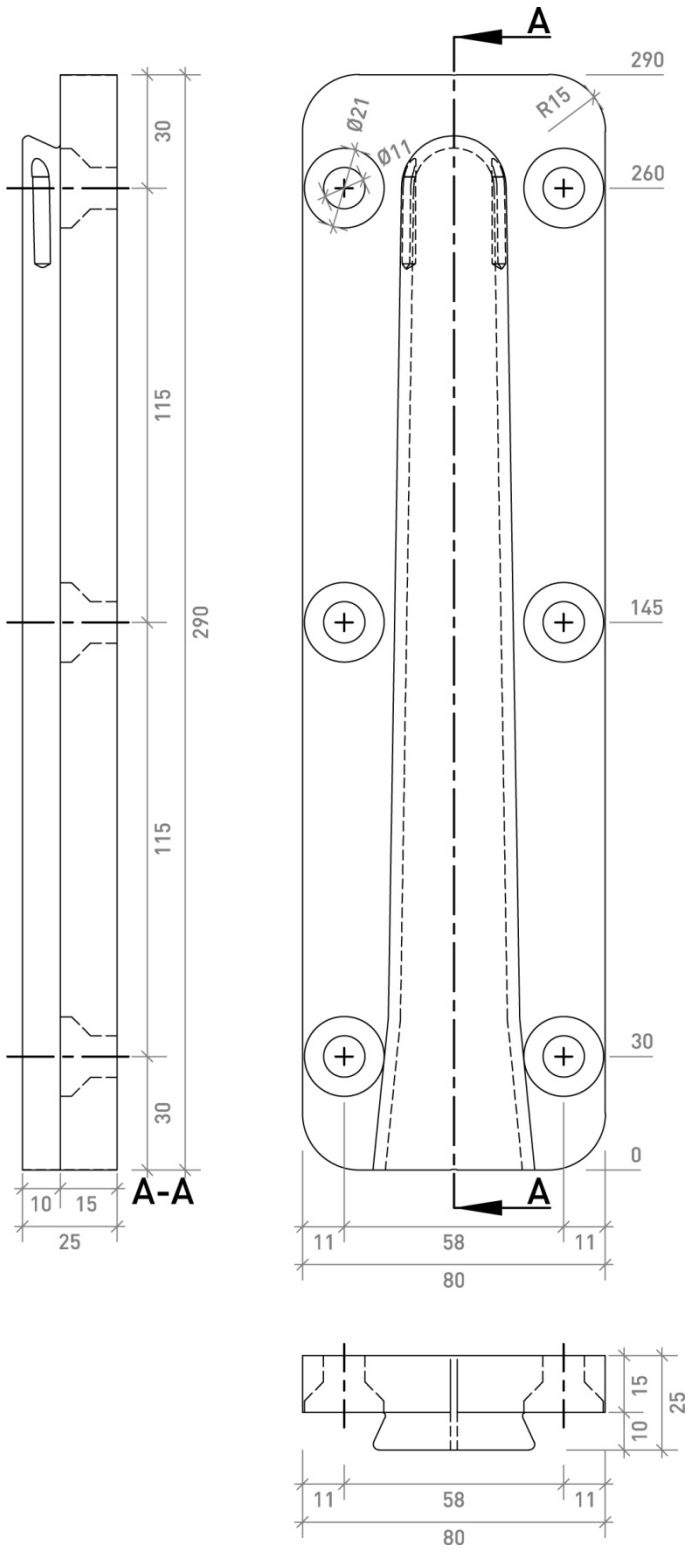
Dimensions in mm

Sherpa – L	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 80 18/80/290 Mounting: main beam or column	



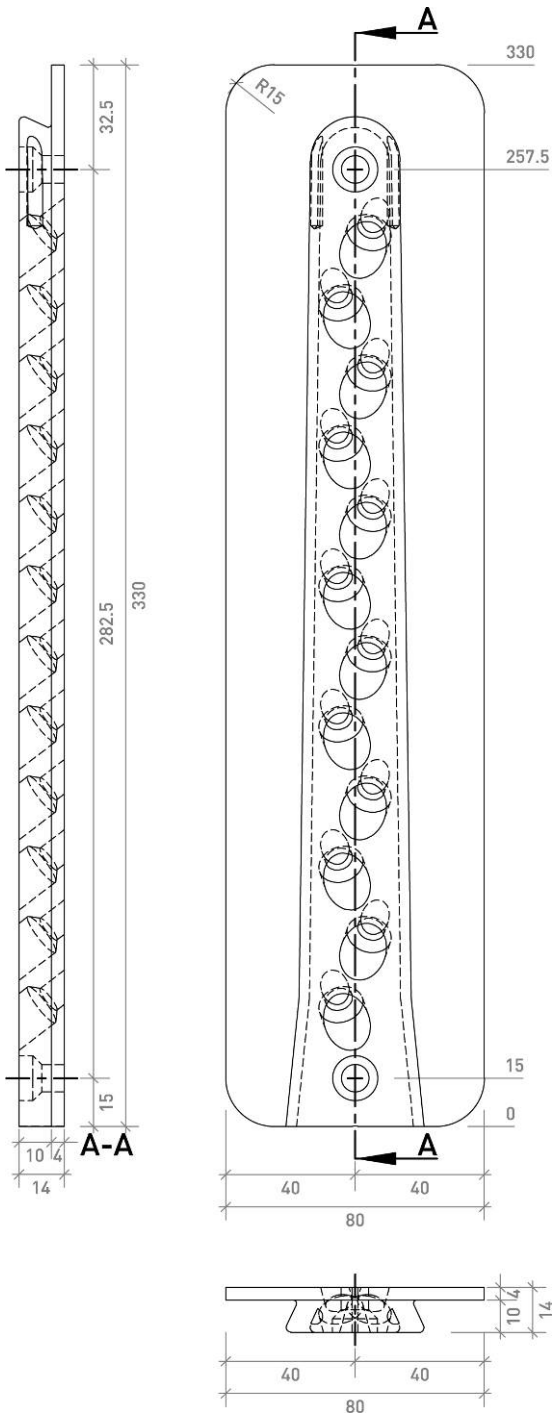
Dimensions in mm

Sherpa – L	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 80 18/80/290 Mounting: secondary beam	



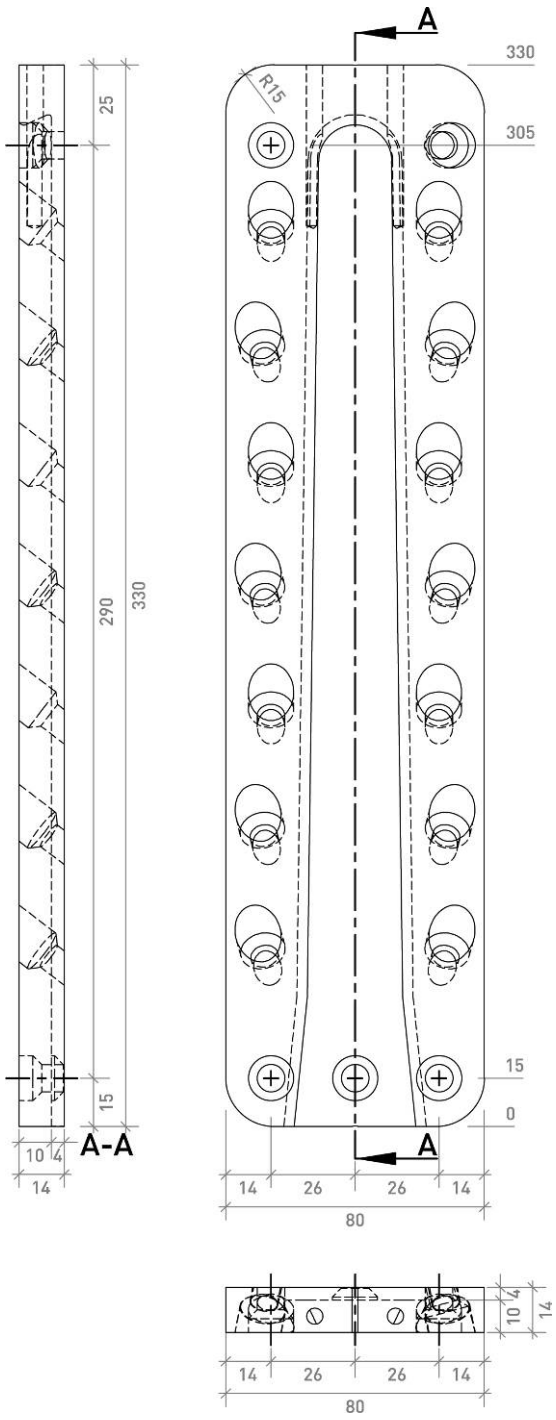
Dimensions in mm

Sherpa – L CS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 80 CS 18/80/290 Mounting: main beam or column	



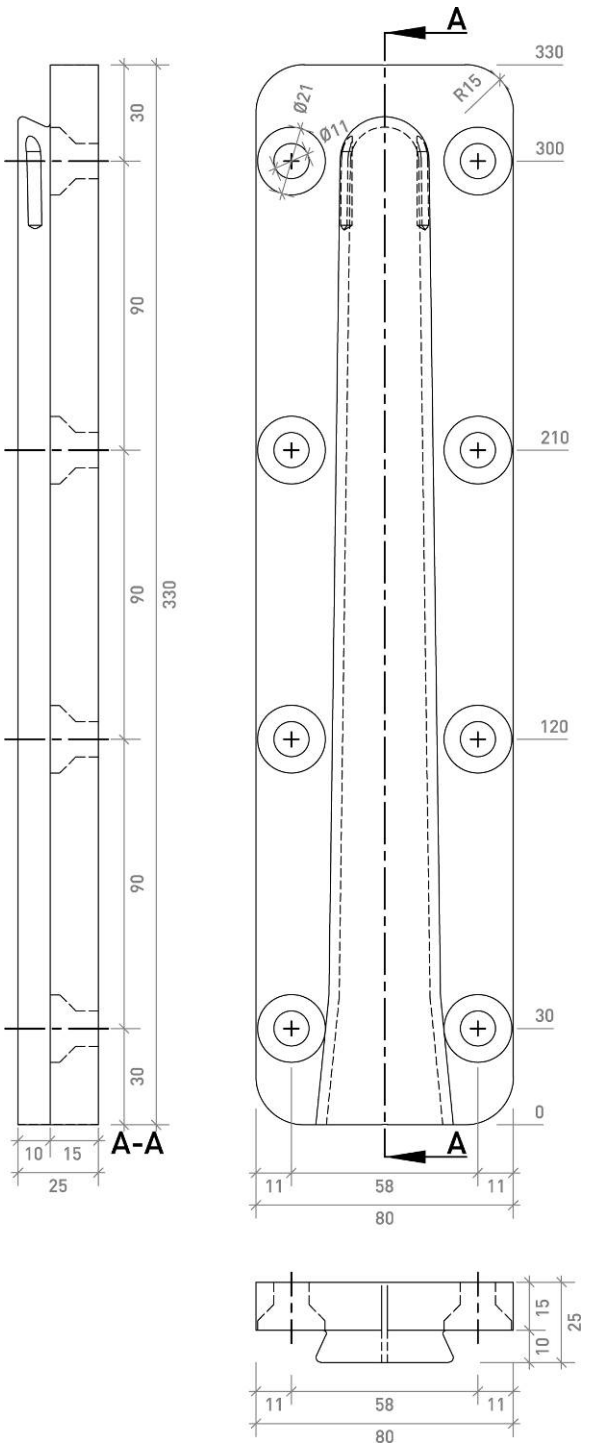
Dimensions in mm

Sherpa – L	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 100 18/80/330 Mounting: main beam or column	



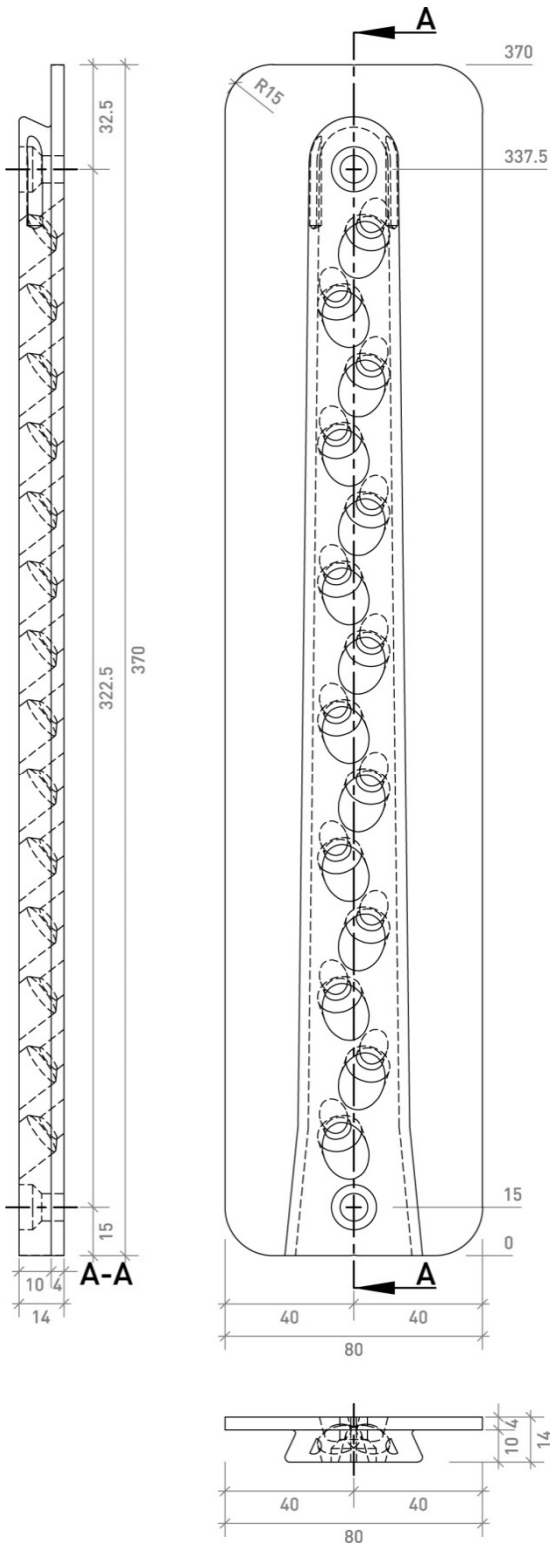
Dimensions in mm

Sherpa – L	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 100 18/80/330 Mounting: secondary beam	



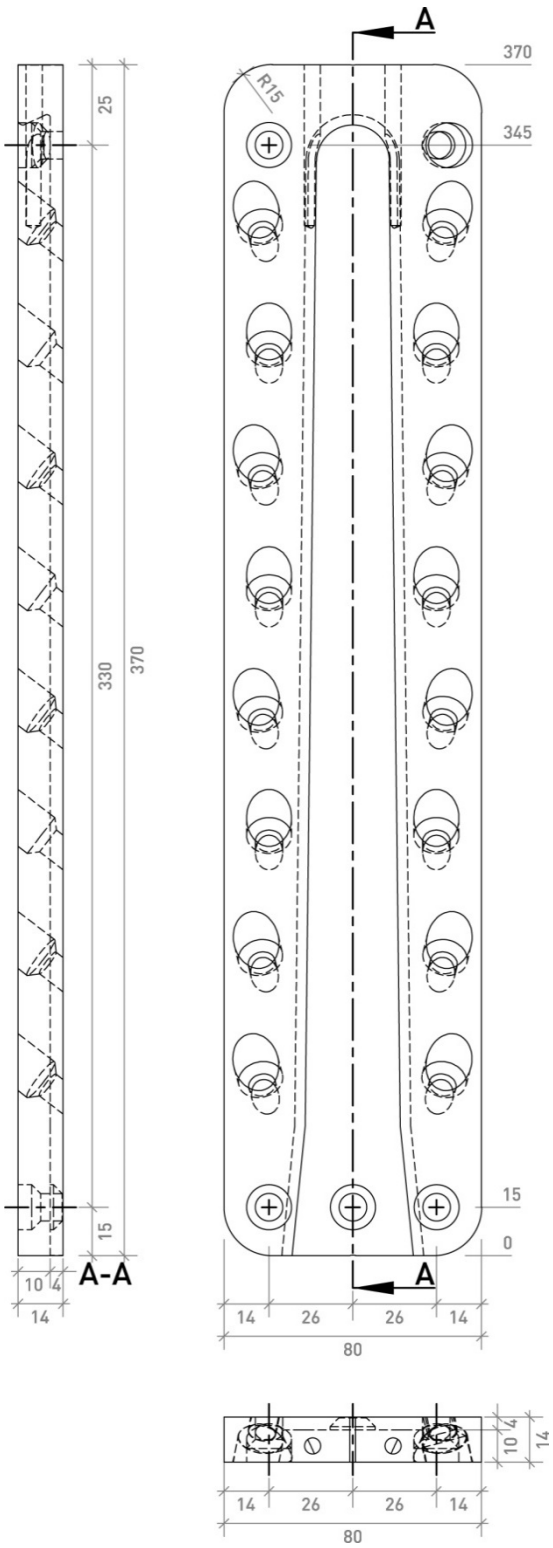
Dimensions in mm

Sherpa – L CS	Annex 2
Product details definitions: Type L CS 100 29/80/330 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



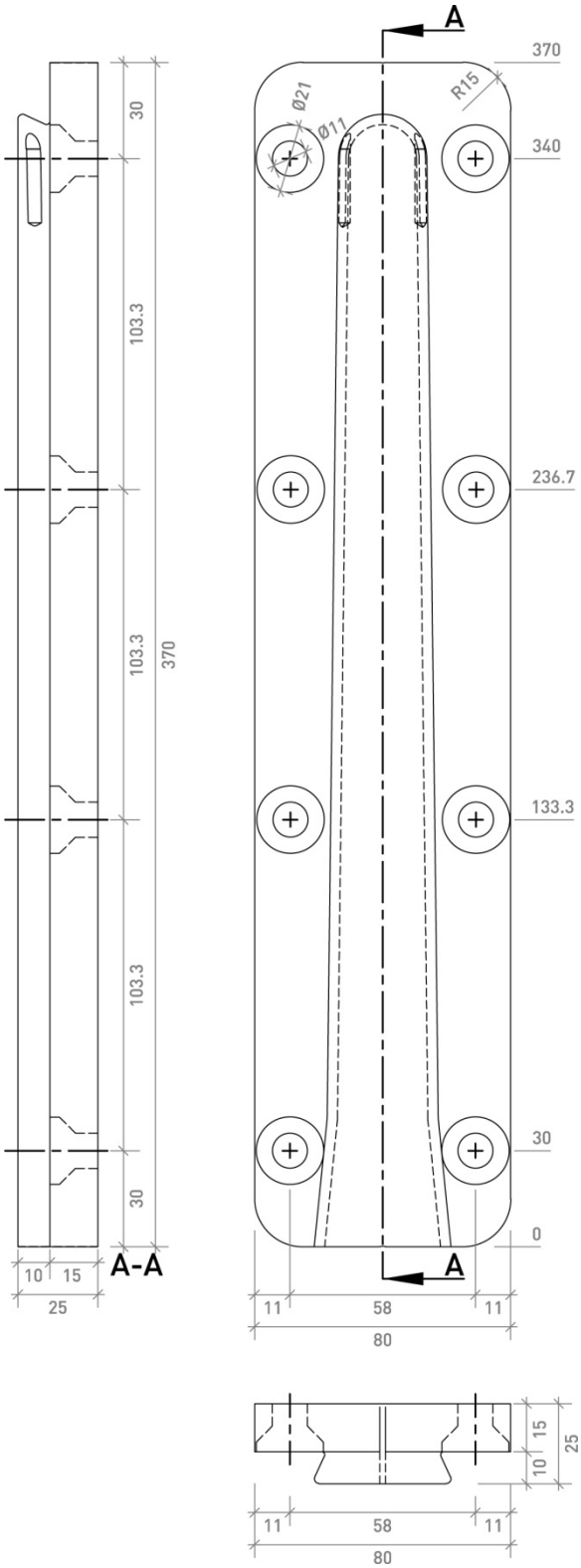
Dimensions in mm

Sherpa – L	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 120 18/80/370 Mounting: main beam or column	



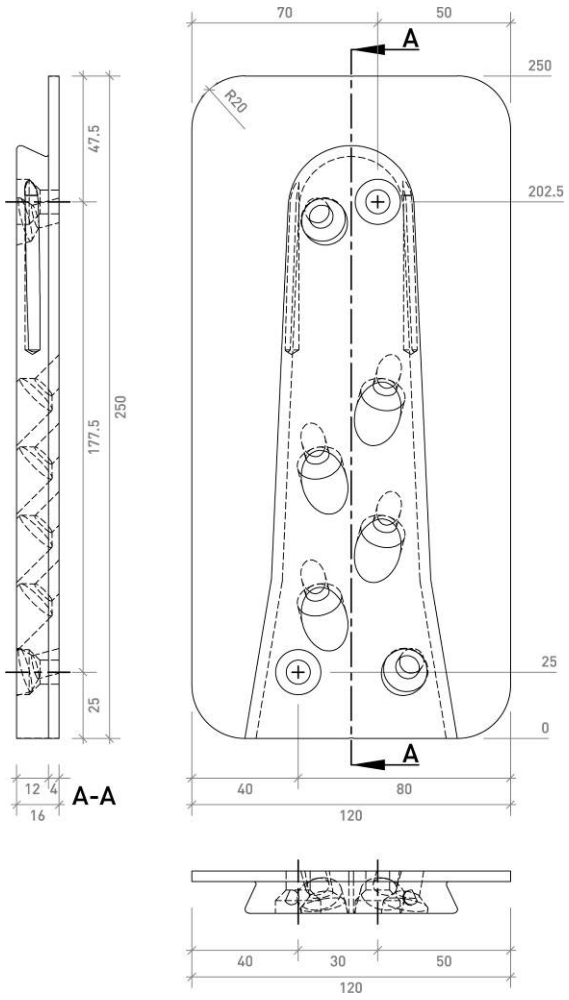
Dimensions in mm

Sherpa – L	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type L 120 18/80/370 Mounting: secondary beam	



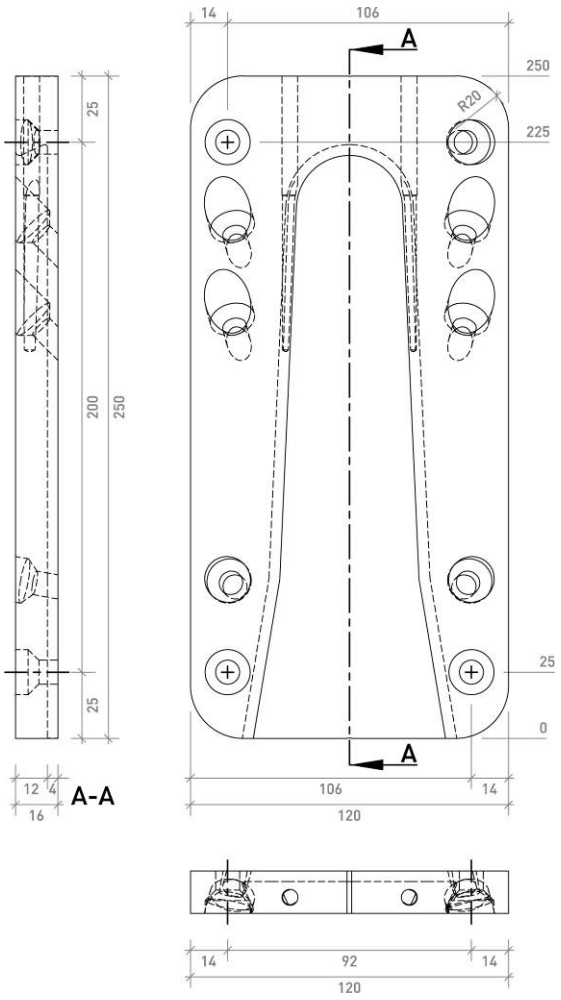
Dimensions in mm

Sherpa – L CS	Annex 2
Product details definitions: Type L CS 120 29/80/370 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



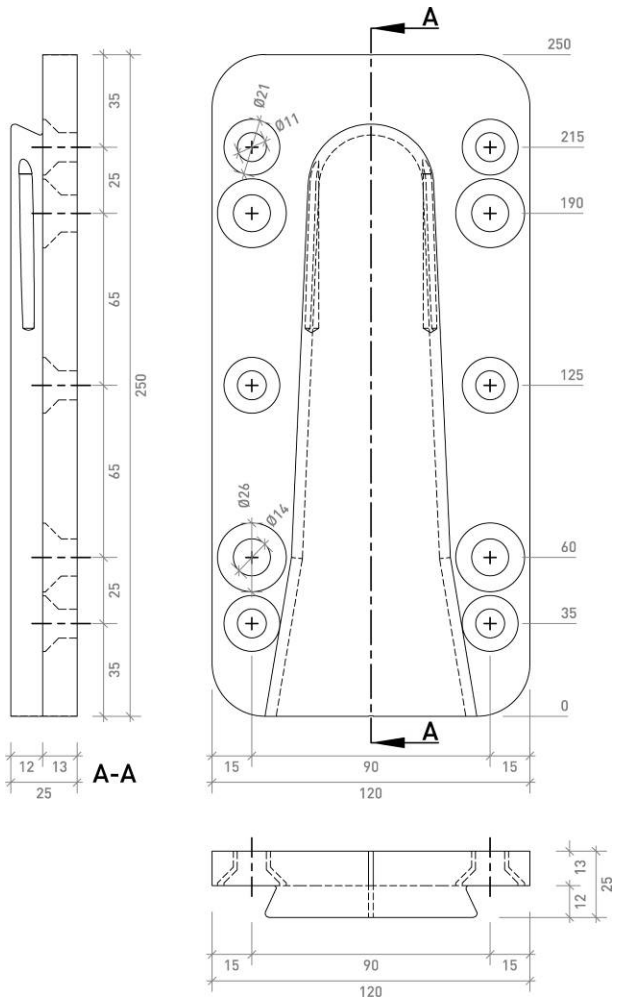
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 55 20/120/250 Mounting: main beam or column	



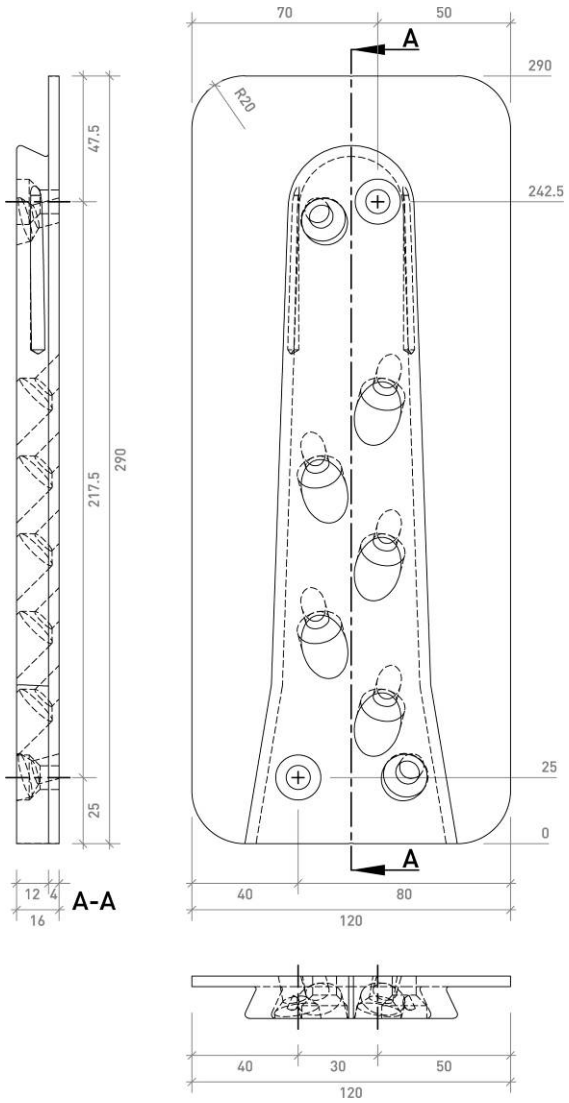
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 55 20/120/250 Mounting: secondary beam	



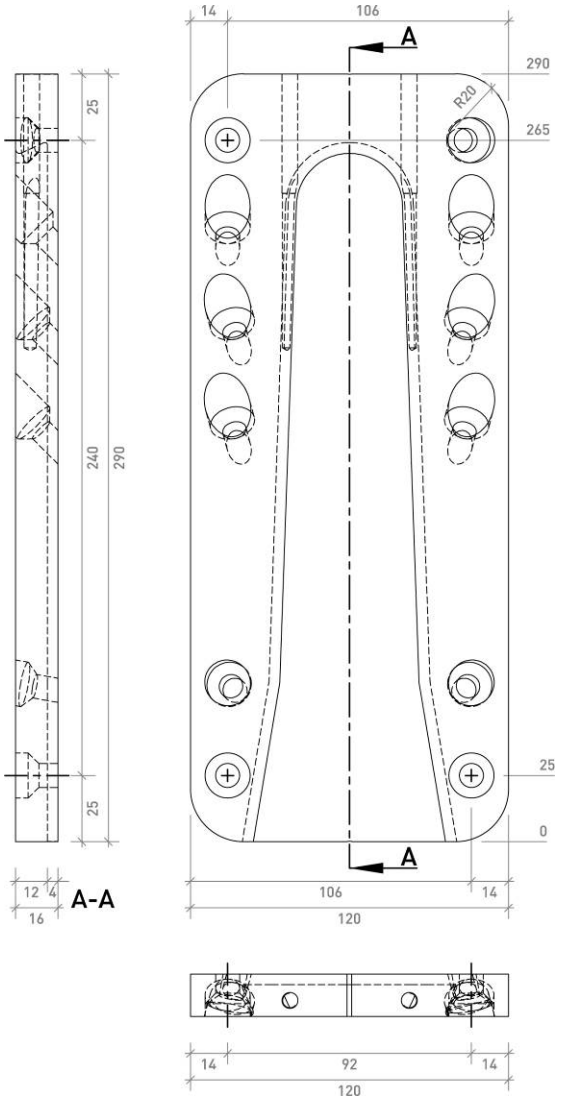
Dimensions in mm

Sherpa – XL CS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 55 CS 29/120/250 Mounting: main beam or column	



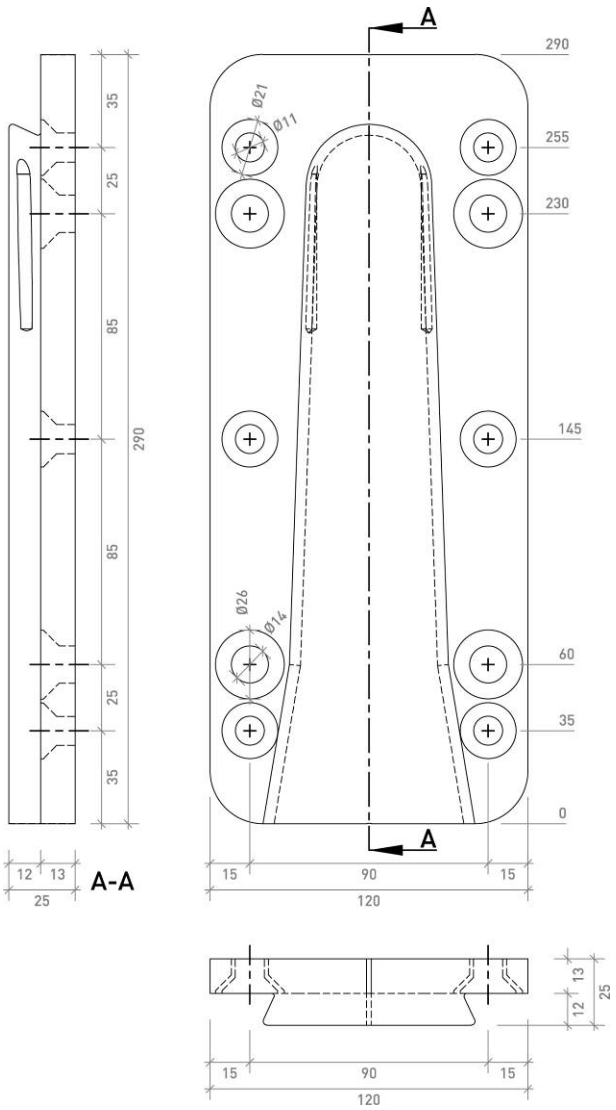
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 70 20/120/290 Mounting: main beam or column	



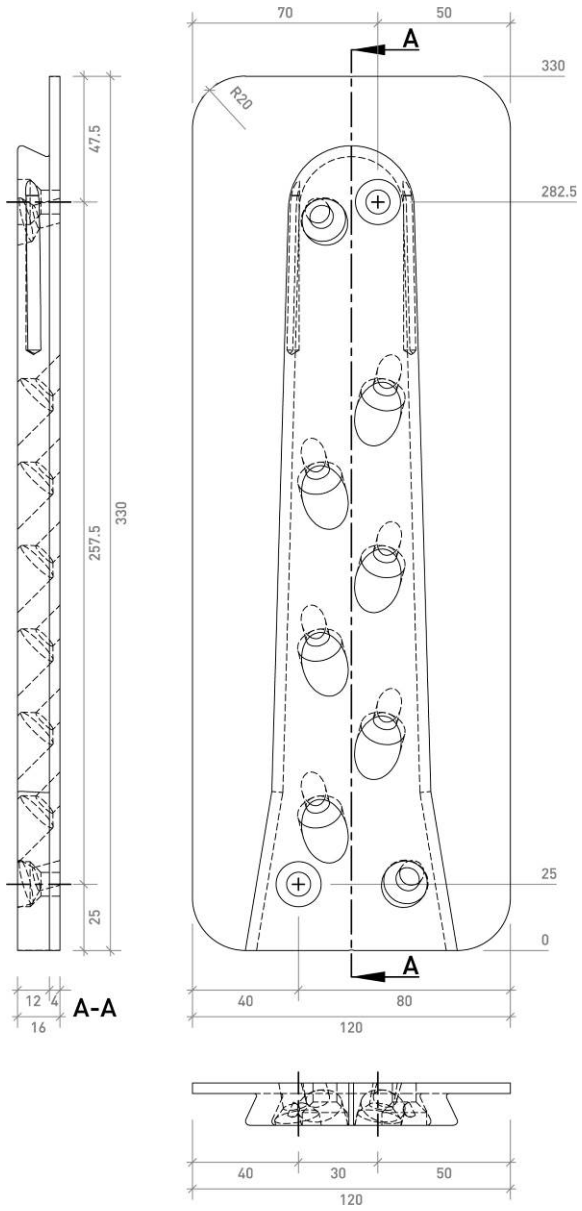
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 70 20/120/290 Mounting: secondary beam	



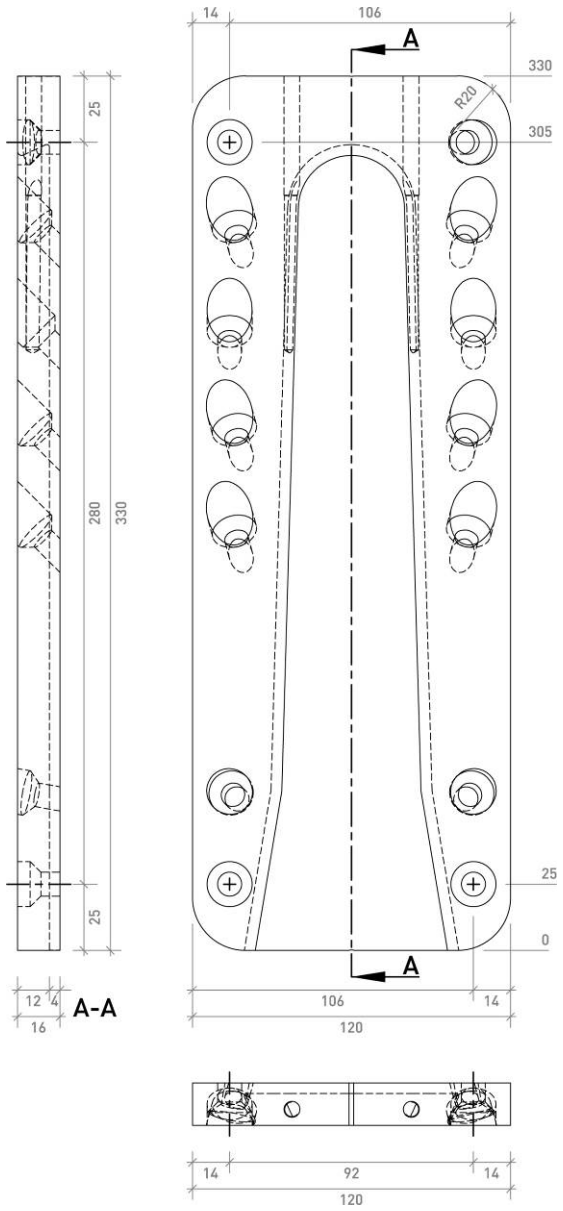
Dimensions in mm

Sherpa – XL CS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL CS 70 29/120/290 Mounting: main beam or column	



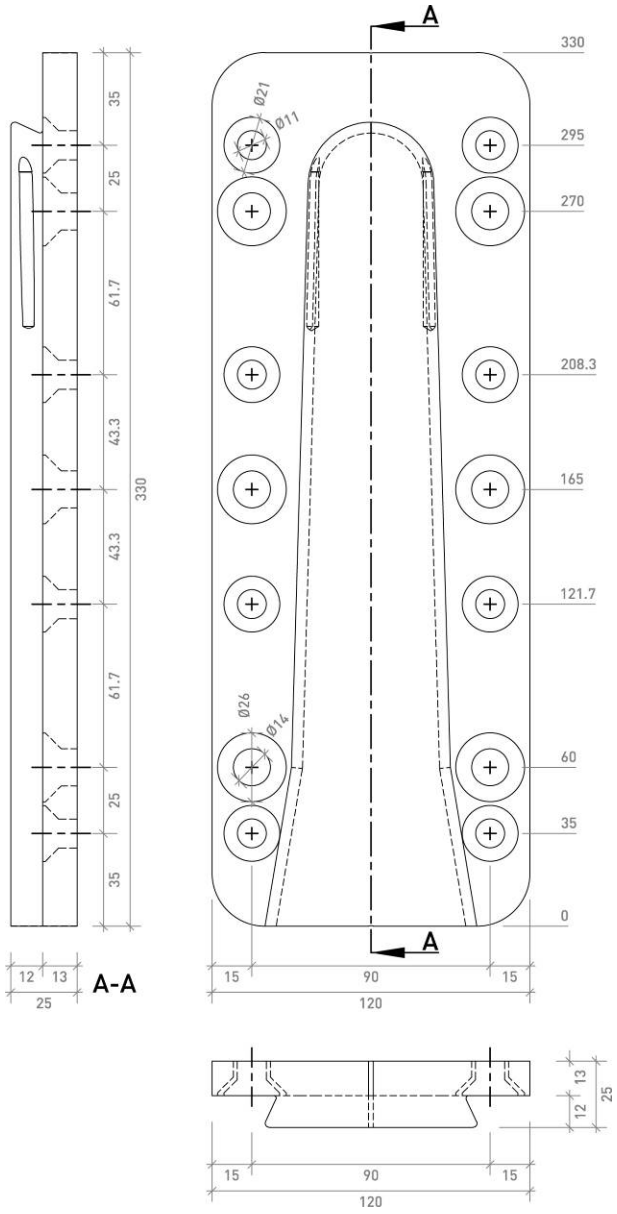
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 80 20/120/330 Mounting: main beam or column	



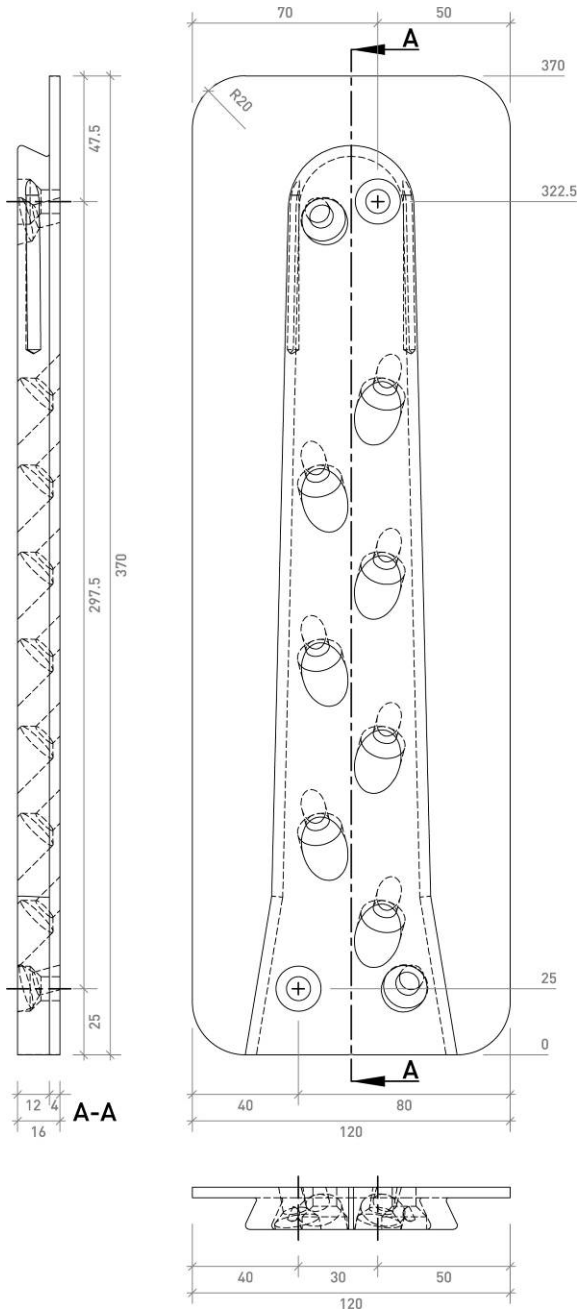
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 80 20/120/330 Mounting: secondary beam	



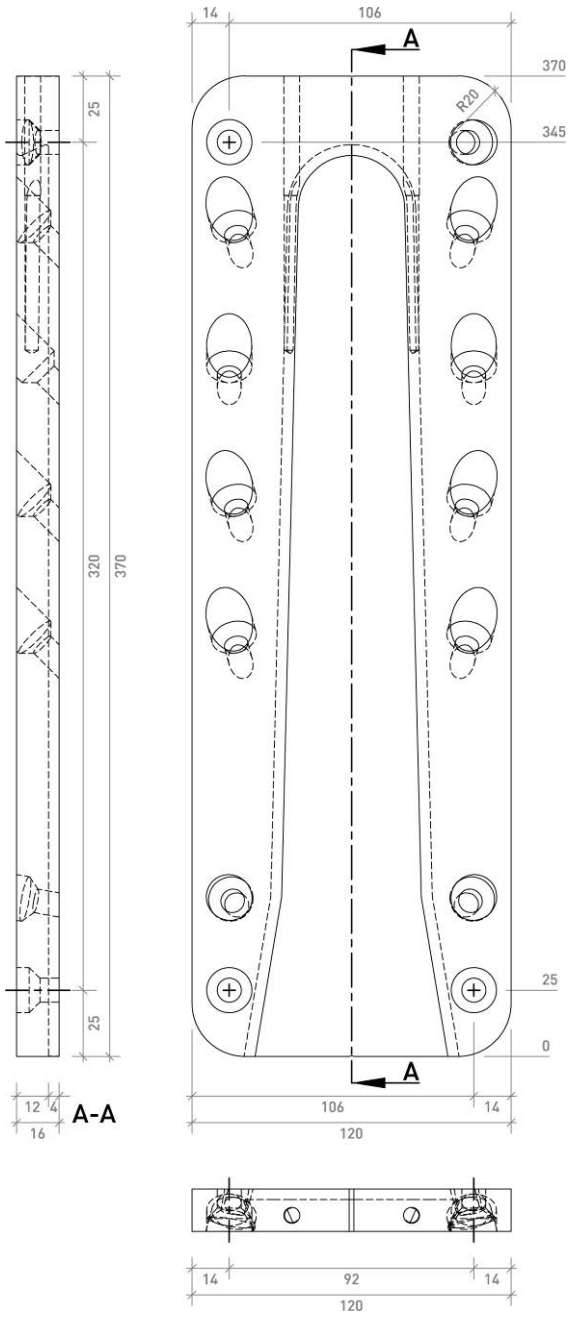
Dimensions in mm

Sherpa – XL CS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 80 CS 29/120/330 Mounting: main beam or column	



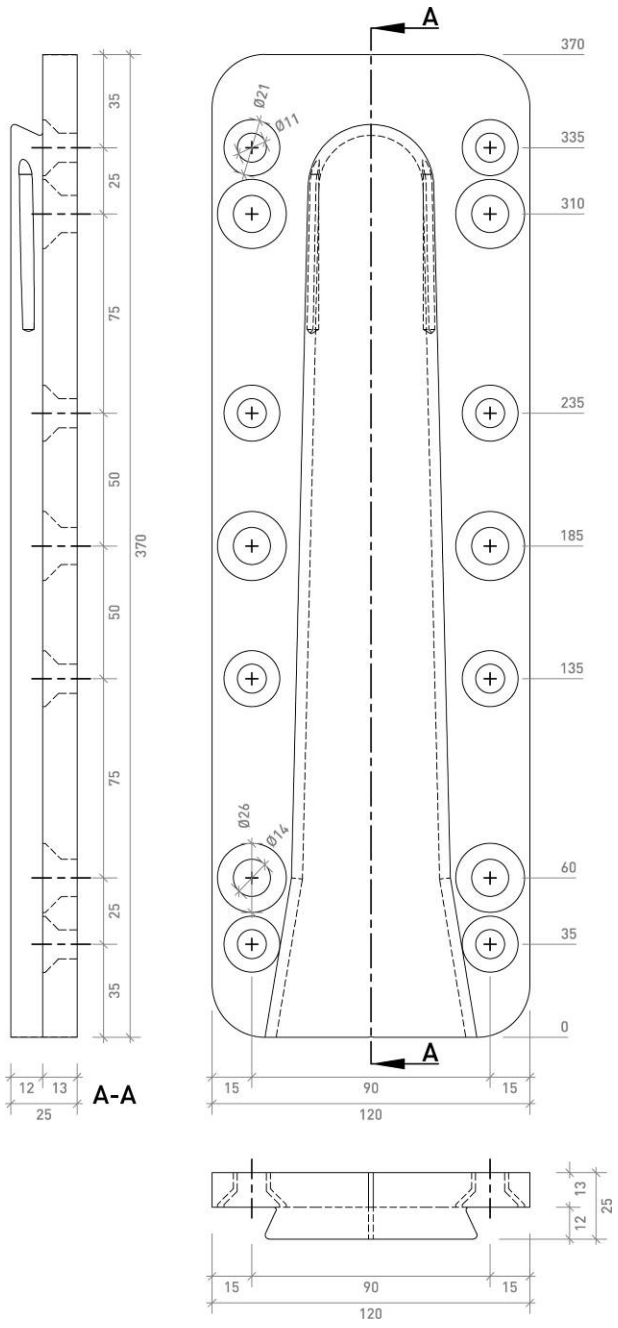
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 100 20/120/370 Mounting: main beam or column	



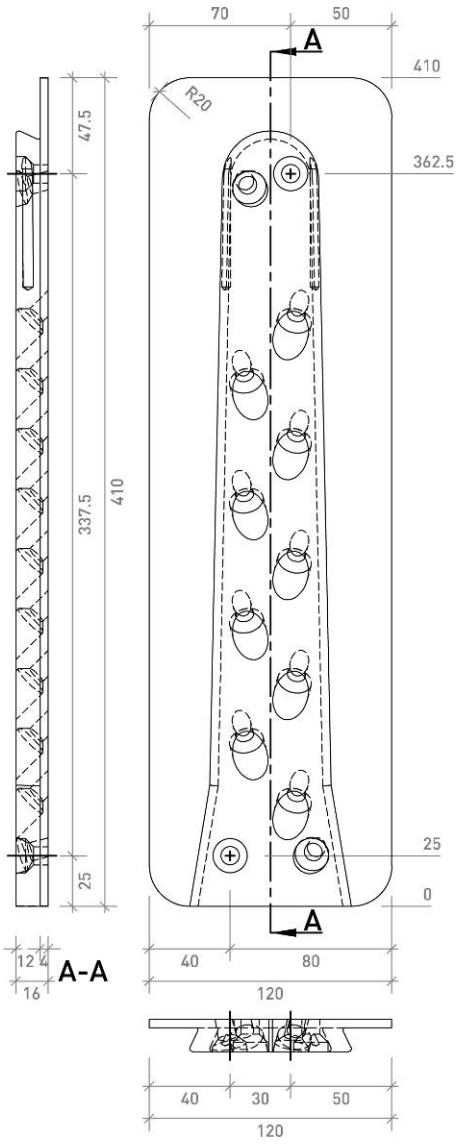
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 100 20/120/370 Mounting: secondary beam	



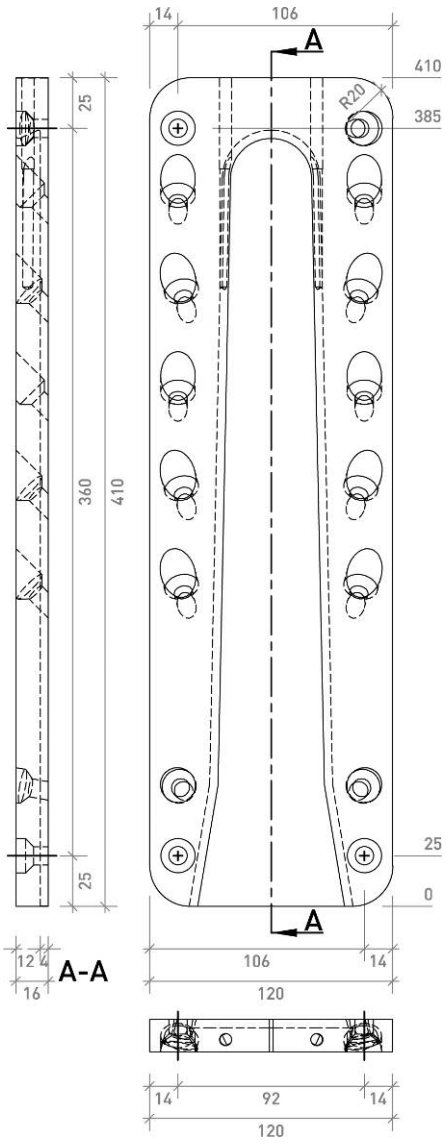
Dimensions in mm

Sherpa – XL CS	Annex 2
Product details definitions: Type XL 100 CS 29/120/370 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



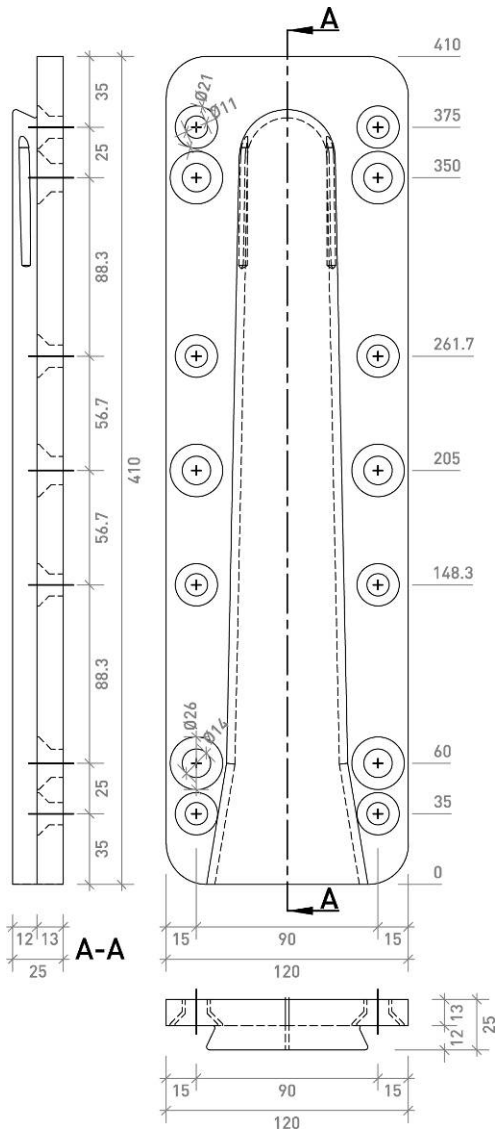
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 120 20/120/410 Mounting: main beam or column	



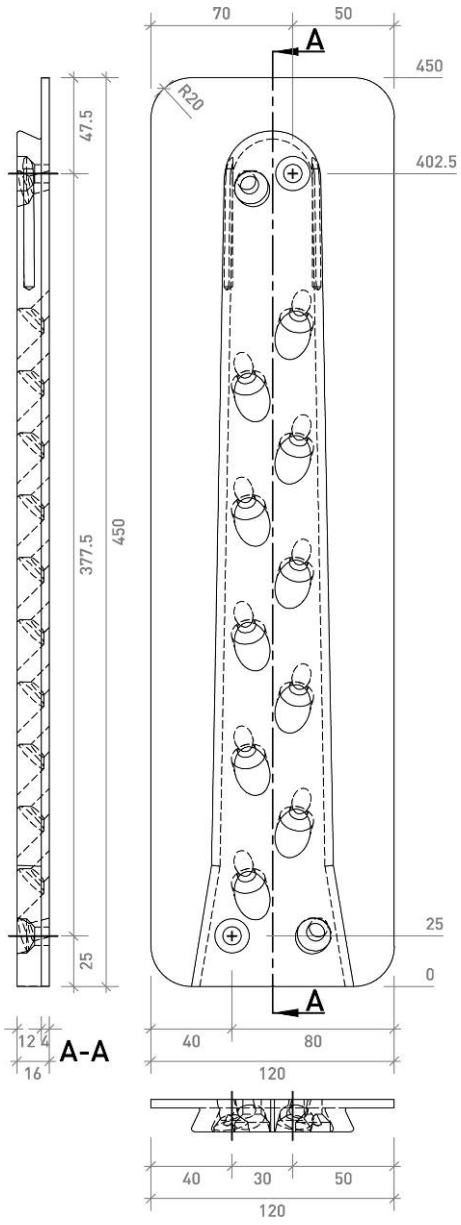
Dimensions in mm

Sherpa – XL	Annex 2
Product details definitions: Type XL 120 20/120/410 Mounting: secondary beam	of European Technical Assessment ETA-12/0067 of 08.02.2022



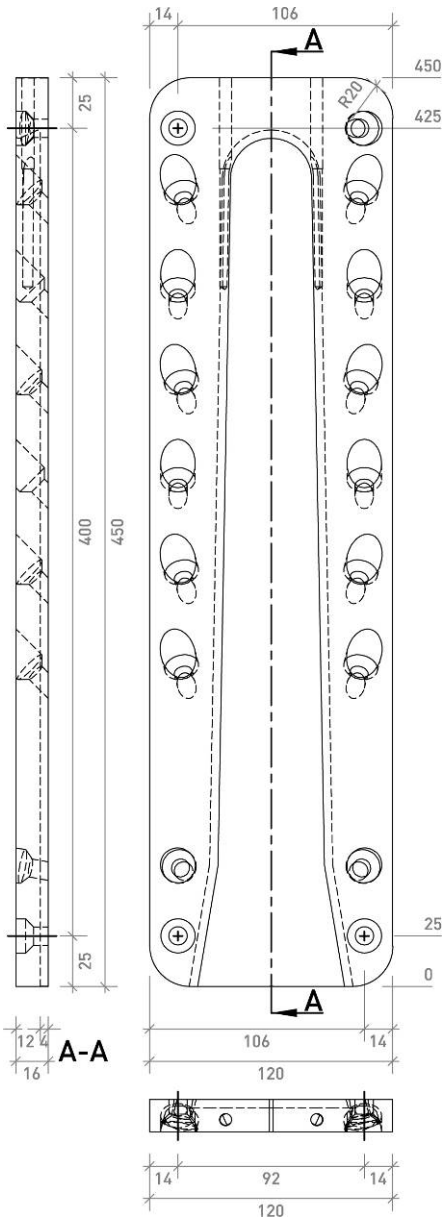
Dimensions in mm

Sherpa – XL CS	Annex 2
Product details definitions: Type XL 120 CS 29/120/410 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



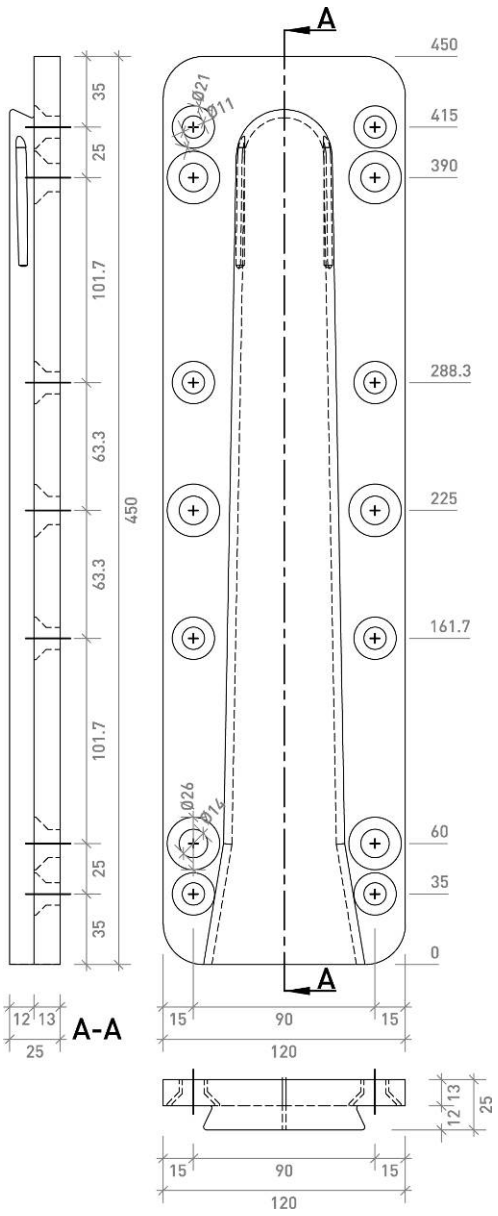
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 140 20/120/450 Mounting: main beam or column	



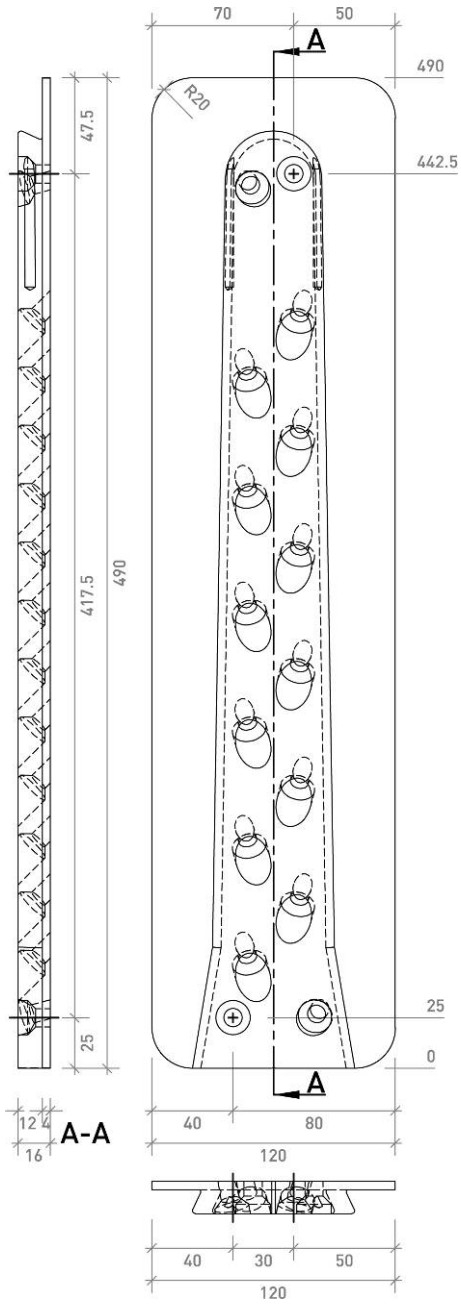
Dimensions in mm

Sherpa – XL	Annex 2
Product details definitions: Type XL 140 20/120/450 Mounting: secondary beam	of European Technical Assessment ETA-12/0067 of 08.02.2022



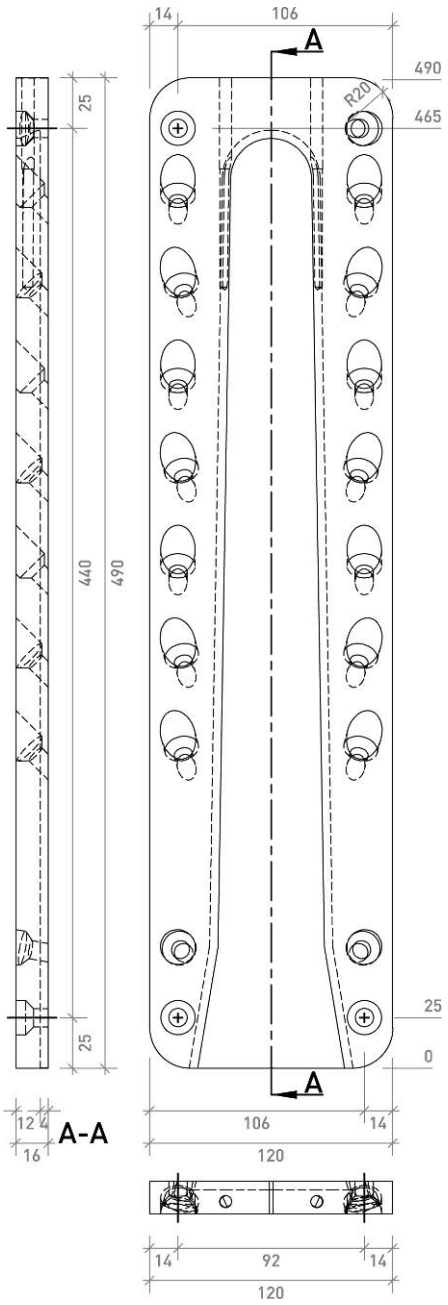
Dimensions in mm

Sherpa – XL CS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 140 CS 29/120/450 Mounting: main beam or column	



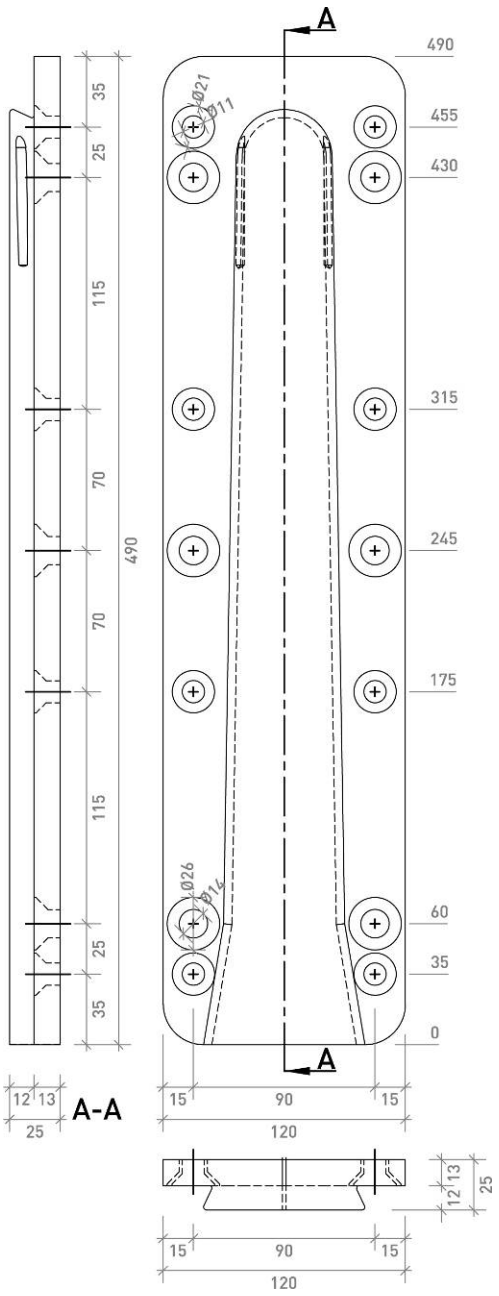
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 170 20/120/490 Mounting: main beam or column	



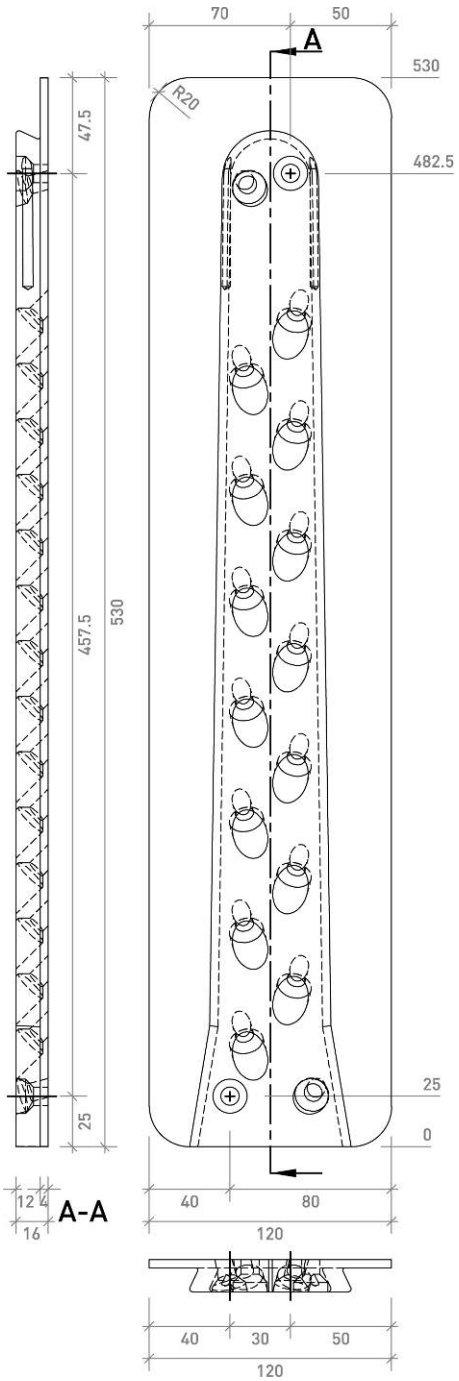
Dimensions in mm

Sherpa – XL	Annex 2
Product details definitions: Type XL 170 20/120/490 Mounting: secondary beam	of European Technical Assessment ETA-12/0067 of 08.02.2022



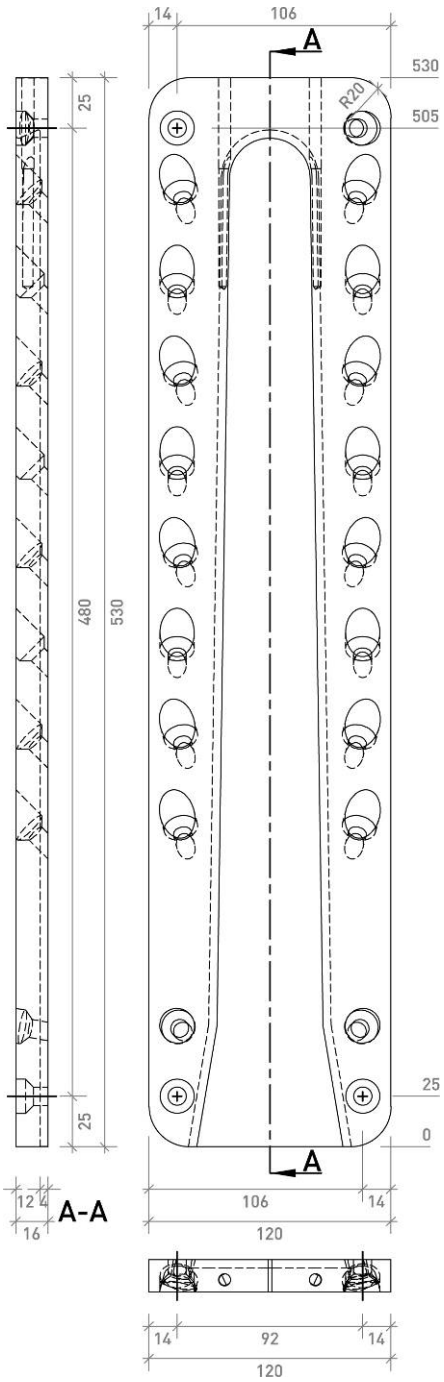
Dimensions in mm

Sherpa – XL CS	Annex 2
Product details definitions: Type XL 170 CS 29/120/490 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



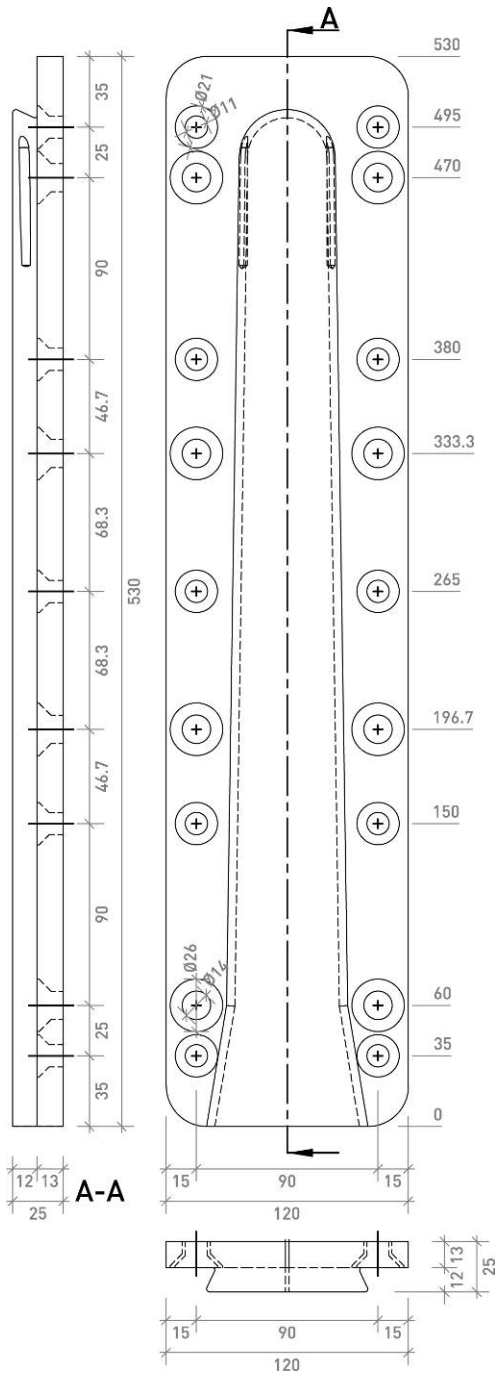
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 190 20/120/530 Mounting: main beam or column	



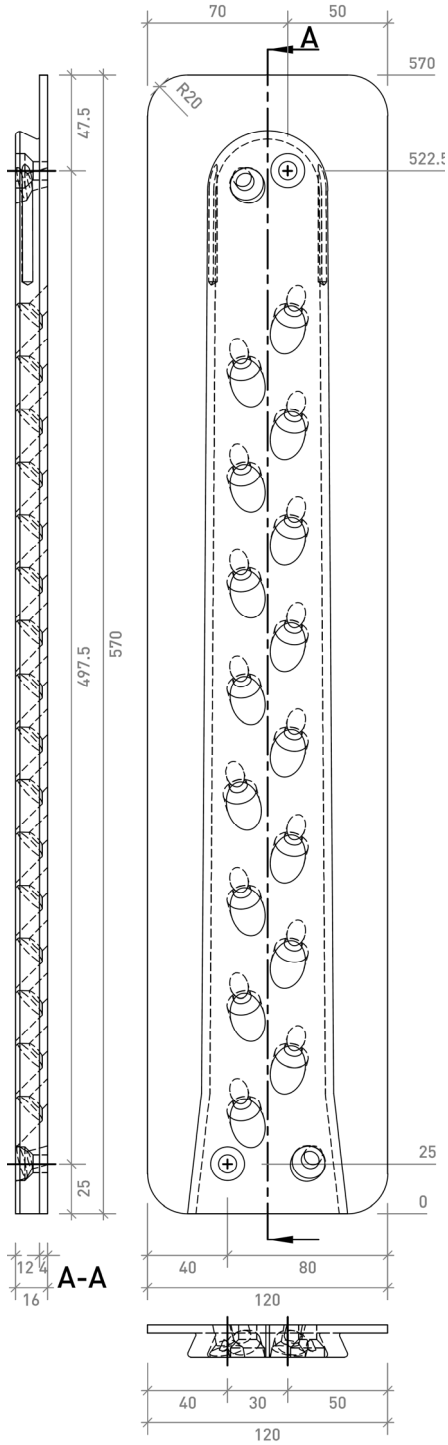
Dimensions in mm

Sherpa – XL	Annex 2
Product details definitions: Type XL 190 20/120/530 Mounting: secondary beam	of European Technical Assessment ETA-12/0067 of 08.02.2022



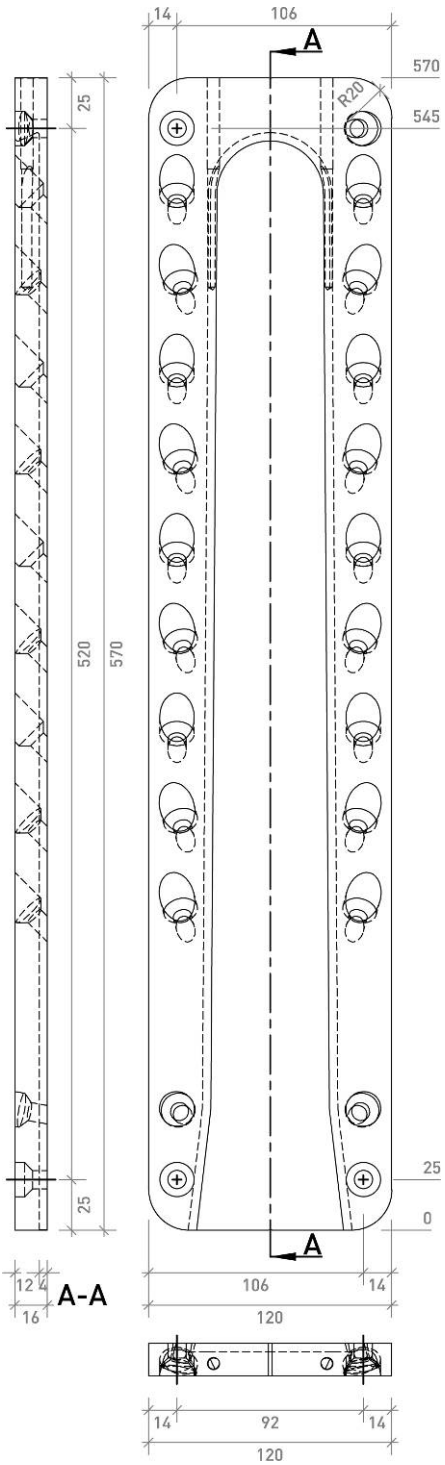
Dimensions in mm

Sherpa – XL CS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 190 CS 29/120/530 Mounting: main beam or column	



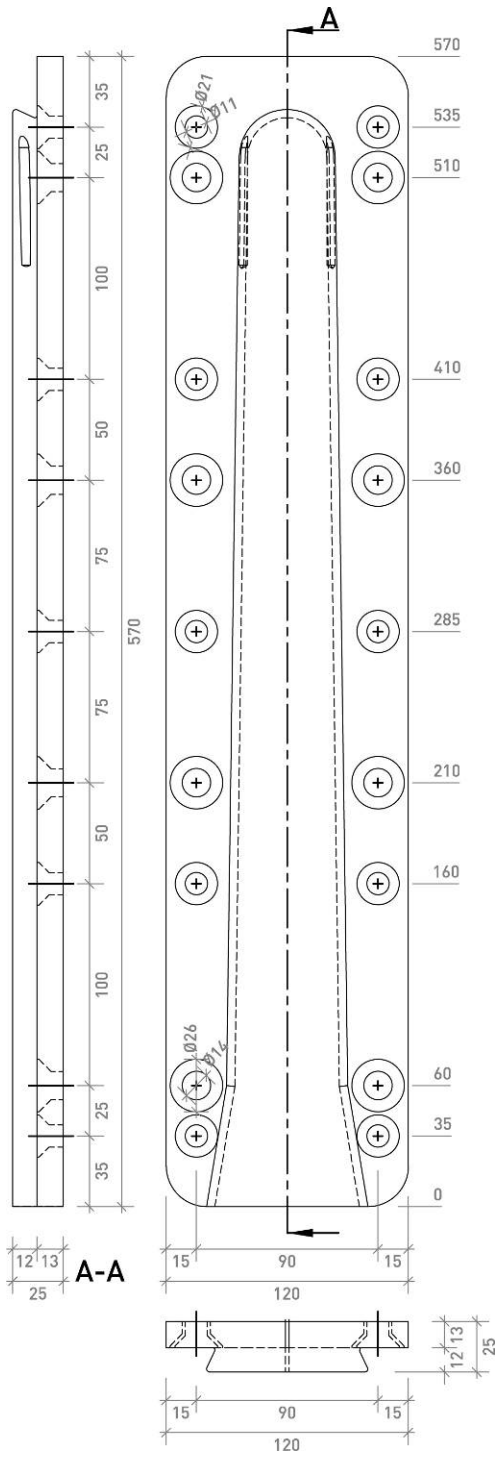
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 220 20/120/570 Mounting: main beam or column	



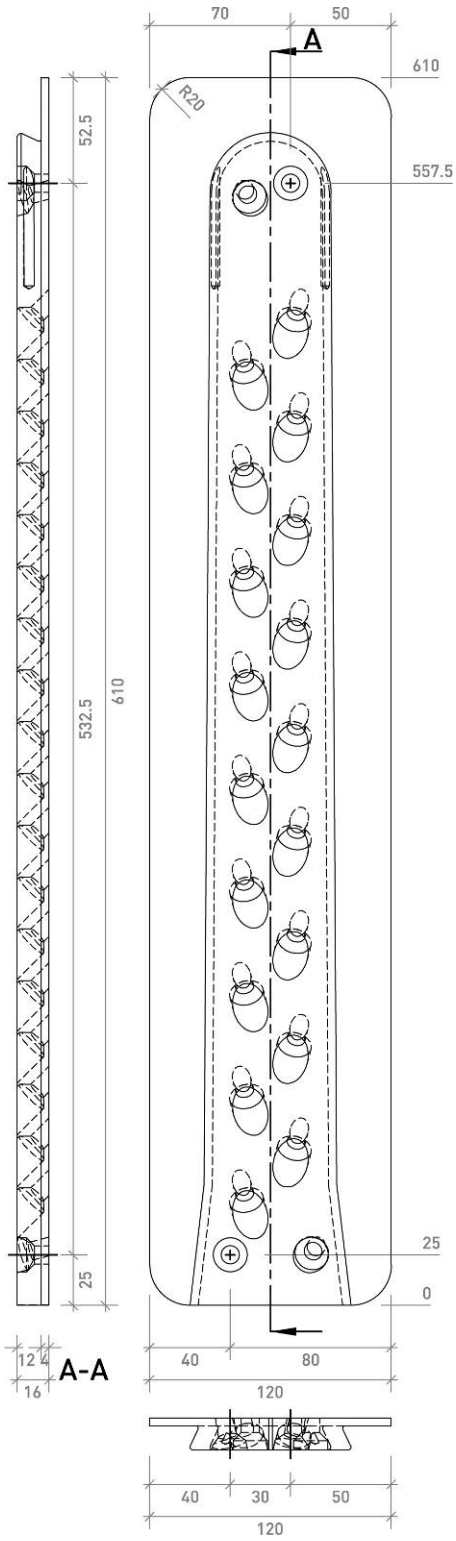
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 220 20/120/570 Mounting: secondary beam	



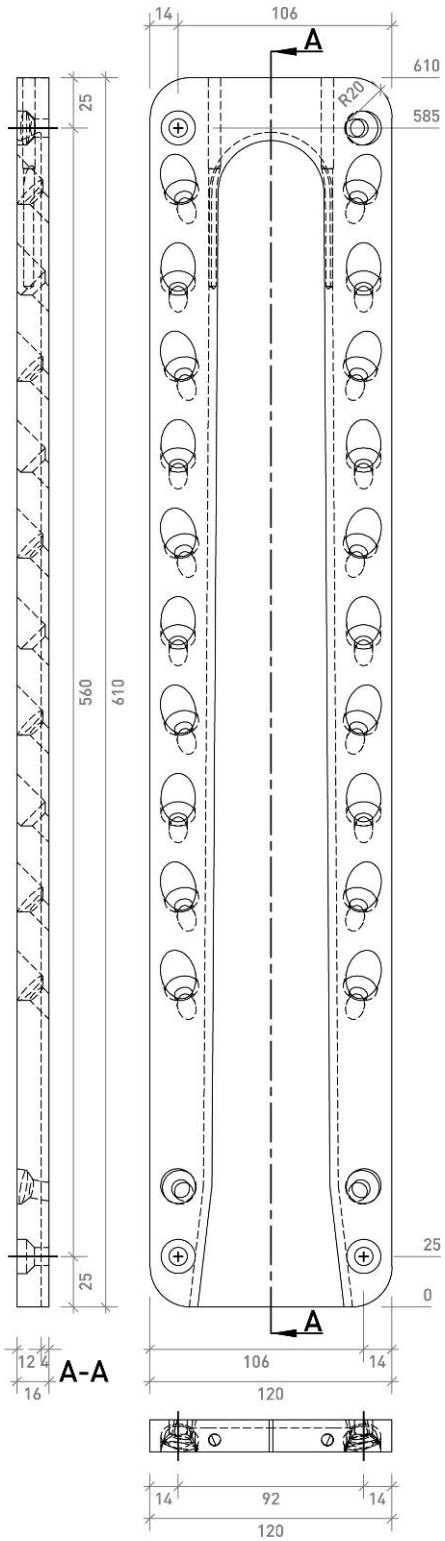
Dimensions in mm

Sherpa – XL CS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 220 CS 29/120/570 Mounting: main beam or column	



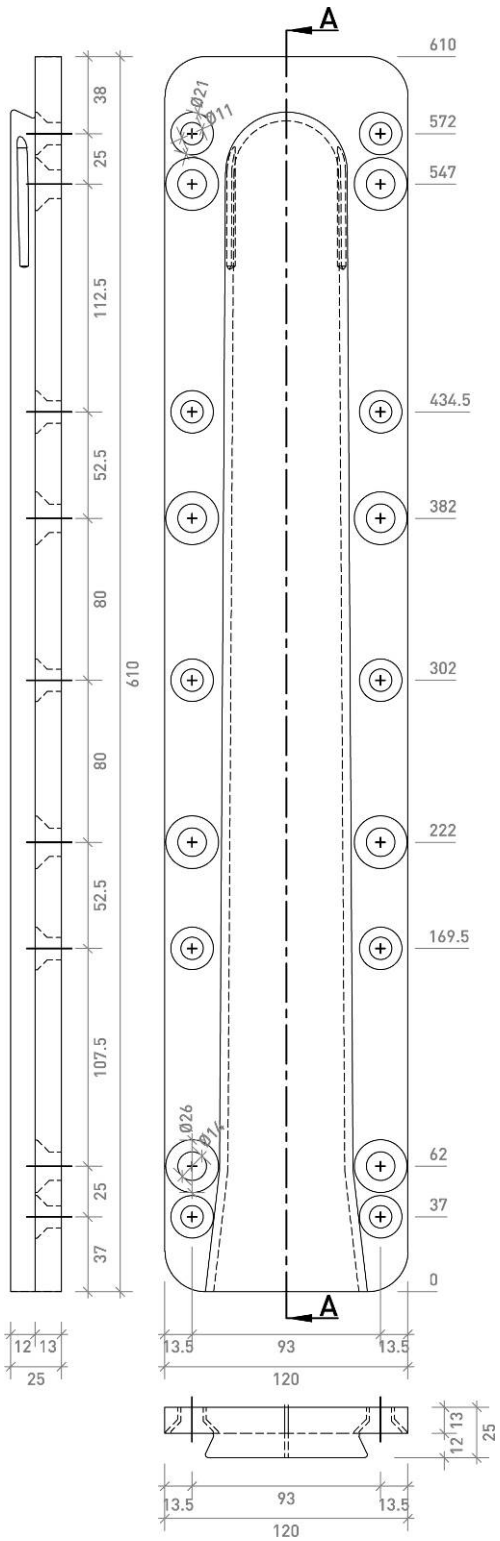
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 250 20/120/610 Mounting: main beam or column	



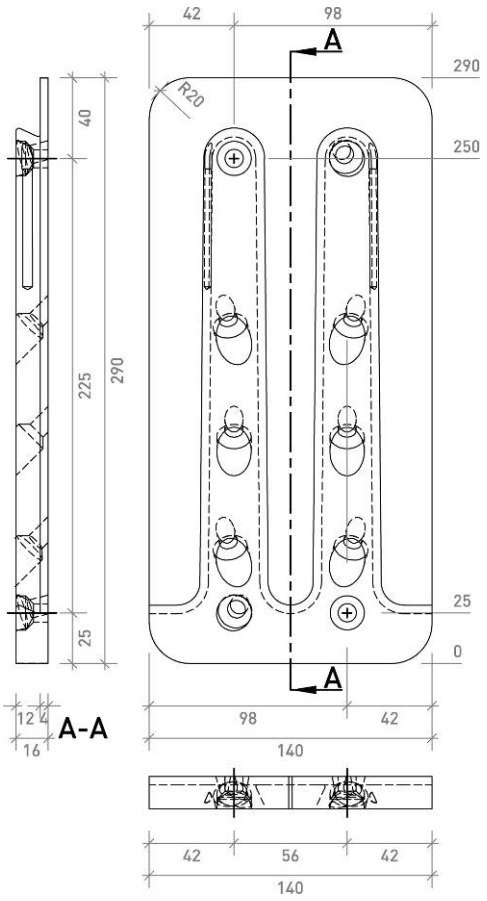
Dimensions in mm

Sherpa – XL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 250 20/120/610 Mounting: secondary beam	



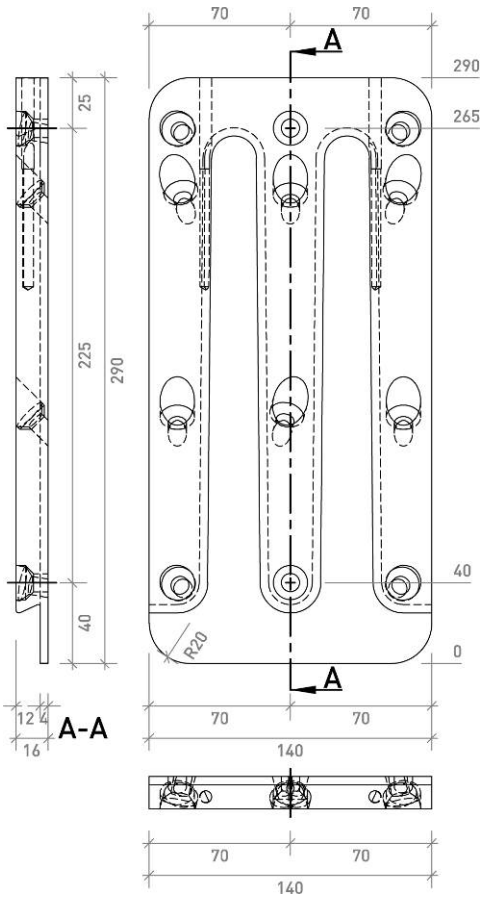
Dimensions in mm

Sherpa – XL CS	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XL 250 CS 29/120/610 Mounting: main beam or column	



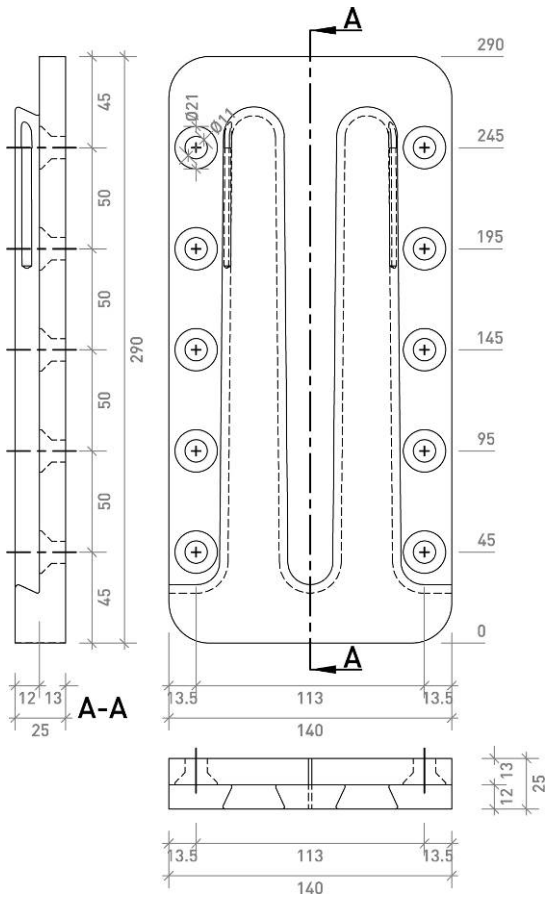
Dimensions in mm

Sherpa – XXL	Annex 2
Product details definitions: Type XXL 100 20/140/290 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



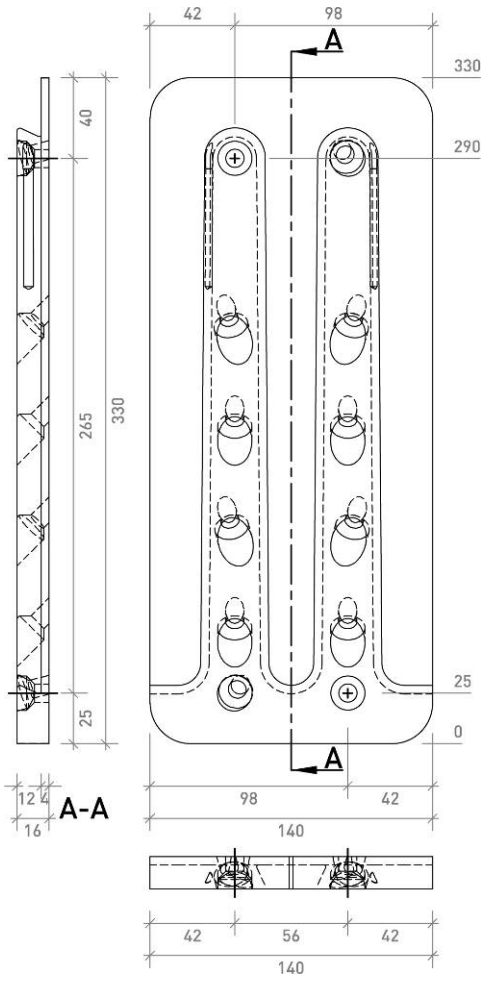
Dimensions in mm

Sherpa – XXL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XXL 100 20/140/290 Mounting: secondary beam	



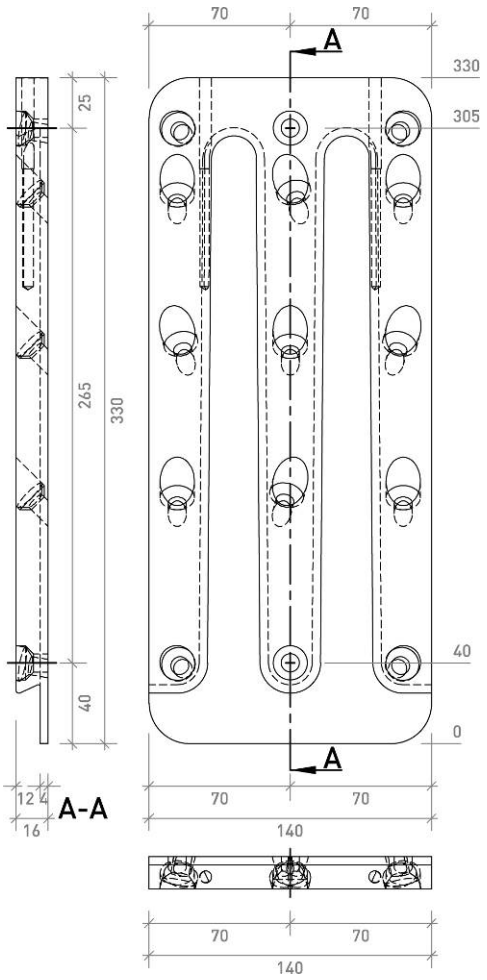
Dimensions in mm

Sherpa – XXL CS	Annex 2
Product details definitions: Type XXL 100 CS 29/140/290 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



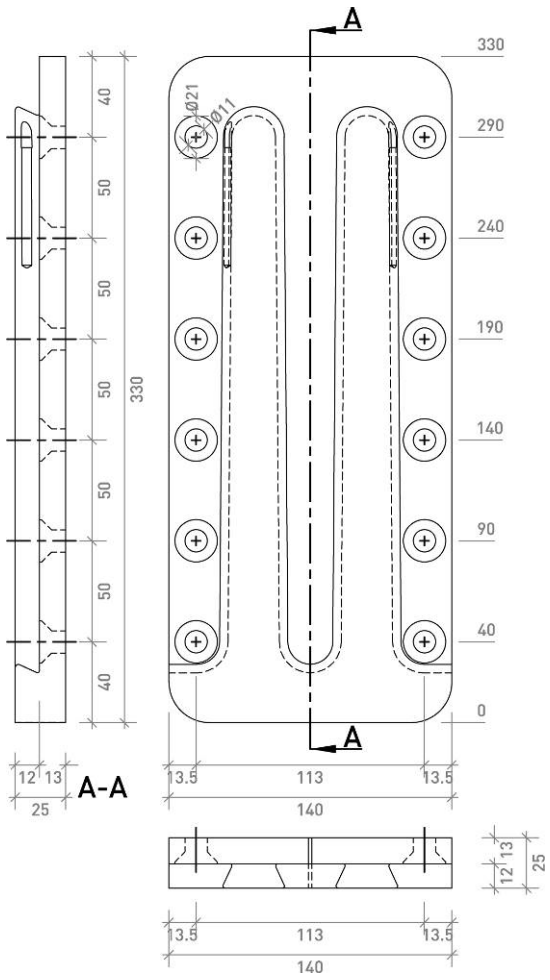
Dimensions in mm

Sherpa – XXL	Annex 2
Product details definitions: Type XXL 120 20/140/330 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



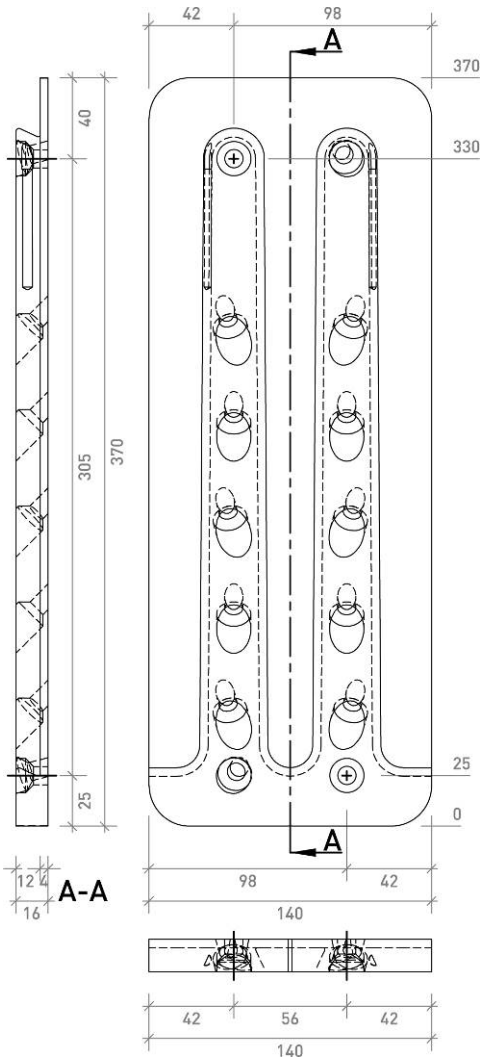
Dimensions in mm

Sherpa – XXL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XXL 120 20/140/330 Mounting: secondary beam	



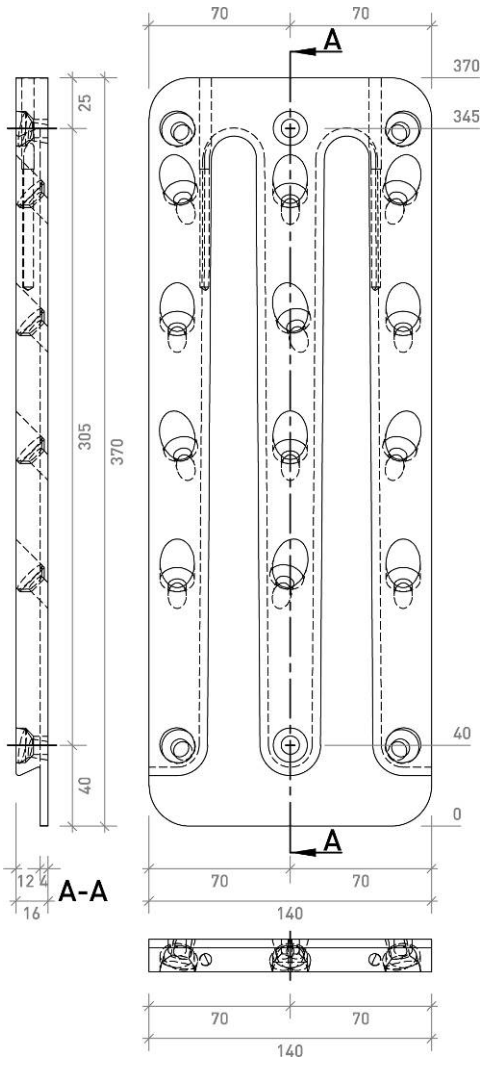
Dimensions in mm

Sherpa – XXL CS	Annex 2
Product details definitions: Type XXL 120 CS 29/140/330 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



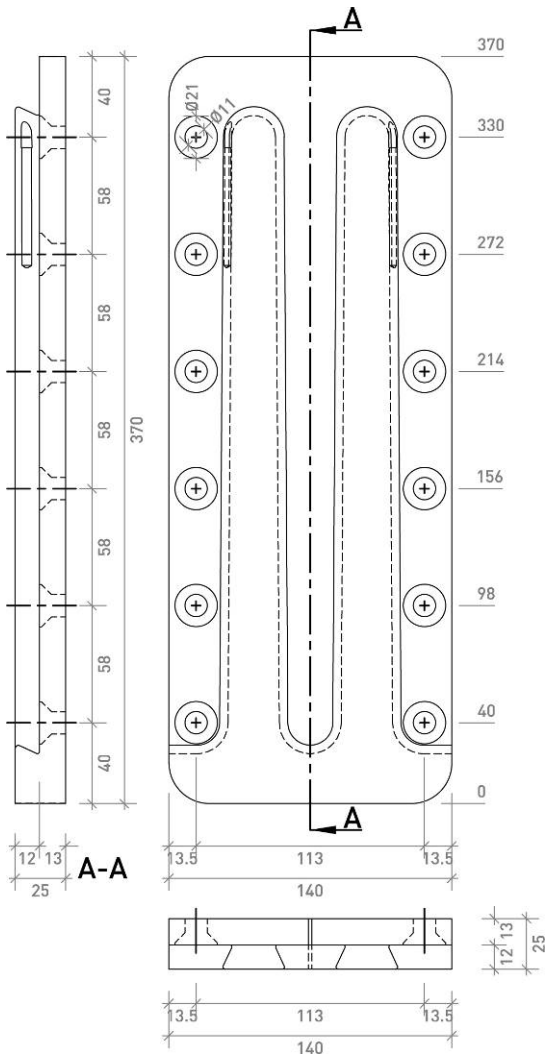
Dimensions in mm

Sherpa – XXL	Annex 2
Product details definitions: Type XXL 140 20/140/370 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



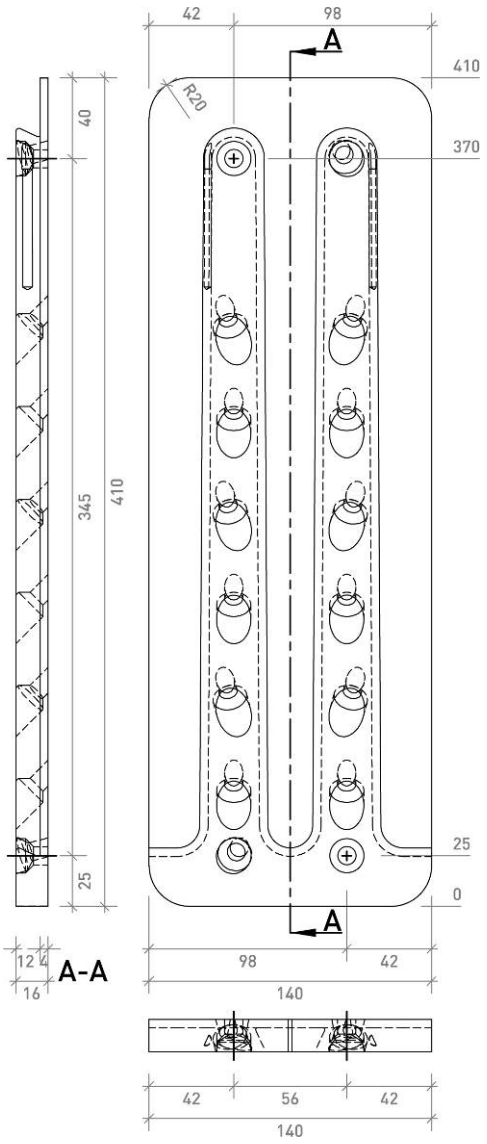
Dimensions in mm

Sherpa – XXL	Annex 2
Product details definitions: Type XXL 140 20/140/370 Mounting: secondary beam	of European Technical Assessment ETA-12/0067 of 08.02.2022



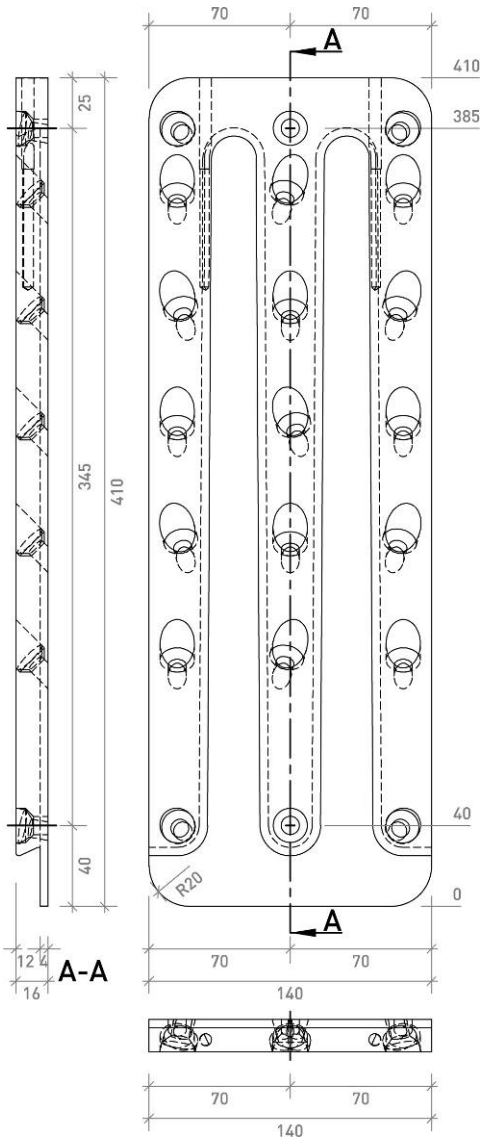
Dimensions in mm

Sherpa – XXL CS	Annex 2
Product details definitions: Type XXL 140 CS 29/140/370 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



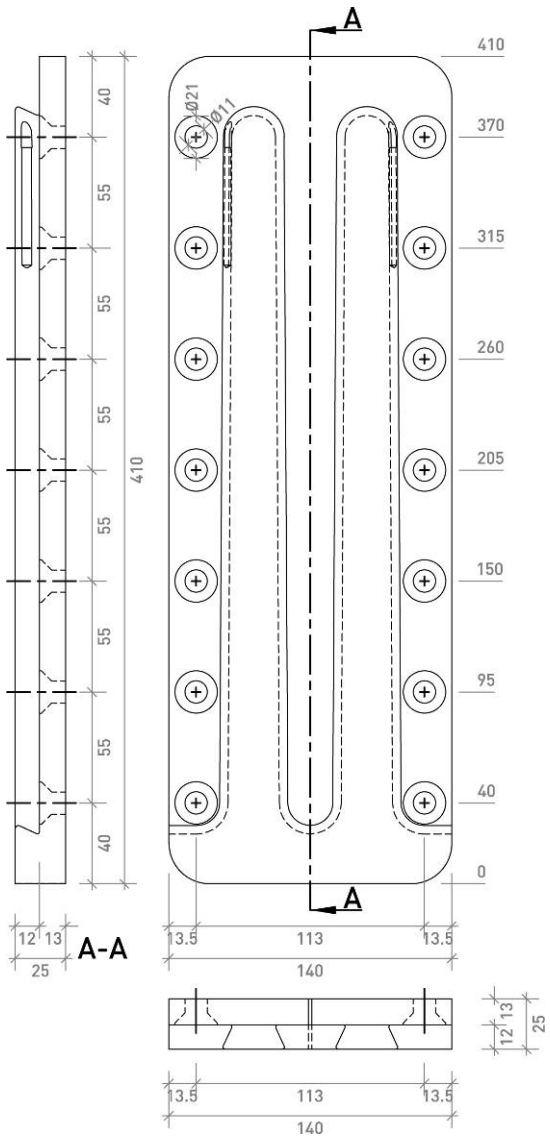
Dimensions in mm

Sherpa – XXL	Annex 2
Product details definitions: Type XXL 170 20/140/410 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



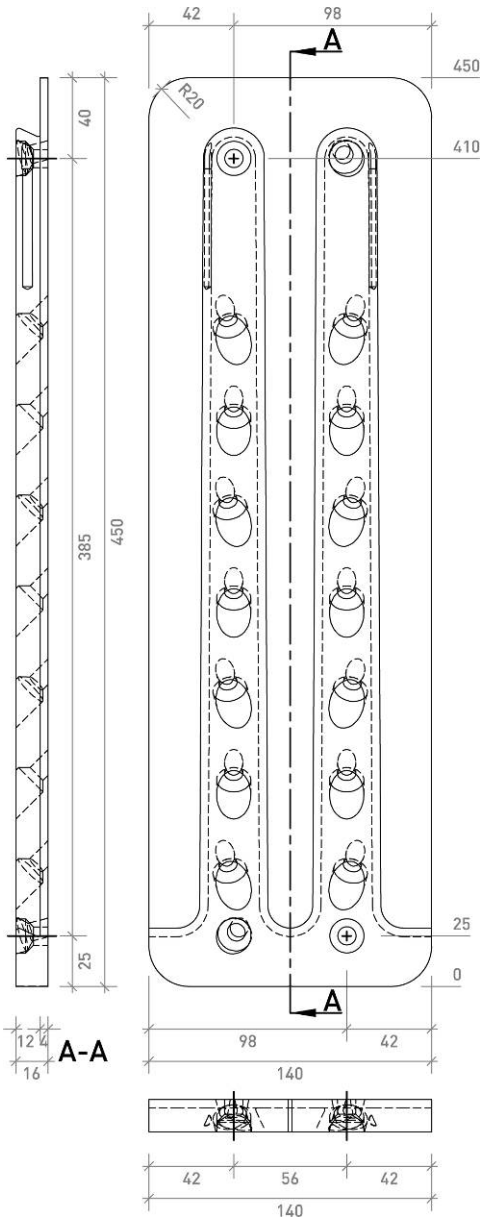
Dimensions in mm

Sherpa – XXL	Annex 2
Product details definitions: Type XXL 170 20/140/410 Mounting: secondary beam	of European Technical Assessment ETA-12/0067 of 08.02.2022



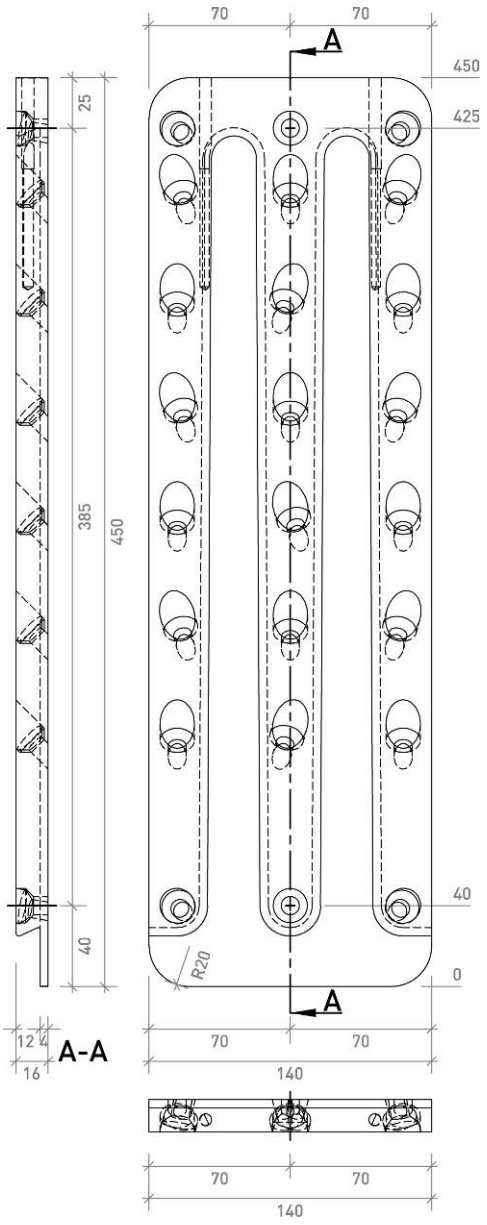
Dimensions in mm

Sherpa – XXL CS	Annex 2
Product details definitions: Type XXL 170 CS 29/140/410 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



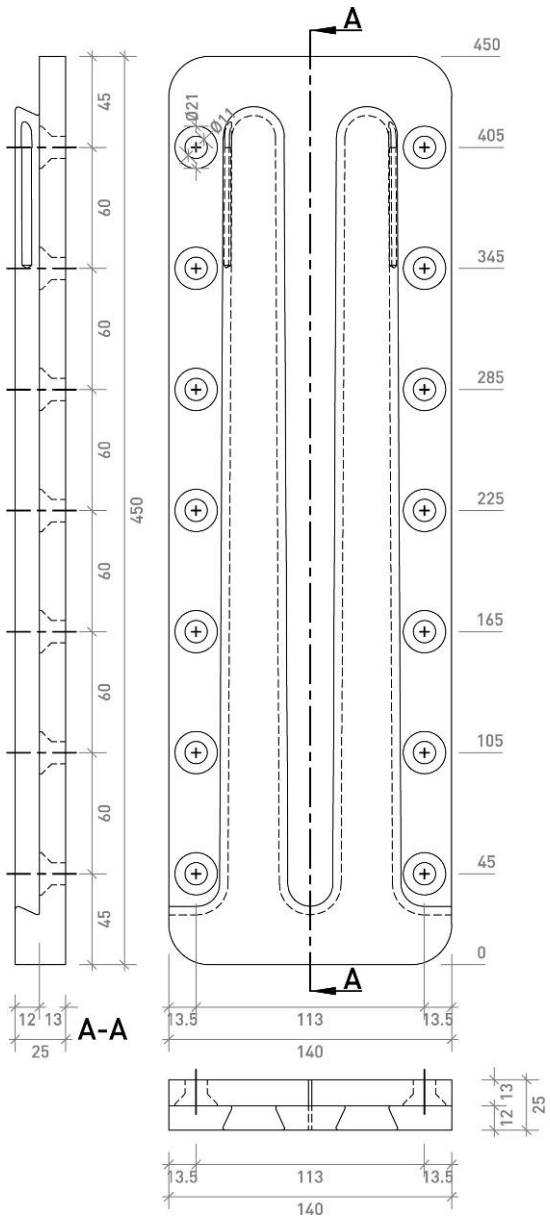
Dimensions in mm

Sherpa – XXL	Annex 2
Product details definitions: Type XXL 190 20/140/450 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



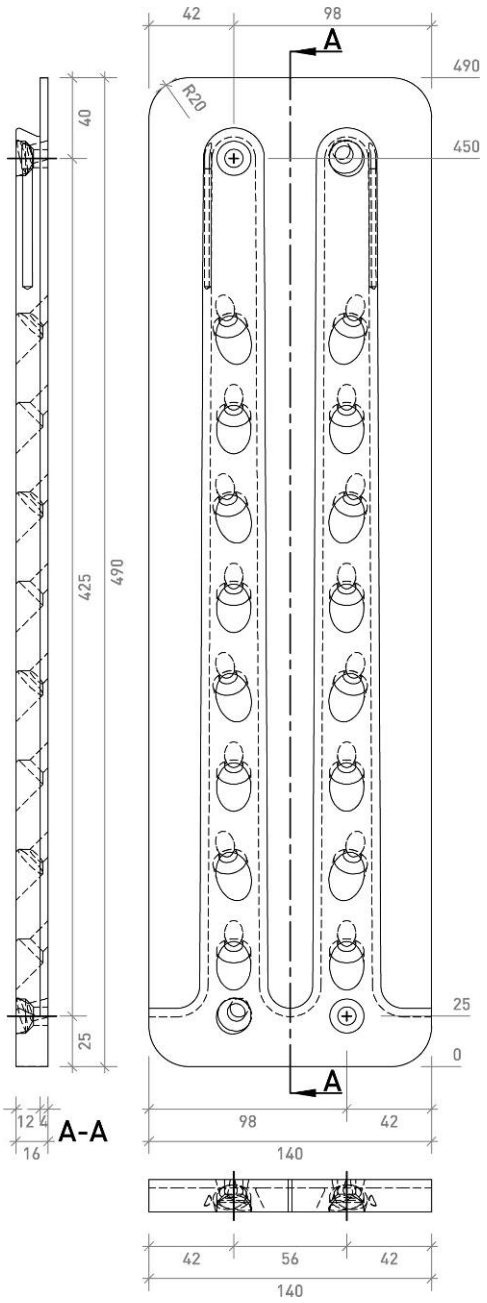
Dimensions in mm

Sherpa – XXL	Annex 2
Product details definitions: Type XXL 190 20/140/450 Mounting: secondary beam	of European Technical Assessment ETA-12/0067 of 08.02.2022



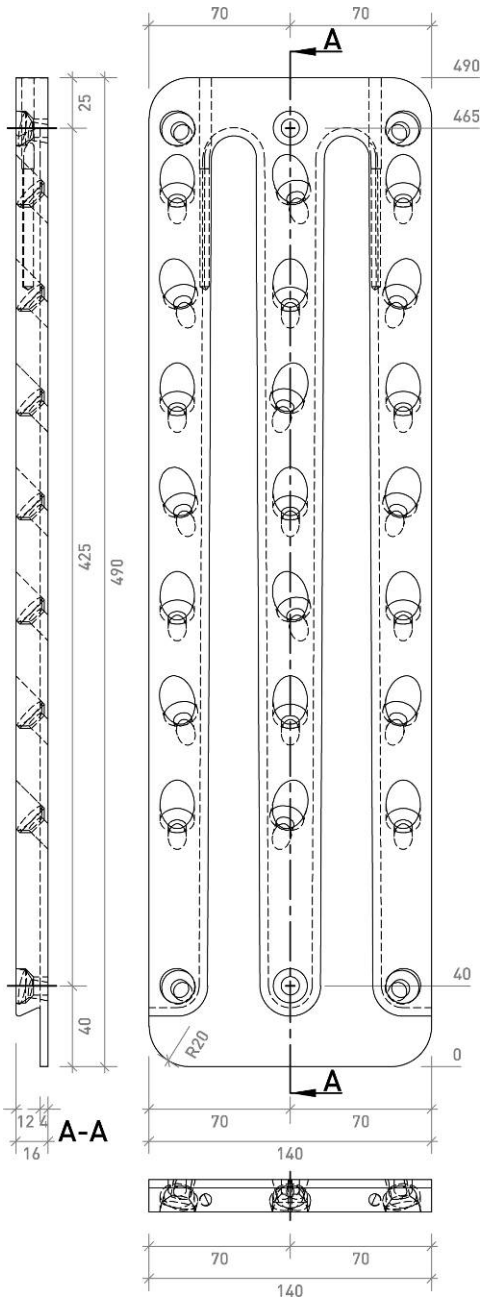
Dimensions in mm

Sherpa – XXL CS	Annex 2
Product details definitions: Type XXL CS 190 29/140/450 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



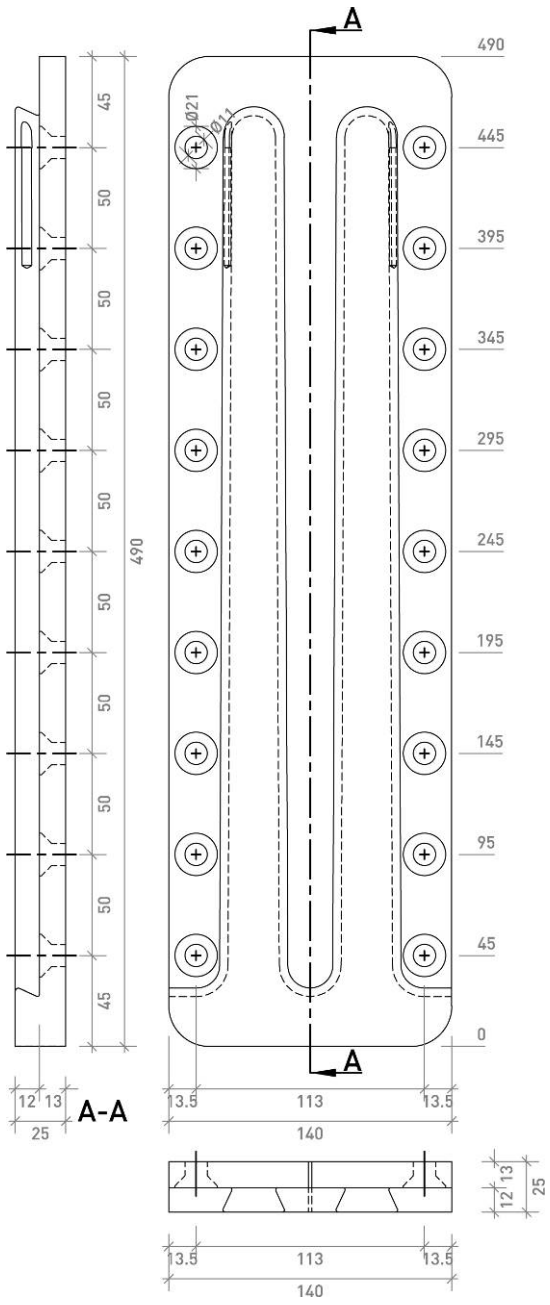
Dimensions in mm

Sherpa – XXL	Annex 2
Product details definitions: Type XXL 220 20/140/490 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



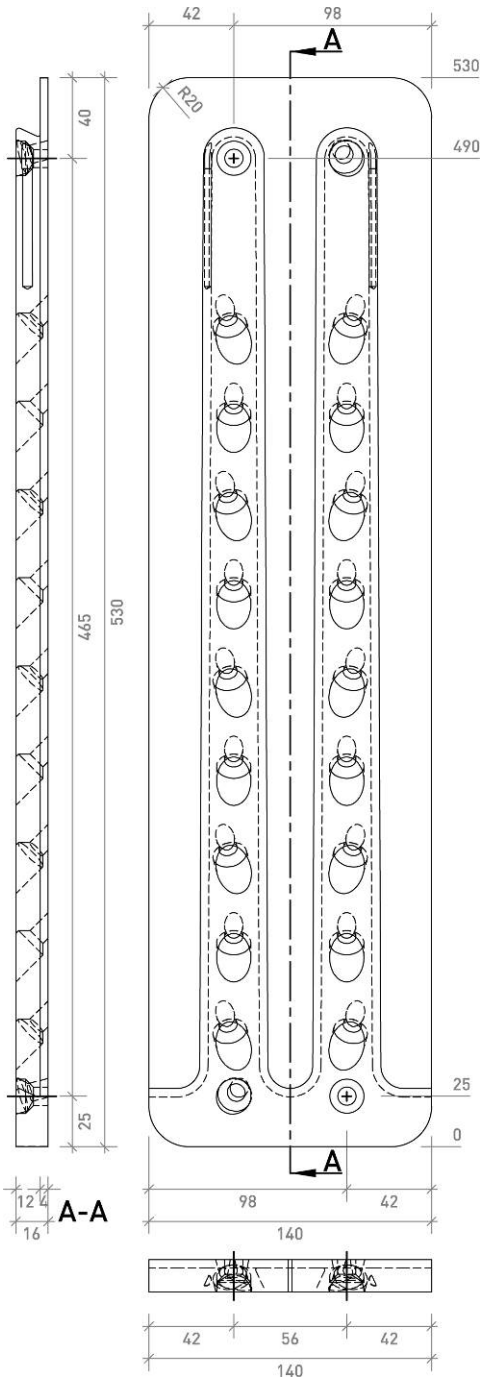
Dimensions in mm

Sherpa – XXL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XXL 220 20/140/490 Mounting: secondary beam	



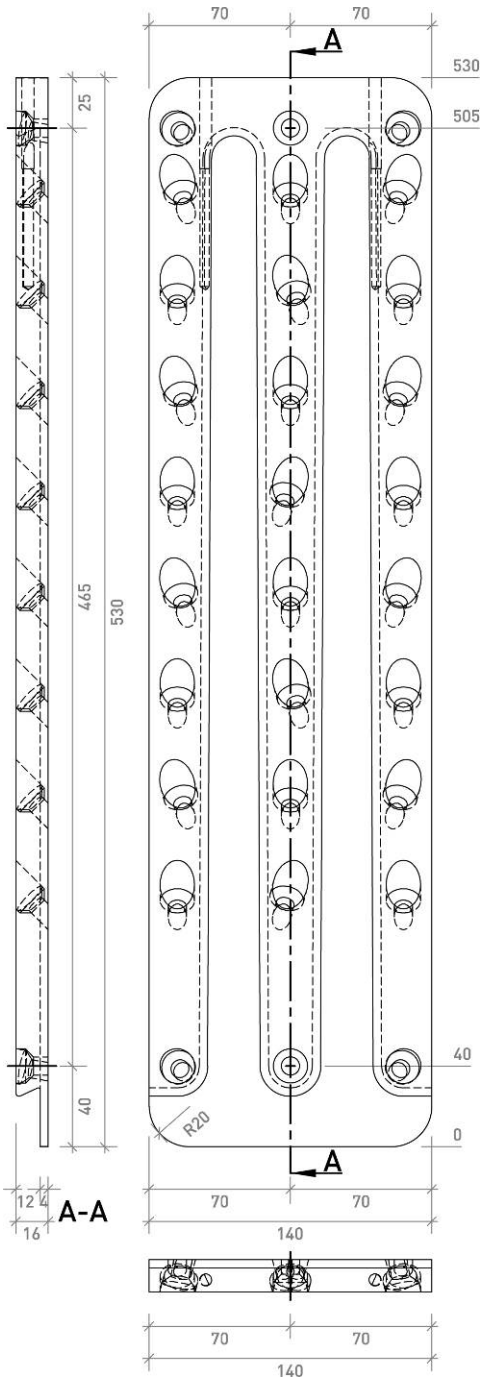
Dimensions in mm

Sherpa – XXL CS	Annex 2
Product details definitions: Type XXL 220 CS 29/140/490 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



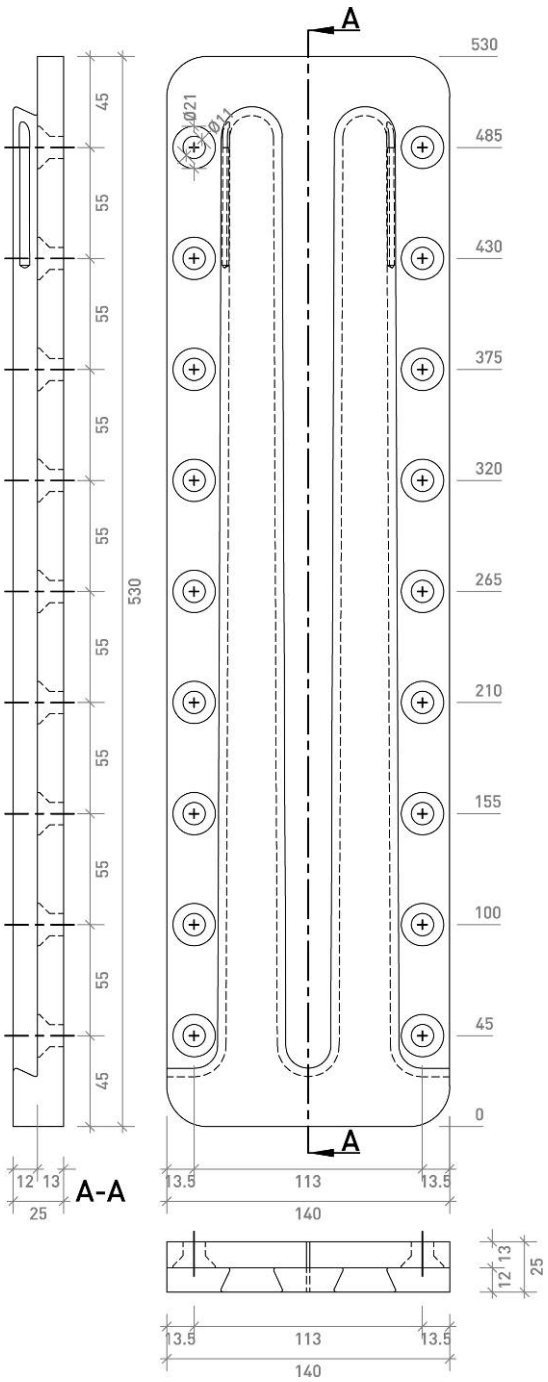
Dimensions in mm

Sherpa – XXL	Annex 2
Product details definitions: Type XXL 250 20/140/530 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



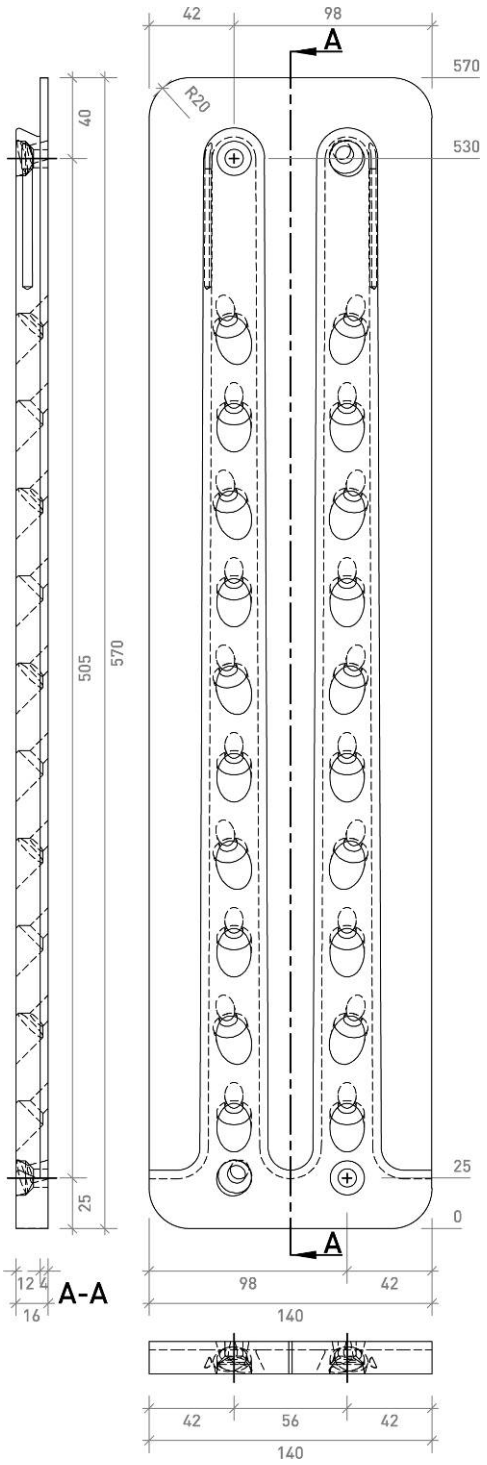
Dimensions in mm

Sherpa – XXL	Annex 2
Product details definitions: Type XXL 250 20/140/530 Mounting: secondary beam	of European Technical Assessment ETA-12/0067 of 08.02.2022



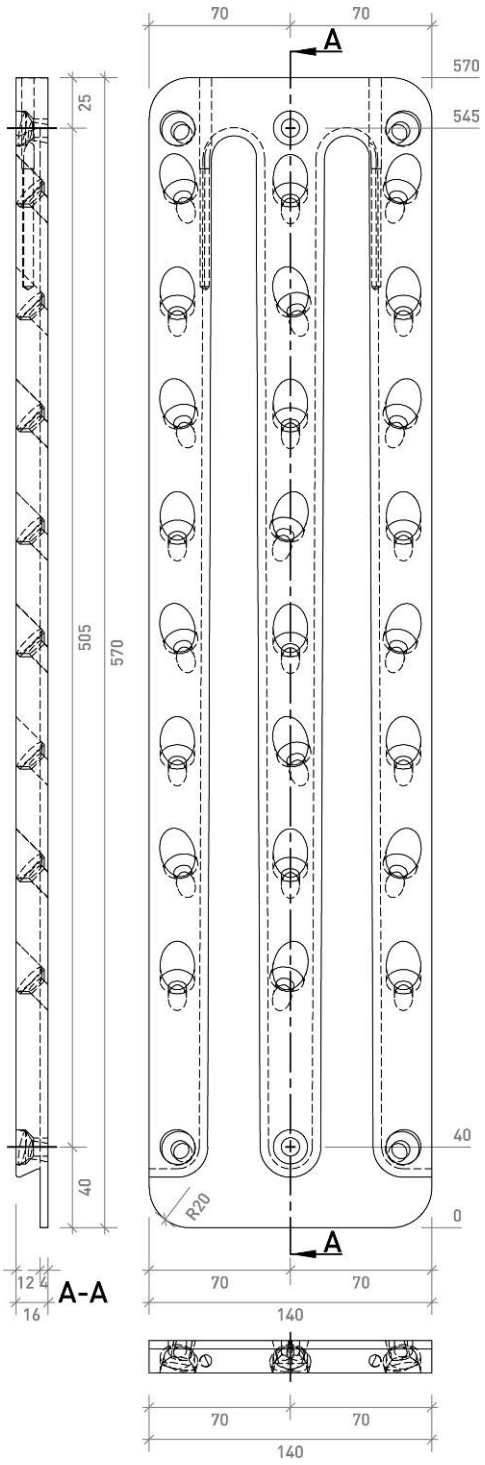
Dimensions in mm

Sherpa – XXL CS	Annex 2
Product details definitions: Type XXL 250 CS 29/140/530 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



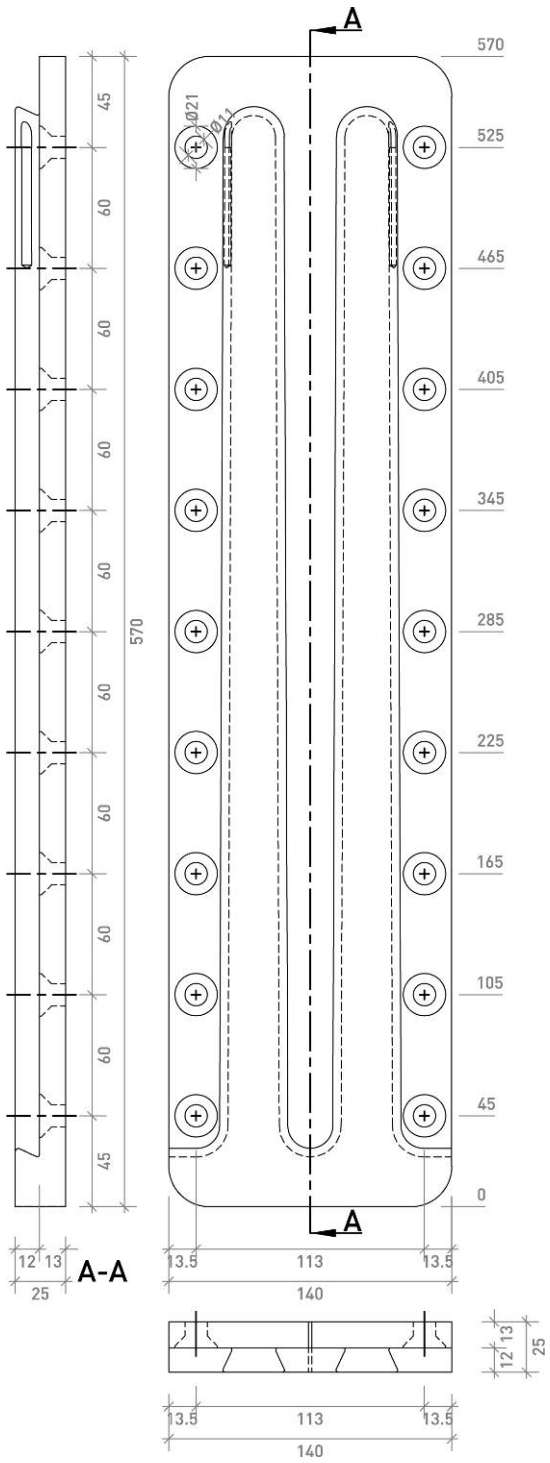
Dimensions in mm

Sherpa – XXL	Annex 2
Product details definitions: Type XXL 280 20/140/570 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



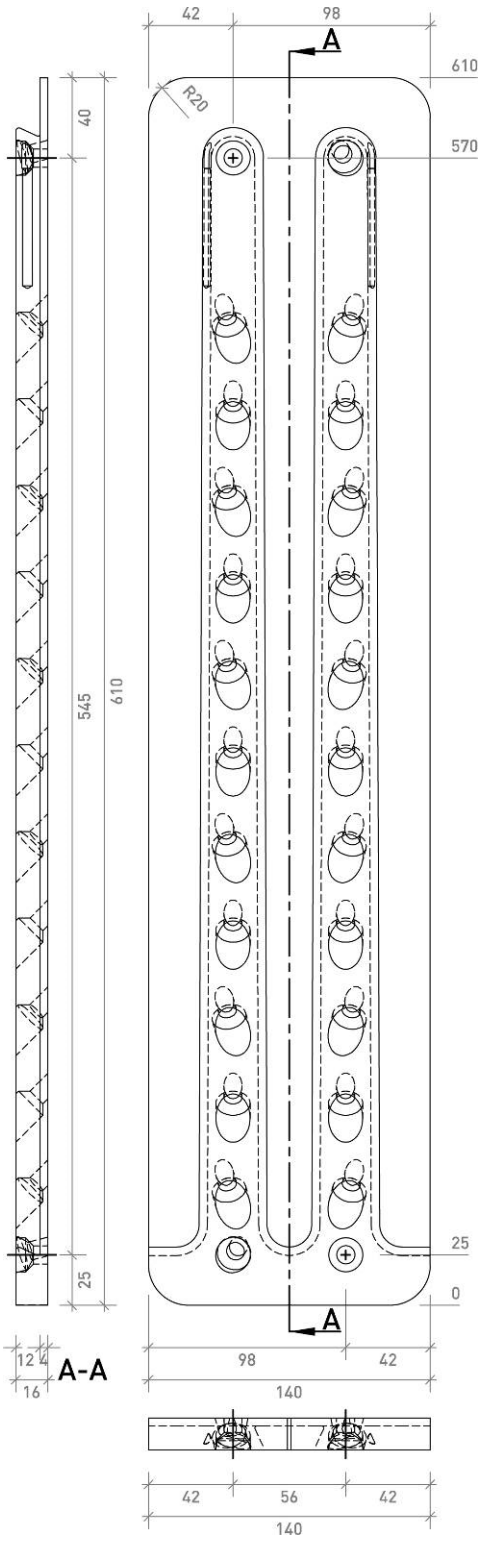
Dimensions in mm

Sherpa – XXL	Annex 2
Product details definitions: Type XXL 280 20/140/570 Mounting: secondary beam	of European Technical Assessment ETA-12/0067 of 08.02.2022



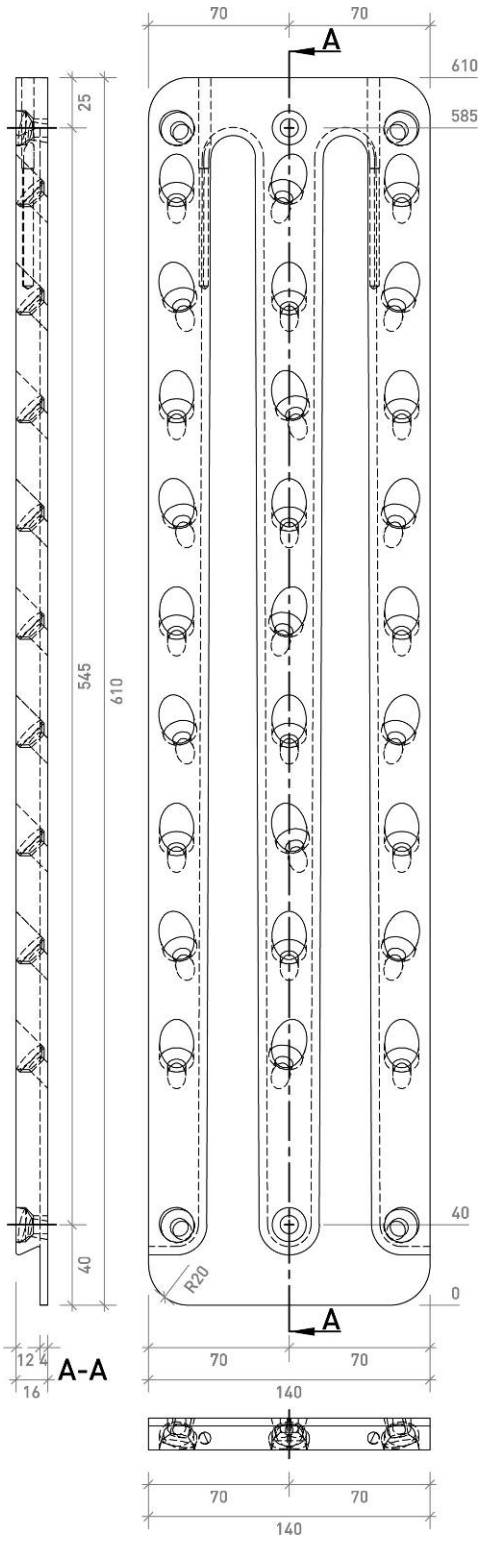
Dimensions in mm

Sherpa – XXL CS	Annex 2
Product details definitions: Type XXL 280 CS 29/140/570 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



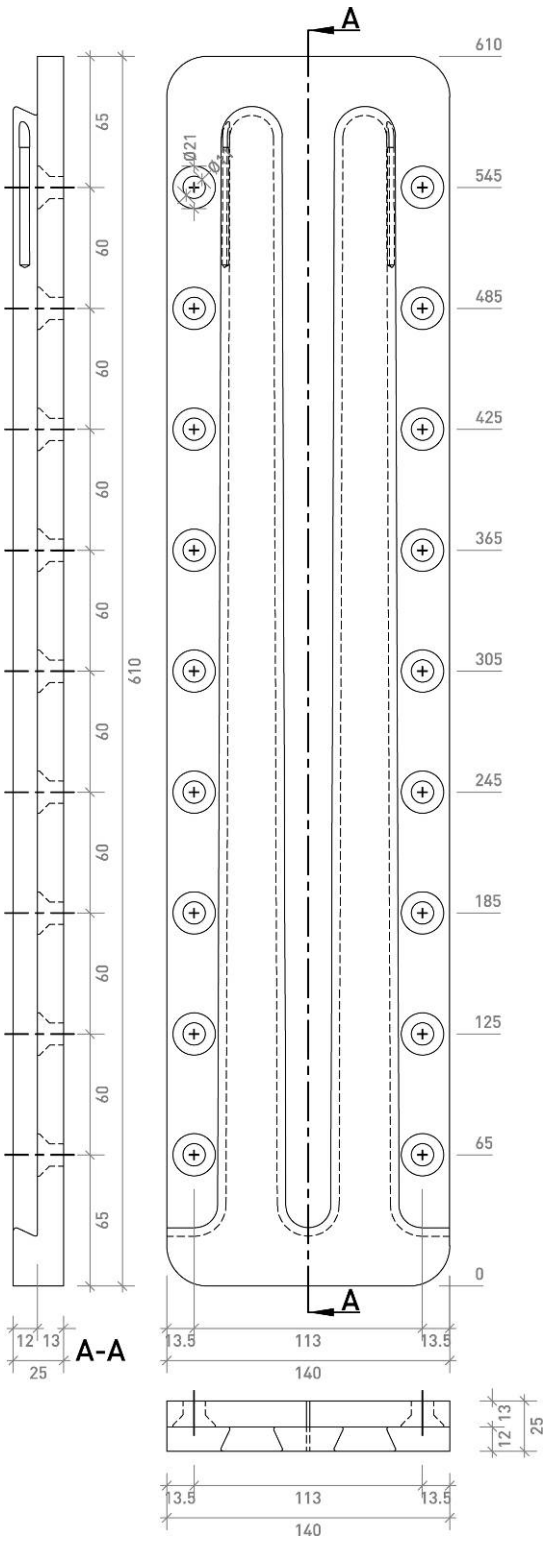
Dimensions in mm

Sherpa – XXL	Annex 2
Product details definitions: Type XXL 300 20/140/610 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022



Dimensions in mm

Sherpa – XXL	Annex 2 of European Technical Assessment ETA-12/0067 of 08.02.2022
Product details definitions: Type XXL 300 20/140/610 Mounting: secondary beam	

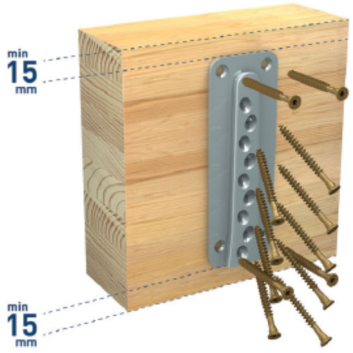


Dimensions in mm

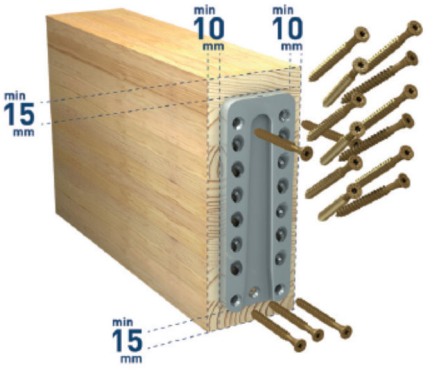
Sherpa – XXL CS	Annex 2
Product details definitions: Type XXL 300 CS 29/140/610 Mounting: main beam or column	of European Technical Assessment ETA-12/0067 of 08.02.2022

Series XS, S, M, L, XL and XXL – Option 1

Side grain – face mounted

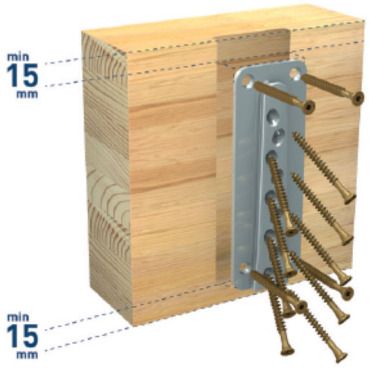


End grain – face mounted

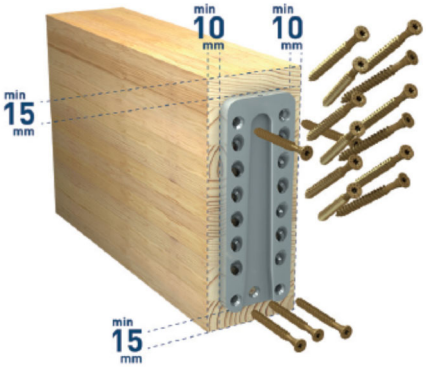


Series XS, S, M, L, XL and XXL – Option 2

Side grain - milled

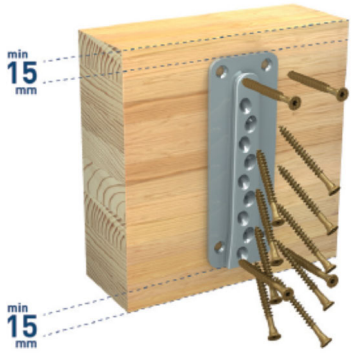


End grain – face mounted

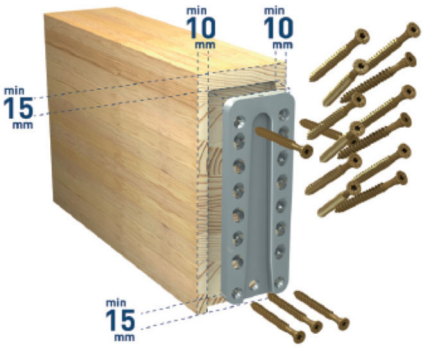


Series XS, S, M, L, XL and XXL – Option 3

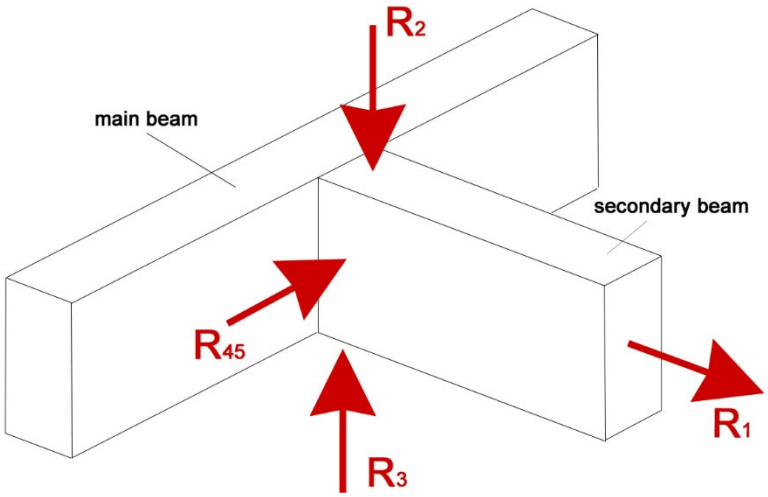
Side grain – face mounted



End grain – milled



Sherpa – XS, S, M, L ,XL and XXL	Annex 3
Typical installation of beam hanger	of European Technical Assessment ETA-12/0067 of 08.02.2022



Wooden structural components

Solid timber of softwood of strength class C24 or better according to EN 338 and EN 14081-1,

Glued laminated timber and glued solid timber of softwood of strength class GL24h or better according to EN 14080 or glued laminated timber of hardwood according to European Technical Assessments or national provisions that apply on the installation site,

Laminated veneer lumber LVL according to EN 14374 or according to European Technical Assessments or national provisions that apply on the installation site,

Cross laminated timber according to European Technical Assessments or national standards and regulations in force at the place of use.

Strand lumber (e.g. Laminated Strand Lumber - Intrallam, Parallalel Strand Lumber - Parallam) according to European Technical Assessments or national standards and regulations in force at the place of use.

The main beam may also be of concrete or steel.

Forces and their directions

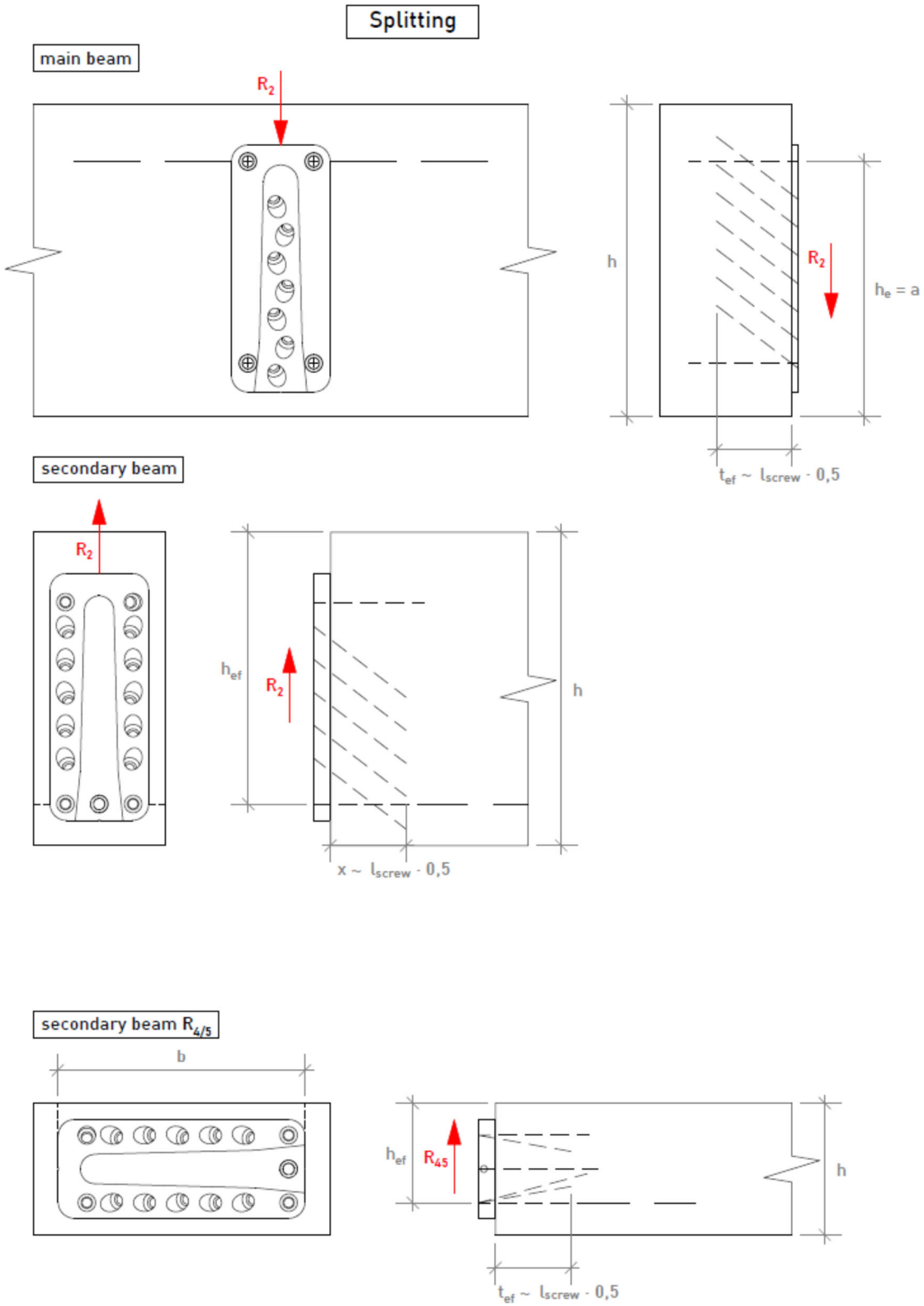
R_2 Force acting in direction of insertion. The members shall be prevented from rotation or the eccentric loading, Annex 5, has to be considered.

R_{45} Force acting perpendicular to direction of insertion. The members shall be prevented from rotation or the eccentric loading, Annex 5, has to be considered.

R_1 Force acting in direction of secondary beam.

R_3 Force acting against direction of insertion. The members shall be prevented from rotation or the eccentric loading, Annex 5, has to be considered.

Sherpa – XS, S, M, L ,XL and XXL	Annex 4
Definition of forces and their directions as well as splitting	of European Technical Assessment ETA-12/0067 of 08.02.2022



Sherpa – XS, S, M, L ,XL and XXL	Annex 4
Definition of forces and their directions as well as splitting	of European Technical Assessment ETA-12/0067 of 08.02.2022

Product	Dimensions H/B/L	Characteristic load bearing capacity			
		$R_{2,k,C24}$	$R_{45,k,C24}$	$R_{1,k,C24}$	$R_{1,k,max}$
	mm	kN	kN	kN	kN
Type XS 5	12/30/50	5.1	3.2	3.6	4.0
Type XS 10	12/30/70	9.6	5.0	6.7	7.0
Type XS 15	12/30/90	11.7	5.9	8.2	8.5
Type XS 20	12/30/110	15.9	6.8	11.2	11.5
Type S 5	12/40/50	5.1	3.2	3.6	4.0
Type S 10	12/40/70	9.6	5.0	6.7	7.0
Type S 15	12/40/90	11.7	5.9	8.2	8.5
Type S 20	12/40/110	15.9	6.8	11.2	11.5

Product	Characteristic load bearing capacity			
	$R_{tor,k,C24}$	e_{grenz}	e_2	e_{45}
	kNmm	mm	mm	mm
Type XS 5	59	0	36.1	33.5
Type XS 10	117	8.3	18.9	21.3
Type XS 15	176	12.5	19.4	18.1
Type XS 20	246	16.3	19.6	15.7
Type S 5	66	0	36.1	44.2
Type S 10	128	8.3	18.9	28.2
Type S 15	187	12.5	19.4	23.9
Type S 20	258	16.3	19.6	20.7

Product	Slip modulus $K_{2,ser}$ [1)]	Slip modulus $K_{45,ser}$ [1)]	Torsion modulus $K_{2,\varphi,ser}$ [1)]	Slip modulus $K_{1,ser}$ [1)]
	kN/mm	N/mm	kNm/rad	kN/mm
Type S and XS	$K_{2,ser} = \frac{R_{2,k}}{1.00}$	$K_{45,ser} = \frac{R_{45,k}}{1.25}$	$K_{2,\varphi,ser} = 175 \cdot R_{2.k} \cdot e_2$	$K_{1,ser} = \frac{R_{1,k}}{0.75}$

[1)] for calculation of serviceability. For calculation of the load bearing capacity $K_{2,u}$=2/3 $K_{2,ser}$, $K_{45,u}$=2/3 $K_{45,ser}$ and $K_{2,\varphi,u}$ =2/3 $K_{2,\varphi,ser}$ are used.

Sherpa – XS and S	Annex 5
Characteristic load bearing capacities	of European Technical Assessment ETA-12/0067 of 08.02.2022

Product	Dimensions H/B/L	Characteristic load bearing capacity [1]			
		$R_{2,k,C24}$ [2]	$R_{45,k,C24}$	$R_{1,k,C24}$ [2]	$R_{1,k,max}$
	mm	kN	kN	kN	kN
Type M 15	14/60/90	12.1	8.1	8.5	9.0
Type M 20	14/60/110	19.2	9.6	13.5	14.0
Type M 25	14/60/130	22.7	11.2	15.9	16.5
Type M 30	14/60/150	26.0	12.8	18.3	18.5
Type M 40	14/60/170	32.6	14.3	22.9	23.0

[1] Characteristic load bearing capacity for screw length l = 65 mm. The char. load bearing capacity can be multiplied by the screw length factor n_s = 1.40 for screw lengths l = 85 mm or by the screw length factor n_s = 1.80 for screw lengths l = 105 mm.

[2] Screws 6.5x65 and 6.5x85 may be used in hardwood.

Product	Characteristic load bearing capacity [1]			
	$R_{tor,k,C24}$	e_{grenz}	e_2	e_{45}
	kNmm	Mm	mm	mm
Type M 15	271	10.0	32.3	50.5
Type M 20	379	13.3	28.4	42.3
Type M 25	505	16.7	26.5	36.4
Type M 30	651	20.0	25.3	31.9
Type M 40	813	23.3	24.5	28.4

Product	Slip modulus $K_{2,ser}$ [3]	Slip modulus $K_{45,ser}$ [3]	Torsion modulus $K_{2,\varphi,ser}$ [3]	Slip modulus $K_{1,ser}$ [3]
	kN/mm	N/mm	kNm/rad	N/mm
Type M	$K_{2,ser} = \frac{R_{2,k}}{1.50}$	$K_{45,ser} = \frac{R_{45,k}}{1.75}$	$K_{2,\varphi,ser} = 200 \cdot R_{2.k} \cdot e_2$	$K_{1,ser} = \frac{R_{1,k}}{1.00}$

[3] for calculation of serviceability. For calculation of the load bearing capacity $K_{2,u}$=2/3 $K_{2,ser}$, $K_{45,u}$=2/3 $K_{45,ser}$ and $K_{2,\varphi,u}$ =2/3 $K_{2,\varphi,ser}$ are used.

Sherpa – M	Annex 5
Characteristic load bearing capacities	of European Technical Assessment ETA-12/0067 of 08.02.2022

Product	Dimensions H/B/L	Characteristic load bearing capacity [1]			
		$R_{2,k,C24}$ [2]	$R_{45,k,C24}$	$R_{1,k,C24}$ [2]	$R_{1,k,max}$
	mm	kN	kN	kN	kN
Type L 30	18/80/150	29.4	14.7	20.7	21.0
Type L 40	18/80/170	36.0	17.5	25.2	25.5
Type L 50	18/80/210	42.4	20.4	29.8	30.0
Type L 60	18/80/250	54.9	23.2	38.5	39.0
Type L 80	18/80/290	67.1	26.0	47.1	47.5
Type L 100	18/80/330	79.1	28.9	55.5	56.0
Type L 120	18/80/370	90.8	31.7	60.0	60.0

[1] Characteristic load bearing capacity for screw length l = 100 mm. The char. load bearing capacity can be multiplied by the screw length factor n_s = 1.25 for screw lengths l = 120 mm or by the screw length factor n_s = 1.49 for screw lengths l = 140 mm.

[2] Screws 8.0x100 and 8.0x120 may be used in hardwood.

Product	Characteristic load bearing capacity [1]			
	$R_{tor,k,C24}$	e_{grenz}	e_2	e_{45}
	kNmm	mm	mm	mm
Type L 30	774	16.7	31.7	21
Type L 40	1 036	20.0	30.4	22
Type L 50	1 467	28.0	33.6	17
Type L 60	1 970	34.3	31.4	14
Type L 80	2 537	40.7	30.0	12
Type L 100	3 175	47.3	29.2	10
Type L 120	3 884	53.8	28.5	9

Product	Slip modulus $K_{2,ser}$ [3]	Slip modulus $K_{45,ser}$ [3]	Torsion modulus $K_{2,\varphi,ser}$ [3]	Slip modulus $K_{1,ser}$ [3]
	kN/mm	N/mm	kNm/rad	N/mm
Type L	$K_{2,ser} = \frac{R_{2,k}}{2.00}$	$K_{45,ser} = \frac{R_{45,k}}{2.00}$	$K_{2,\varphi,ser} = 275 \cdot R_{2,k} \cdot e_2$	$K_{1,ser} = \frac{R_{1,k}}{2.50}$

[3] for calculation of serviceability. For calculation of the load bearing capacity $K_{2,u}$=2/3 $K_{2,ser}$, $K_{45,u}$=2/3 $K_{45,ser}$ and $K_{2,\varphi,u}$ =2/3 $K_{2,\varphi,ser}$ are used.

Sherpa – L	Annex 5
Characteristic load bearing capacities	of European Technical Assessment ETA-12/0067 of 08.02.2022

Product	Dimensions H/B/L	Characteristic load bearing capacity [1]			
		$R_{2,k,C24}$ [2]	$R_{45,k,C24}$	$R_{1,k,C24}$ [2]	$R_{1,k,max}$
	mm	kN	kN	kN	kN
Type XL 55	20/120/250	53.3	26.5	35.9	60.0
Type XL 70	20/120/290	65.2	30.7	51.7	
Type XL 80	20/120/330	76.8	34.9	58.3	
Type XL 100	20/120/370	88.2	34.9	59.4	
Type XL 120	20/120/410	110.6	39.2	60.0	
Type XL 140	20/120/450	121.6	43.4	60.0	
Type XL 170	20/120/490	143.3	47.6	60.0	
Type XL 190	20/120/530	164.6	51.9	60.0	
Type XL 220	20/120/570	185.7	56.0	60.0	
Type XL 250	20/120/610	206.4	60.4	60.0	

[1] Characteristic load bearing capacity for screw length l = 160 mm. Load bearing capacity must be reduced for screw lengths l < 160 mm by factor (l-21)/139, with l in mm. The char. load bearing capacity can be multiplied by the screw length factor n_s = 1.13 for screw lengths l = 180 mm or by the screw length factor n_s = 1.25 for screw lengths l = 200 mm.

[2] Screws 8.0x120 may be used in hardwood.

Product	Characteristic load bearing capacity [1]			
	$R_{tor,k,C24}$	e_{grenz}	e_2	e_{45}
	kNmm	mm	mm	mm
Type XL 55	2 231	17.5	88.1	144
Type XL 70	2 971	25.0	71.0	120
Type XL 80	3 806	31.9	62.5	103
Type XL 100	4 750	43.1	71.8	103
Type XL 120	5 769	48.8	64.9	89.8
Type XL 140	6 882	54.8	60.3	79.8
Type XL 170	8 108	61.1	57.0	71.8
Type XL 190	9 450	67.5	54.6	65.3
Type XL 220	10 906	74.0	52.7	59.9
Type XL 250	12 478	80.4	51.2	55.3

Sherpa – XL	Annex 5
Characteristic load bearing capacities	of European Technical Assessment ETA-12/0067 of 08.02.2022

Product	Slip modulus $K_{2,ser}$ [3]	Slip modulus $K_{45,ser}$ [3]	Torsion modulus $K_{2,\varphi,ser}$ [3]
	kN/mm	N/mm	kNm/rad
Type XL	$K_{2,ser} = \frac{R_{2,k}}{3.00}$	$K_{45,ser} = \frac{R_{45,k}}{5.00}$	$K_{2,\varphi,ser} = 100 \cdot R_{2.k} \cdot e_2$

[3] for calculation of serviceability. For calculation of the load bearing capacity $K_{2,u}$=2/3 $K_{2,ser}$, $K_{45,u}$=2/3 $K_{45,ser}$ and $K_{2,\varphi,u}$ =2/3 $K_{2,\varphi,ser}$ are used.

Sherpa – XL	Annex 5
Characteristic load bearing capacities	of European Technical Assessment ETA-12/0067 of 08.02.2022

Product	Dimensions H/B/L	Characteristic load bearing capacity [1]			
		$R_{2,k,C24}$ [2]	$R_{45,k,C24}$	$R_{1,k,C24}$ [2]	$R_{1,k,max}$
	mm	kN	kN	kN	kN
Type XXL 100	20/140/290	76.8	30.6	51.7	60.0
Type XXL 120	20/140/330	99.5	37.0	60.0	
Type XXL 140	20/140/370	121.6	43.3	60.0	
Type XXL 170	20/140/410	143.3	49.8	60.0	
Type XXL 190	20/140/450	164.6	56.1	60.0	
Type XXL 220	20/140/490	185.7	62.5	60.0	
Type XXL 250	20/140/530	206.4	68.8	60.0	
Type XXL 280	20/140/570	226.9	68.8	60.0	
Type XXL 300	20/140/610	247.3	75.2	60.0	

[1] Characteristic load bearing capacity for screw length l 160 mm. Load bearing capacity must be reduced for screw lengths l < 160 mm by factor (l-21)/139, with l in mm. The char. load bearing capacity can be multiplied by the screw length factor n_s = 1.13 for screw lengths l = 180 mm or by the screw length factor n_s = 1.25 for screw lengths l = 200 mm.

[2] Screws 8.0x120 may be used in hardwood.

Product	Characteristic load bearing capacity [1]			
	$R_{tor,k,C24}$	e_{grenz}	e_2	e_{45}
	kNmm	mm	mm	mm
Type XXL 100	3 448	36.7	84.6	123.2
Type XXL 120	4 460	41.7	74.7	98.5
Type XXL 140	5 700	47.5	68.8	82.1
Type XXL 170	7 079	53.7	64.9	70.4
Type XXL 190	8 660	60.0	60.3	61.6
Type XXL 220	10 381	66.4	57.1	54.7
Type XXL 250	12 308	72.9	54.6	49.3
Type XXL 280	13 415	79.4	59.3	49.3
Type XXL 300	15 568	86.0	56.9	44.8

Sherpa – XXL	Annex 5
Characteristic load bearing capacities	of European Technical Assessment ETA-12/0067 of 08.02.2022

Product	Slip modulus $K_{2,ser}$ [3)]	Slip modulus $K_{45,ser}$ [3)]	Torsion modulus $K_{2,\varphi,ser}$ [3)]
	N/mm	N/mm	kNm/rad
Type XXL	$K_{2,ser} = \frac{R_{2,k}}{3.00}$	$K_{45,ser} = \frac{R_{45,k}}{5.00}$	$K_{2,\varphi,ser} = 100 \cdot R_{2.k} \cdot e_2$

[3)] for calculation of serviceability. For calculation of the load bearing capacity $K_{2,u}$=2/3 $K_{2,ser}$, $K_{45,u}$=2/3 $K_{45,ser}$ and $K_{2,\varphi,u}$ =2/3 $K_{2,\varphi,ser}$ are used.

Sherpa – XXL	Annex 5
Characteristic load bearing capacities	of European Technical Assessment ETA-12/0067 of 08.02.2022

General

The characteristic load bearing capacities of the beam hanger connections are given for C24. For timber or wood based members with a deviating density the characteristic load bearing capacities of solid wood C24 shall be multiplied by the factor

$k_{dens} = k_{sys}\left(\frac{\rho_k}{350}\right)^{0.8}$ for R_1 and R_2 applied in softwood (max. density ρ_k = 440 kg/m³)

$k_{dens} = \left(\frac{\rho_k}{350}\right)^{k_\rho}$ for R_1 and R_2 applied in hardwood

$k_{dens} = \left(\frac{\rho_k}{350}\right)^{0.5}$ for R_{45} (overall) and R_{tor} (except XL 55, XL 70, XL 80)

$k_{dens} = k_{sys}\left(\frac{\rho_k}{350}\right)^{0.5}$ for R_{tor} for XL 55, XL 70, XL 80

Where

k_{dens} .... Factor to consider deviating densities

ρ_k ..... Characteristic density of timber in kg/m³

k_{sys} ..... Factor considering system effect: k_{sys}= 1 for solid wood and k_{sys}= 1.15 for glued laminated timber

k_ρ ..... Factor considering the wood species of the base material

Wood species		k_ρ
Ring porous hardwood	e.g. chestnut, oak, ash	1.4
Diffuse porous hardwood	e.g. poplar, birch, beech	1.7

Loading against direction of insertion (with applied lift-lock)

For the case of an applied lift-lock and loading against direction of insertion, the following values need to be considered:

Sherpa	$R_{3,k}$
	kN
Type XS	3.76
Type S	5.67
Type M	8.95
Type L	17.5
Type XL	40.6
Type XXL	

Sherpa – XS, S, M, L ,XL and XXL	Annex 5
Characteristic load bearing capacities	of European Technical Assessment ETA-12/0067 of 08.02.2022

Characteristic load bearing capacity for eccentric loading

For the case that main beam or column can not prevented from rotation in a satisfying way or are arranged rotatable according to plan, the characteristic load bearing capacity shall be calculated as follows:

For $e \le e_{grenz}$: $R'_{2,k} = R_{2,k}$ and $R'_{3,k} = R_{3,k}$ (when a lift lock is applied)

For $e > e_{grenz}$: $R'_{2,k} = \dfrac{R_{2,k}}{\left[1+\left(\dfrac{e-e_{grenz}}{e_2}\right)^3\right]^{\frac{1}{3}}}$ and $R'_{3,k} = \dfrac{R_{3,k}}{\left[1+\left(\dfrac{e-e_{grenz}}{e_2}\right)^3\right]^{\frac{1}{3}}}$ (when a lift lock is applied)

$$R'_{45,k} = \frac{R_{45,k}}{\left[1+\left(\dfrac{e}{e_{45}}\right)^3\right]^{\frac{1}{3}}}$$

With

e … Distance between mid-plane of beam hanger and support axis of main beam (or rather column axis) in m. For e > 0,2 m additional arrangements for limiting moment interaction need to be done.

Combined loading

For combined loading, the following needs to be valid

$$\left(\frac{A_{1,d}}{R_{1,d}}\right)^2 + \left(\frac{A_{23,d}}{R_{23,d}}\right)^2 + \left(\frac{A_{45,d}}{R_{45,d}}\right)^2 + \left(\frac{A_{tor,d}}{R_{tor,d}}\right)^2 \le 1$$

with

$R_{1,d}$ … Design values of load bearing capacity for loading in axis of secondary beam

$R_{23,d}$ … Design value of load bearing capacity for loading in and against direction of insertion

$R_{45,d}$… Design value of load bearing capacity for loading perp. to the direction of insertion

$R_{tor,d}$…Design values of load bearing capacity for loading in torsion

$A_{1,d}, A_{23,d}, A_{45,d}, A_{tor,d}$…Design values of stress in direction of insertion, perpendicular to direction of insertion and in axial direction of the secondary beam and torsion

Sherpa – XS, S, M, L ,XL and XXL	Annex 5
Characteristic load bearing capacities	of European Technical Assessment ETA-12/0067 of 08.02.2022

Timber to concrete or timber to steel connections with suitable fasteners – torsionally restrained main beam or column

Loading in direction of insertion:

$$R_{2,k} = \min\begin{cases} R_{2,NT,k} \\ R_{2,HT,k} \end{cases}$$

$$R_{2,HT,k} = n_{90,HT} \cdot F_{la,HT,Rk}$$

With

$R_{2,NT,k}$ … according to Annex 5

$n_{90,HT}$ … Number of fasteners perpendicular to the connector plate

$F_{la,HT,Rk}$ … Lateral capacity of fastener

Sherpa – XS, S, M, L ,XL and XXL	Annex 5
Characteristic load bearing capacities for timber to concrete or timber to steel connections	of European Technical Assessment ETA-12/0067 of 08.02.2022

Classification for beam hanger type M, L, XL and XXL in solid wood and glued laminated timber

- milled into the wood-based members with a joint width ≤ 5 mm or
- with a joint provided with a penetration seal type PROMASEAL®-PL or SHERPA Fire Stop according to ETA-18/0198 and a minimum width

t in min	Minimum width of penetration seal in mm	
	Option 1	Option 2
30	1 x 20	-
60	2 x 20	1 x 40
90	3 x 20	1 x 60
120	4 x 20	1 x 80

- with a minimum screw length of 100 mm for R90 and R120
- valid for conversion factors η = 0.44 or rather η = 0.33 according to EN 1995-1-2
- and increase of the minimum cross section or rather wood covering according to the following Table

t in min	Sherpa series	Prevented from rotation $e \le e_{grenz}$				Not prevented from rotation $e > e_{grenz}$			
		η = 0.44		η = 0.33		η = 0.44		η = 0.33	
		$+a_1$ [1)]	$+a_3$ [2) 3)]	$+a_1$ [1)]	$+a_3$ [2) 3)]	$+a_1$ [1)]	$+a_3$ [2)]	$+a_1$ [1)]	$+a_3$ [2)]
		mm	mm	mm	mm	mm	mm	mm	Mm
30	M	20	30	10	20	20	40	10	30
	L	10	30	10	20	10	40	10	30
	XL	10	20	5	20	10	20	5	20
	XXL	10	20	5	20	10	40	5	30
60	M	50	50	40	40	50	60	40	50
	L	40	50	30	40	40	60	30	50
	XL	40	40	30	40	40	50	30	40
	XXL	40	40	30	40	40	60	30	60
90	M	70	80	60	70	70	90	60	80
	L	60	80	50	70	70	80	60	70
	XL	60	70	50	60	60	80	50	70
	XXL	60	60	50	60	60	100	50	90

Sherpa – S, M, L ,XL and XXL	Annex 6
Resistance to fire	of European Technical Assessment ETA-12/0067 of 08.02.2022

t in min	Sherpa series	Prevented from rotation $e \le e_{grenz}$				Not prevented from rotation $e > e_{grenz}$			
		η = 0.44		η = 0.33		η = 0.44		η = 0.33	
		$+a_1$ [1)]	$+a_3$ [2) 3)]	$+a_1$ [1)]	$+a_3$ [2) 3)]	$+a_1$ [1)]	$+a_3$ [2)]	$+a_1$ [1)]	$+a_3$ [2)]
		mm	mm	mm	mm	mm	mm	mm	Mm
120	M	100	100	80	100	100	110	80	110
	L	90	90	80	80	100	100	80	90
	XL	80	100	70	90	90	90	80	80
	XXL	80	90	70	90	90	110	80	100

1) Additional wood covering on the lateral edges of the beam relating to the minimum cross section, see EN 1995-1-2.

2) Additional wood covering on the bottom edge of the beam relating to the minimum cross section, see EN 1995-1-2.

3) For members prevented from rotation and connected with Sherpa types M, L, XL and XXL (except Sherpa types M15, M20, L30, L40, XL55, XL70, XXL100, XXL 120 or XXL140) a 10 mm reduction of the values $+a_3$ given in the Table above is possible.

For unilateral connections, it must be ensured that the minimum distance between the screw tips and the wooden surface on the back side of the main beam or the column is at least equal to the distance a_3 of the secondary beam.

For connections in columns, it must be ensured that the wood covering on the lateral edges a_1 corresponds to that of the secondary beam at least.

In case of members not prevented from rotation, the load-bearing capacity must be reduced according to Annex 5.

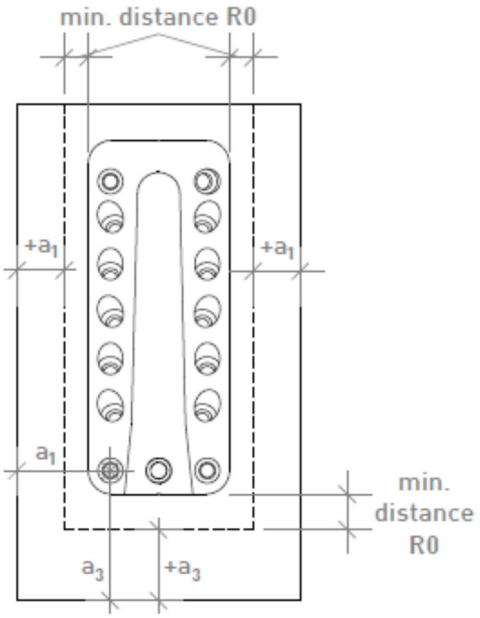
NOTE: For the specific determination of the eccentricity e it is recommended to take into account the reduced system stiffness in case of fire.

In case of members prevented from rotation, it must be ensured that this boundary condition does not change during the entire duration of the fire. Otherwise, the connection must be treated like a connection with members not prevented from rotation in case of fire.

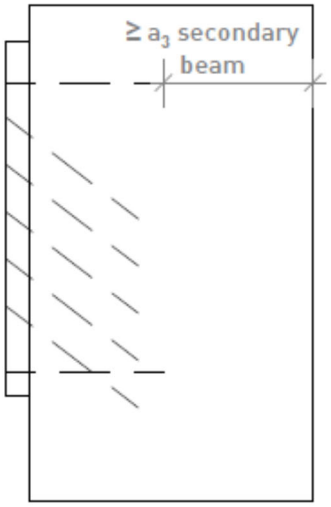
In case of applied fire protection coating Promadur alias SHERPA Fire Shield
- with a minimum applied quantity of 1245 g/m²
- on all fire-exposed sides of the secondary beam and
- over a length of at least 30 cm, measured from the connector joint

a 10 mm reduction of the wood coverings given in in the Table above is possible. This reduction is possible regardless of the storage conditions.

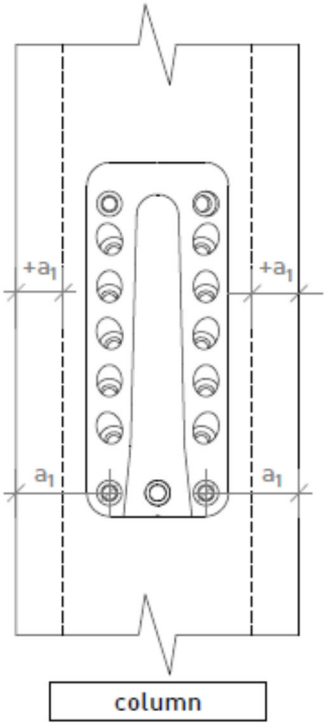
Sherpa – S, M, L ,XL and XXL	Annex 6
Resistance to fire	of European Technical Assessment ETA-12/0067 of 08.02.2022



secondary beam



Unilateral connection
main beam / column



column

Sherpa – S, M, L ,XL and XXL	Annex 6
Resistance to fire	of European Technical Assessment ETA-12/0067 of 08.02.2022

European Assessment Document EAD 130186-00-0603 “Three-dimensional nailing plates”

European Technical Assessment ETA-18/0198 of 20.06.2018 for „PROMASEAL®-PL“ of Etex Building Performance NV, Bormstraat 24, 2830 Tisselt, Belgium.

European Technical Assessment ETA-12/0373 of 23.12.2020 for „Schmid screws RAPID®, StarDrive GPR, StarDrive and SP“ of Schmid Schrauben Hainfeld GmbH, Landstal 10, 3170 Hainfeld, Austria.

EN 338 (04.2016), Structural timber – Strength classes

EN 755-2 (03.2016), Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Part 2: Mechanical properties

EN 1995-1-1 (11.2004), +AC (06.2006), +A1 (06.2008), +A2 (05.2014), Eurocode 5 – Design of timber structures - Part 1-1: General – Common rules and rules for buildings

EN 1995-1-2 (11.2004) +AC (06.2006) +AC (03.2009), Eurocode 5 – Design of timber structures – Part 1 1: General – Structural fire design

EN 14080 (06.2013), Timber structures – Glued laminated timber and glued solid timber – Requirements

EN 14081-1:2016+A1 (08.2019), Timber structures – Strength graded structural timber with rectangular cross section – Part 1: General requirements

EN 14374 (11.2004), Timber structures – Structural laminated veneer timber – Requirements

EN 1992: Eurocode 2: Design of concrete structures

EN 1993, Eurocode 3: Design of steel structures

EN 1999, Eurocode 9: Design of aluminium structures