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European Technical Assessment Body  
for construction products



## European Technical Assessment

## ETA-25/1023 of 16 December 2025

English translation prepared by DIBt - Original version in German language

### General Part

Technical Assessment Body issuing the  
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

LIFE LINE SYSTEM BR6 and BR8

Product family  
to which the construction product belongs

HORIZONTAL ROPE KITS FOR PERSONAL FALL  
PROTECTION

Manufacturer

Sicherheitskonzepte Breuer GmbH  
Broekhuysener Straße 40  
47638 Straelen  
DEUTSCHLAND

Manufacturing plant

Sicherheitskonzepte Breuer GmbH  
Broekhuysener Straße 40  
47638 Straelen  
DEUTSCHLAND

This European Technical Assessment  
contains

36 pages including 31 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

EAD 331575-00-0602

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**Specific part**

**1 Technical description of the product**

The rope kits BR6 and BR8 are specially designed and engineered for fastening and guiding of personal fall protection equipment to arrest persons during a fall from heights. The connection is done via a glider or a steel karabiner according to EN 362. When using special rope gliders, the intermediate anchorages and curves can be slid over. When the connection is done using a steel carabiner the intermediate anchorages and curves are not passable.

The rope gliders are not part of this ETA but part of the personal protective equipment against falls from a height in accordance with Regulation (EU) 2016/425.

The resistance of the rope kits is not relevant for permanent load but instead for the ultimate load under instantaneous actions. The rope kits feature a stranded rope with terminations that give the kits the connection to the supporting structure or to specific anchor points. Internal supports of the rope without or with rope redirection (using curves) are possible.

This ETA also comprises the terminations, internal supports, curves (internal support with redirection of the rope by more than 15°), dampers or turnbuckles that are used with the ropes. Together they define the rope kit.

The fasteners used for connecting the terminations or internal supports to the supporting structure or to specific anchor points for fastening of personal fall protection equipment or the anchor points for fastening of personal fall protection equipment itself are not covered by this EAD.

All components of the rope kits are made of stainless steel, with partial additions in aluminium (aluminium clamps in the rope clamps).

This ETA includes the products listed in the following Table 1:

**Table 1: Products of this ETA**

<b>Annex No.</b>	<b>Trade Name (Product of this ETA)</b>	<b>Components included</b>
<b>A1-A7 B1-B4 C1-C5 C11-C16</b>	<b>BR6</b>	<ul style="list-style-type: none"> <li>- Force absorber</li> <li>- chain quick-release</li> <li>- tensioning element</li> <li>- intermediate supports</li> <li>- curved supports</li> <li>- fork terminal 1 - 6 mm</li> <li>- fork terminal 2 - 6 mm</li> <li>- rope clamp type A – 6 mm</li> <li>- fork terminal with turnbuckle 1 - 6 mm</li> <li>- fork terminal with turnbuckle 2 - 6 mm</li> </ul>
<b>A1-A7 B5-B8 C6-C16</b>	<b>BR8</b>	<ul style="list-style-type: none"> <li>- Force absorber</li> <li>- chain quick-release</li> <li>- tensioning element</li> <li>- intermediate supports</li> <li>- curved supports</li> <li>- fork terminal 1 - 8 mm</li> <li>- fork terminal 2 - 8 mm</li> <li>- rope clamp type A – 8 mm</li> <li>- fork terminal with turnbuckle 1 - 8 mm</li> <li>- fork terminal with turnbuckle 2 - 8 mm</li> </ul>

The components and the system setup of the product are given in Annex (B1-C16)

## 2 Specification of the intended use in accordance with the applicable EAD 331575-00-0602

### 2.1 Intended use(s)

The lifeline systems for fastening personal fall protection equipment are intended to be used, fastened or inserted directly on supporting structures (using anchors for connections to concrete structures, bolts or welds for connections to steel structures etc.) or indirectly via specific anchor points for fastening of personal fall protection equipment.

The pretensioned rope is intended to be mounted at an angle of up to 10% from the horizontal and in cases where the roof pitch does not exceed 10% for roof-parallel systems.

The rope kits in conjunction with personal fall protection equipment are used to protect operators working at height, by arresting them in a fall. The operators attach themselves to the rope using, e.g., gliders, ropes and steel carabiners.

In the case of a fall the personal protection equipment that is attached to the rope kits prevents physical damage to the operator, assuming the correct usage. The products are designed for use in all areas of industry, construction and maintenance. The intended use of the rope kits covers only one loading and an evaluation under permanent loading or application of modification factors for the load duration is therefore not expedient.

### 2.2 Working life/Durability

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the fall protection system of at least 25 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

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 may also be shorter than the working life referred to above.

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

### 3.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1

### 3.2 Safety in case of use (BWR 4)

Essential characteristic	Performance
Static loading of individual components (terminations, internal supports, curves)	Level ( $N_{R,k}$ [kN]); see respective product in annex A3
Dynamic loading of the system	Level (maximum number of permitted users for each number of curves); see respective product in annex A4 and A6
Static loading of the system	Level ( $N_{R,k}$ [kN]) for each number of curves; see respective product in annex A4 and A6
action effects on the connections at terminations, internal supports, curves etc	Level ( $N_{E,d}$ [kN]), for each number of users and number of curves; see respective product in annex A4 to A6
Durability	Level (CRC); see respective product in annex A5 and A7

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

In accordance with EAD No. 331575-00-0602, the applicable European legal act is: Decision (EU) 2018/771

The system(s) to be applied is (are): 1+

### 5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 16 December 2025 by Deutsches Institut für Bautechnik

Dr.-Ing. Ronald Schwuchow  
Head of Section

*beglaubigt:*  
Hahn

This ETA includes the products listed in Table 1:

**Table 1: Product variants included in this ETA**

Annex	Tradename (Product in this ETA)	Substructure
B1-B4 C1-C5 C11-C16	BR6	anchor points or a rigid load-bearing substructure (directly without additional individual anchor point) with verification of anchoring in accordance with technical building regulations
B5-B8 C6-C16	BR8	

Annexes B1 to C16 show the components and the system setup of the products.

### Design values of actions

$$F_{Ed} = F_{Ek} \cdot \gamma_F$$

The recommended partial factor  $\gamma_F$  is 1,5.

The recommended partial factor is used in order to determine the corresponding design actions, provided no partial factor is given in national regulations or national Annexes to EN 1990. That leads to the following values:

Example:

For one User:  $F_{Ed} = F_{Ek} \cdot \gamma_F = 6 \text{ kN} \cdot 1,5 = 9 \text{ kN}$

For two Users:  $F_{Ed} = F_{Ek} \cdot \gamma_F = (6 + 1) \text{ kN} \cdot 1,5 = 10,5 \text{ kN}$

For three Users:  $F_{Ed} = F_{Ek} \cdot \gamma_F = (6 + 2) \text{ kN} \cdot 1,5 = 12 \text{ kN}$

For four Users:  $F_{Ed} = F_{Ek} \cdot \gamma_F = (6 + 3) \text{ kN} \cdot 1,5 = 13,5 \text{ kN}$

Horizontal rope kits for personal fall protection systems

Design Values

Annex A1

### Regulations for rope kit systems BR6 and BR8

The maximum rope length is 200 m. The free rope length (the distance between terminations, intermediate supports and curved supports) must be at least 2 m and a maximum of 10 m.

Only the intermediate supports and curved supports (intermediate support with redirection of the rope by more than 15°, according to Annex C14) in accordance with this ETA may be used for the guidance of the stainless steel wire rope. The use of alternative cable guides such as eyelets is not permitted.

In the case of a linear rope kit system without a curved support, as shown in Annex B1 for BR6 or Annex B5 for BR8, one force absorber (in accordance with Annex C11) must be attached to at least one termination.

If one or more curves are installed in the rope kit system, a force absorber (according to Annex C11) must be installed at both terminations, as shown in Annexes B2-B4 for rope kit system BR6 and Annexes B6-B8 for rope kit system BR8.

The maximum cable deflection in the event of a fall must be taken into account during planning.

**Table 2: installation torques for rope kit systems BR6 and BR8**

Component	Torque [Nm]	Comments
rope clamp type A - 6 mm clamping screws	27	nuts with non-metallic insert
fork terminal 1 - 6 mm	38	
fork terminal 2 - 6 mm	38	
fork terminal with turnbuckle 1 - 6 mm	38	
fork terminal with turnbuckle 2 - 6 mm	38	
rope clamp type A - 8 mm clamping screws	27	nuts with non-metallic insert
fork terminal 1 - 8 mm clamping nut	58	
fork terminal 2 - 8 mm clamping nut	58	
fork terminal with turnbuckle 1 - 8 mm clamping nut	58	
fork terminal with turnbuckle 2 - 8 mm clamping nut	58	
force absorber	-	Pre-assembled components
tensioning element	-	Pre-assembled components
intermediate support	30	with threadlocking adhesives
curved support	30	with threadlocking adhesives
joint connector	30	with threadlocking adhesives
chain quick-release	30	with threadlocking adhesives

Horizontal rope kits for personal fall protection systems

Life line System BR6 & BR8

Annex A2

The rope kit systems installed on the structure can be checked by visual inspection and by checking the installation torques in accordance with Table 2. Loading for the purpose of testing with test loads is not permitted on the structure.

### Static loading of individual components for the rope kit systems BR6 & BR8

Table 3: Product variants included in this ETA

Component	$F_{Rk}$ [kN]	$\gamma_M$	$F_{Rd}$ [kN]	Annex
rope clamp type A - 6 mm	17,4	1,50	11,6	C1
fork terminal 1 - 6 mm	16,8	1,50	11,2	C2
fork terminal 2 - 6 mm	16,8	1,50	11,2	C3
fork terminal with turnbuckle 1 - 6 mm	16,8	1,50	11,2	C4
fork terminal with turnbuckle 2 - 6 mm	16,8	1,50	11,2	C5
rope clamp type A - 8 mm	29,9	1,50	19,9	C6
fork terminal 1 - 8 mm	28,2	1,50	18,8	C7
fork terminal 2 - 8 mm	23,3	1,50	15,5	C8
fork terminal with turnbuckle 1 - 8 mm	28,2	1,50	18,8	C9
fork terminal with turnbuckle 2 - 8 mm	23,3	1,50	15,5	C10
force absorber	28,0	1,25	22,4	C11
tensioning element	40,0	1,25	32,0	C12
intermediate support	27,6	1,38	20,0	C13
curved support	33,1	1,38	24,0	C14
joint connector	40,0	1,25	32,0	C15
chain quick-release	40,0	1,25	32,0	-

#### The recommended partial factor

- $\gamma_M$  is 1,25 for components under tensile stress
- $\gamma_M$  is  $1,25/0,9=1,38$  for components under tensile stress, including welds and bolts
- $\gamma_M$  is 1,50 for steel ropes and rope end links

provided no partial factor is given in national regulations or national Annexes to EN 1993.

Horizontal rope kits for personal fall protection systems

Life line System BR6 & BR8

Annex A3

### Dynamic loading of the system BR6

four users

### Static loading of the system BR6

$$F_{R,d} = \frac{F_{R,k}}{\gamma_M} = \frac{20,3}{1,50} = 13,5 \text{ kN}$$

The recommended partial factor  $\gamma_M$  is 1,50, provided no partial factor is given in national regulations or national Annexes to EN 1993.

### Action effects on the connections at terminations, internal supports, curves etc. of the system BR6

The action effects on the connections at terminations, internal supports, curves of the rope kit system BR6 are shown in following Tables 4a-4c.

**Table 4a: Action effects on the connections at terminations and internal supports of a linear rope kit system BR6 without a curved support (Annex B1)**

Substructure	No. of users	Action effects on the connections at terminations and internal supports		
		$F_{Ek}$ [kN]	$\gamma_M$	$F_{Ed}$ [kN]
anchor points or rigid load-bearing substructure	1 to 2	5,5	1,50	8,3
	1 to 3	6,6	1,50	9,9
	1 to 4	7,4	1,50	11,1

**Table 4b: Action effects on the connections at terminations, internal supports and curves of a rope kit system BR6 with one curved support (Annex B2)**

Substructure	No. of users	Action effects on the connections at terminations and internal supports			Action effects on the connections at curves		
		$F_{Ek}$ [kN]	$\gamma_M$	$F_{Ed}$ [kN]	$F_{Ek}$ [kN]	$\gamma_M$	$F_{Ed}$ [kN]
anchor points or rigid load-bearing substructure	1 to 2	5,5	1,50	8,3	5,7	1,50	8,6
	1 to 3	6,6	1,50	9,9	6,6	1,50	9,9
	1 to 4	7,4	1,50	11,1	7,4	1,50	11,1

Horizontal rope kits for personal fall protection systems

Life line System BR6

Annex A4

**Table 4c: Action effects on the connections at terminations, internal supports and curves of a rope kit system BR6 with multiple curved supports (Annex B3-B4)**

Substructure	No. of users	Action effects on the connections at terminations and internal supports			Action effects on the connections at curves		
		$F_{Ek}$ [kN]	$\gamma_M$	$F_{Ed}$ [kN]	$F_{Ek}$ [kN]	$\gamma_M$	$F_{Ed}$ [kN]
anchor points or rigid load-bearing substructure	1 to 2	5,5	1,50	8,3	7,0	1,50	10,5
	1 to 3	6,6	1,50	9,9	8,0	1,50	12,0
	1 to 4	7,4	1,50	11,1	10,0	1,50	15,0

### Durability of the system BR6

CRC II<sup>a</sup> when the stainless steel wire rope acc. to EN 12385-4<sup>b</sup> is made of 1.4401 acc. to EN 10088-3<sup>c</sup>

CRC III<sup>a</sup> when the stainless steel wire rope acc. to EN 12385-4<sup>b</sup> is made of 1.4439 or 1.4539 acc. to EN 10088-3<sup>c</sup>

- |   |             |  |
|---|-------------|--|
| a | EN 1993-1-4 | Eurocode 3: Design of steel structures - Part 1-4: General rules - Supplementary rules for stainless steels  |
| b | EN 12385-4  | Steel wire ropes - Safety - Part 4: Stranded ropes for general lifting applications  |
| c | EN 10088-3  | Stainless steels - Part 3: Technical delivery conditions for semi-finished products, bars, rods, wire, sections and bright products of corrosion resistant steels for general purposes |

Horizontal rope kits for personal fall protection systems

Life line System BR6

Annex A5

### Dynamic loading of the system BR8

four users

### Static loading of the system BR8

$$F_{R,d} = \frac{F_{R,k}}{\gamma_M} = \frac{20,3}{1,50} = 13,5 \text{ kN}$$

The recommended partial factor  $\gamma_M$  is 1,50, provided no partial factor is given in national regulations or national Annexes to EN 1993.

### Action effects on the connections at terminations, internal supports, curves etc. of the system BR8

The action effects on the connections at terminations, internal supports, curves of the rope kit system BR8 are shown in following Tables 5a-5c.

**Table 5a: Action effects on the connections at terminations, internal supports and curves of a linear rope kit system BR8 without a curved support (Annex B5)**

Substructure	No. of users	Action effects on the connections at terminations and internal supports $F_{Ed}$ [kN]		
		$F_{Ek}$ [kN]	$\gamma_M$	$F_{Ed}$ [kN]
anchor points or rigid load-bearing substructure	1 to 2	5,7	1,50	8,6
	1 to 3	6,8	1,50	10,2
	1 to 4	7,7	1,50	11,5

**Table 5b: Action effects on the connections at terminations, internal supports and curves of a rope kit system BR8 with one curved support (Annex B6)**

Substructure	No. of users	Action effects on the connections at terminations and internal supports			Action effects on the connections at curves		
		$F_{Ek}$ [kN]	$\gamma_M$	$F_{Ed}$ [kN]	$F_{Ek}$ [kN]	$\gamma_M$	$F_{Ed}$ [kN]
anchor points or rigid load-bearing substructure	1 to 2	5,7	1,50	8,6	5,7	1,50	8,6
	1 to 3	6,8	1,50	10,2	6,8	1,50	10,2
	1 to 4	7,7	1,50	11,5	7,7	1,50	11,5

Horizontal rope kits for personal fall protection systems

Life line System BR8

Annex A6

**Table 5c: Action effects on the connections at terminations, internal supports and curves of a rope kit system BR8 with multiple curved supports (Annex B7-B8)**

Substructure	No. of users	Action effects on the connections at terminations and internal supports $F_{Ed}$ [kN]			Action effects on the connections at curves $F_{Ed}$ [kN]		
		$F_{Ek}$ [kN]	$\gamma_M$	$F_{Ed}$ [kN]	$F_{Ek}$ [kN]	$\gamma_M$	$F_{Ed}$ [kN]
anchor points or rigid load-bearing substructure	1 to 2	5,7	1,50	8,6	7,0	1,50	10,5
	1 to 3	6,8	1,50	10,2	8,0	1,50	12,0
	1 to 4	7,7	1,50	11,5	10,0	1,50	15,0

**Durability of the system BR8**

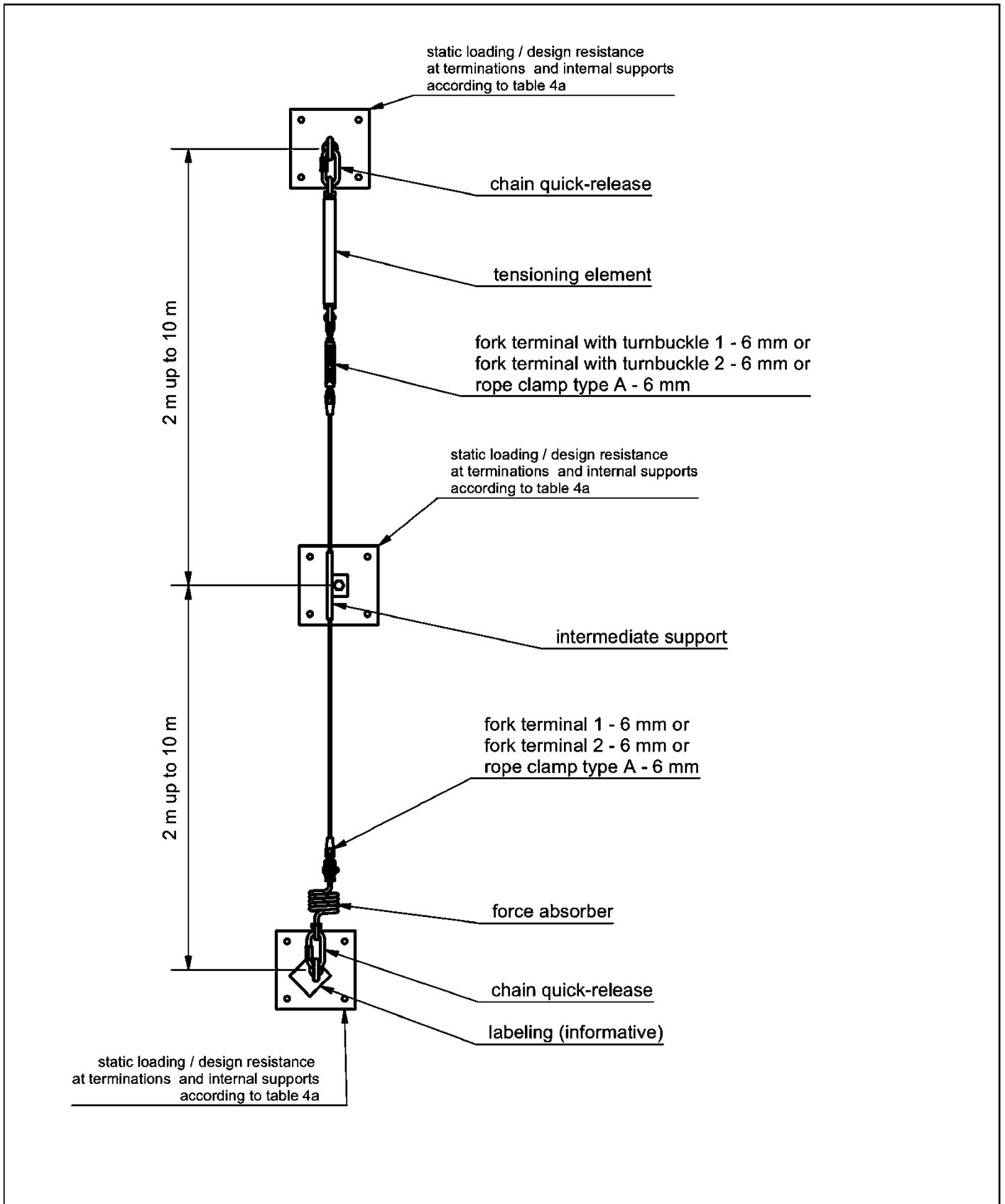
CRC II<sup>a</sup> when the stainless steel wire rope acc. to EN 12385-4<sup>b</sup> is made of 1.4401 acc. to EN 10088-3<sup>c</sup>

CRC III<sup>a</sup> when the stainless steel wire rope acc. to EN 12385-4<sup>b</sup> is made of 1.4439 or 1.4539 acc. to EN 10088-3<sup>c</sup>

Horizontal rope kits for personal fall protection systems

Life line system BR8

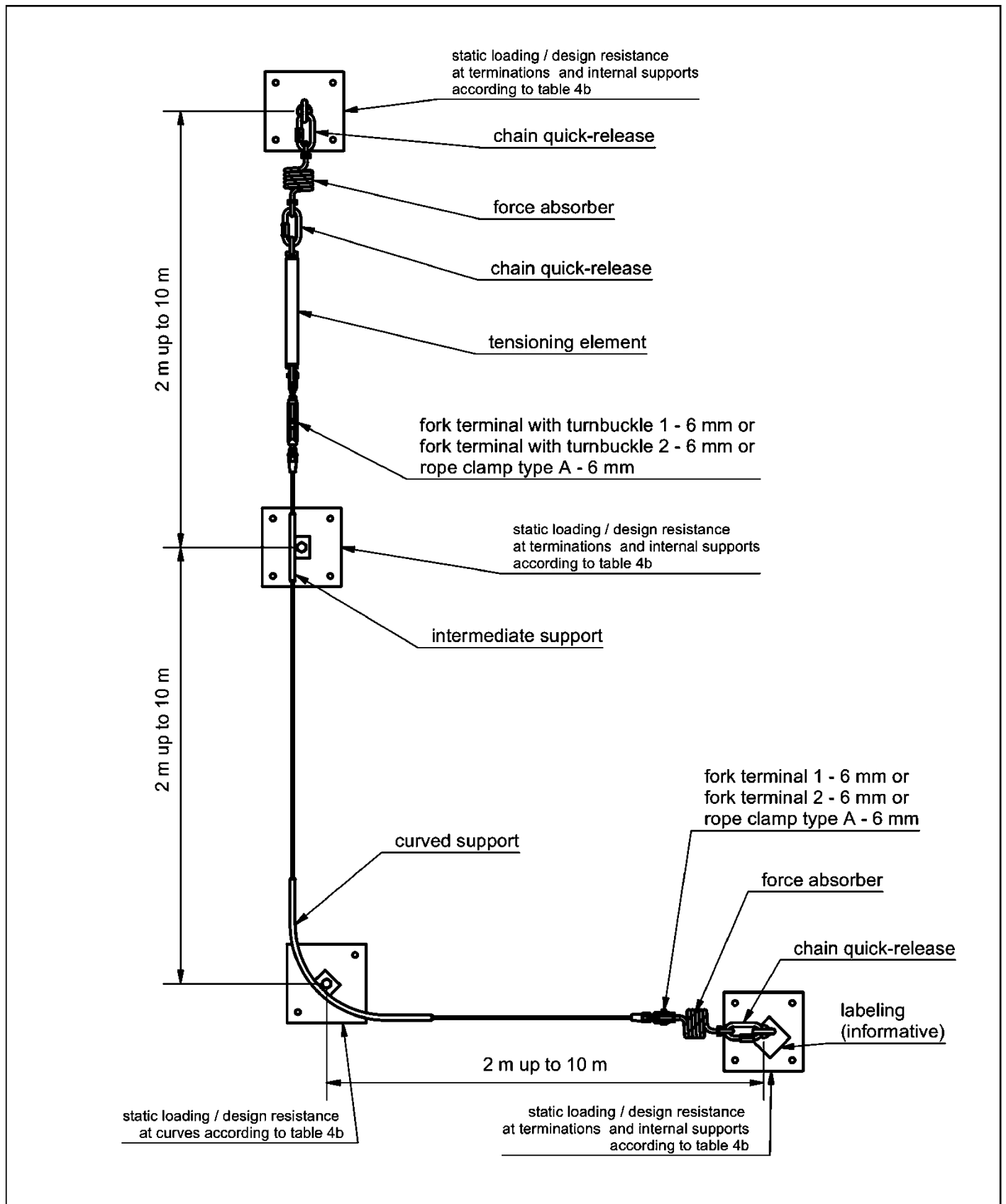
Annex A7



Horizontal rope kits for personal fall protection systems

Life line system BR6 – straight design variant (without curves)

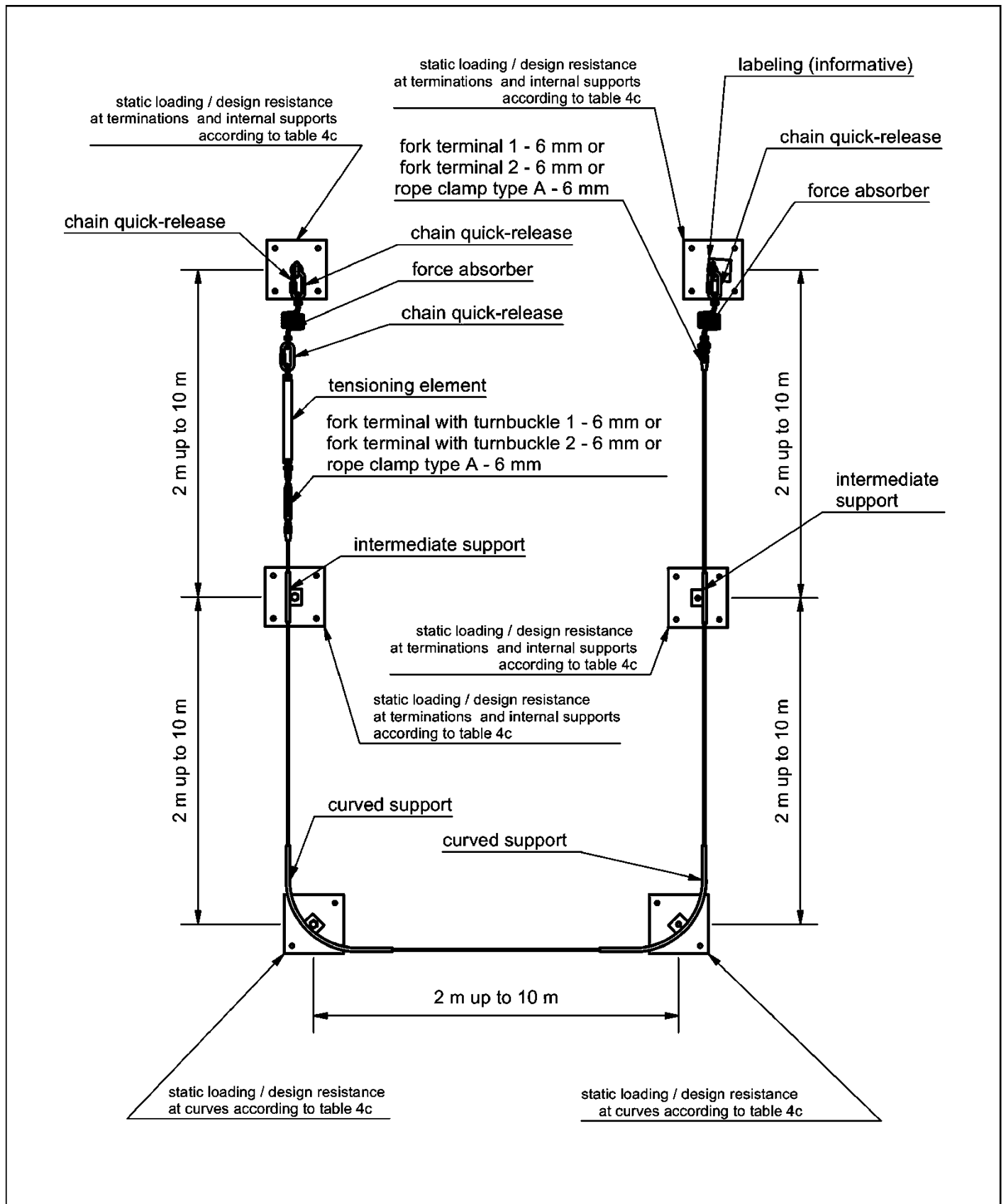
Annex B1



Horizontal rope kits for personal fall protection systems

Life line system BR6 – design variant with one curve

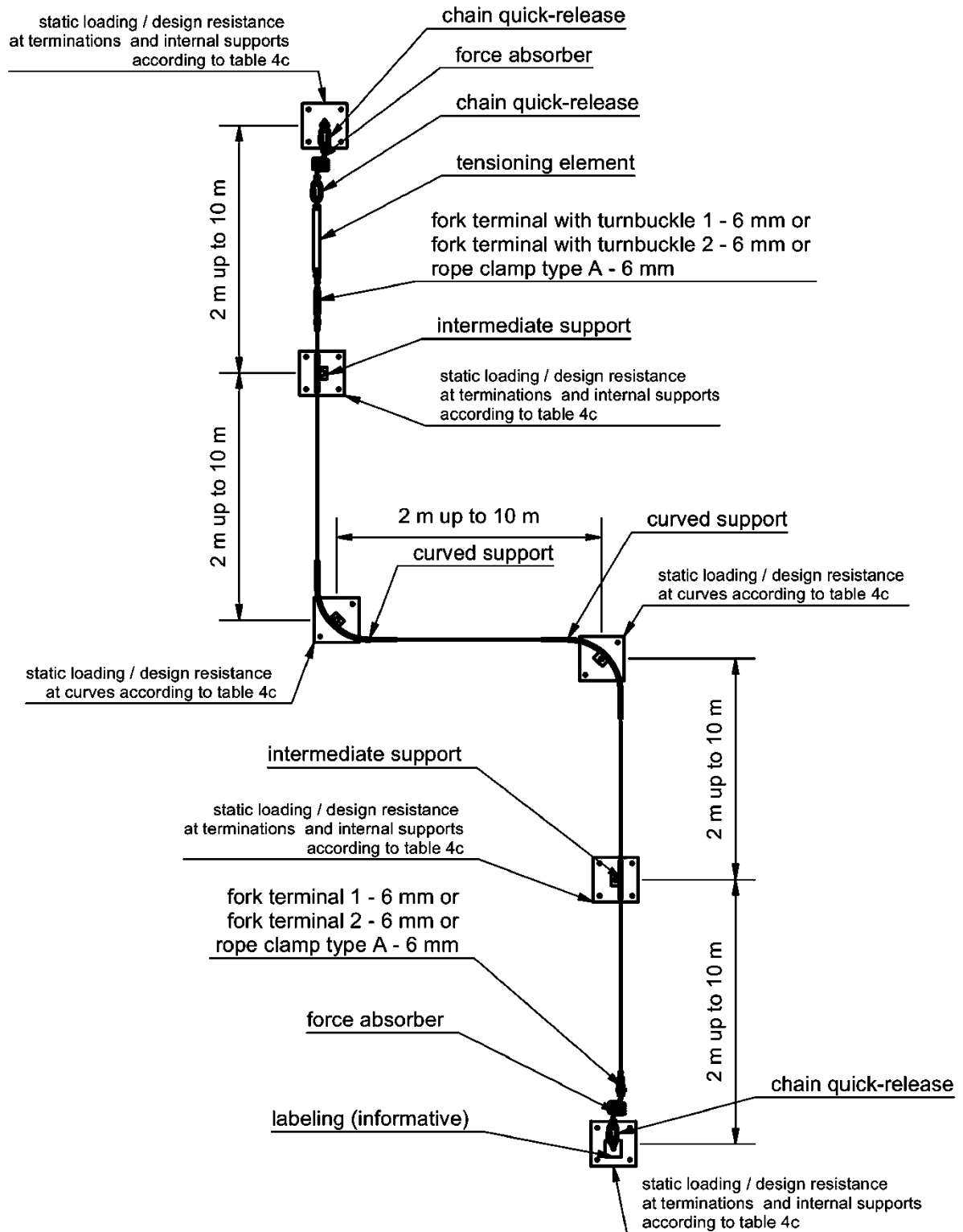
Annex B2



Horizontal rope kits for personal fall protection systems

Life line system BR6 – design variant with multiple curves

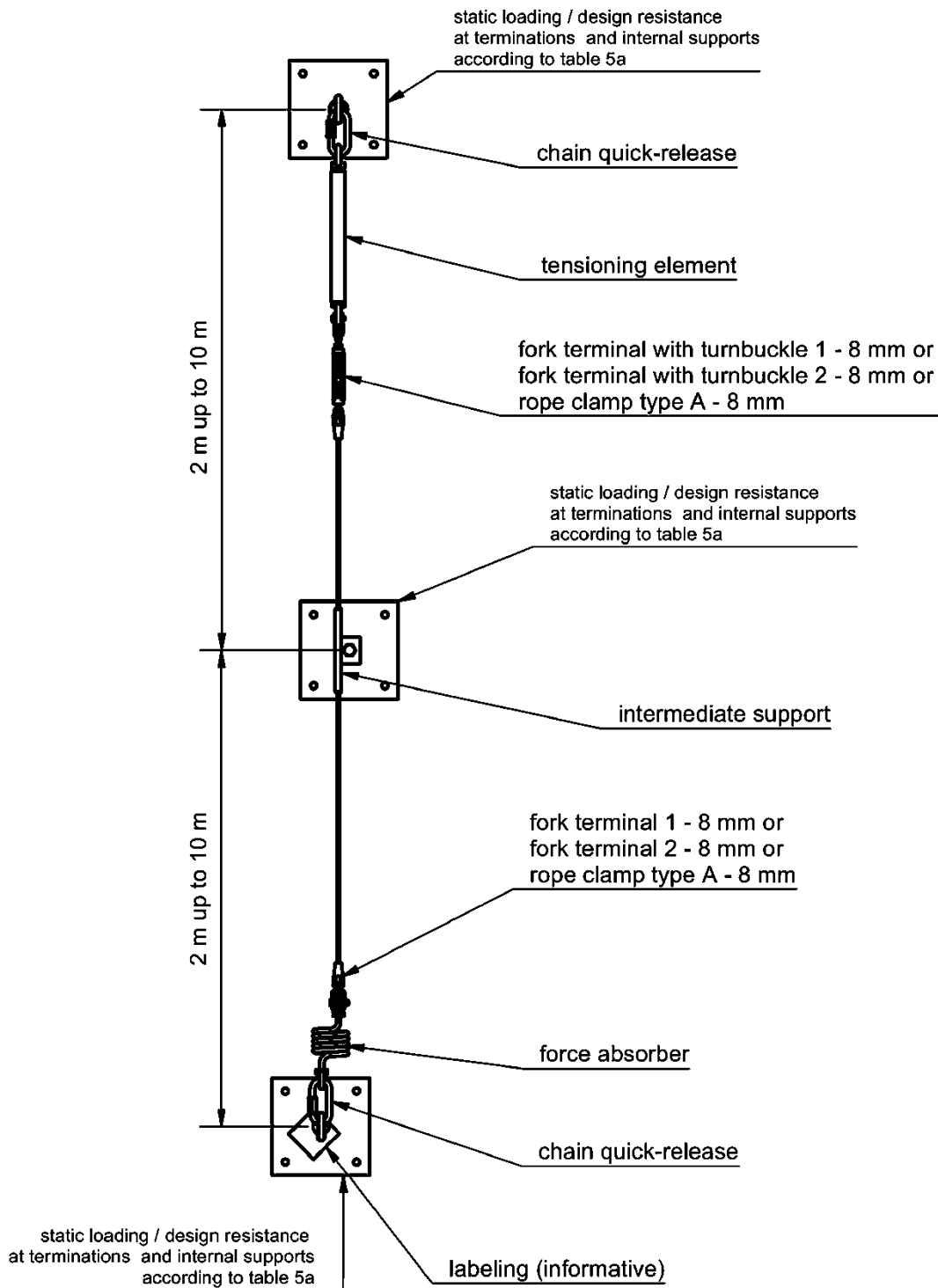
Annex B3



Horizontal rope kits for personal fall protection systems

Life line system BR6 – design variant with multiple curves

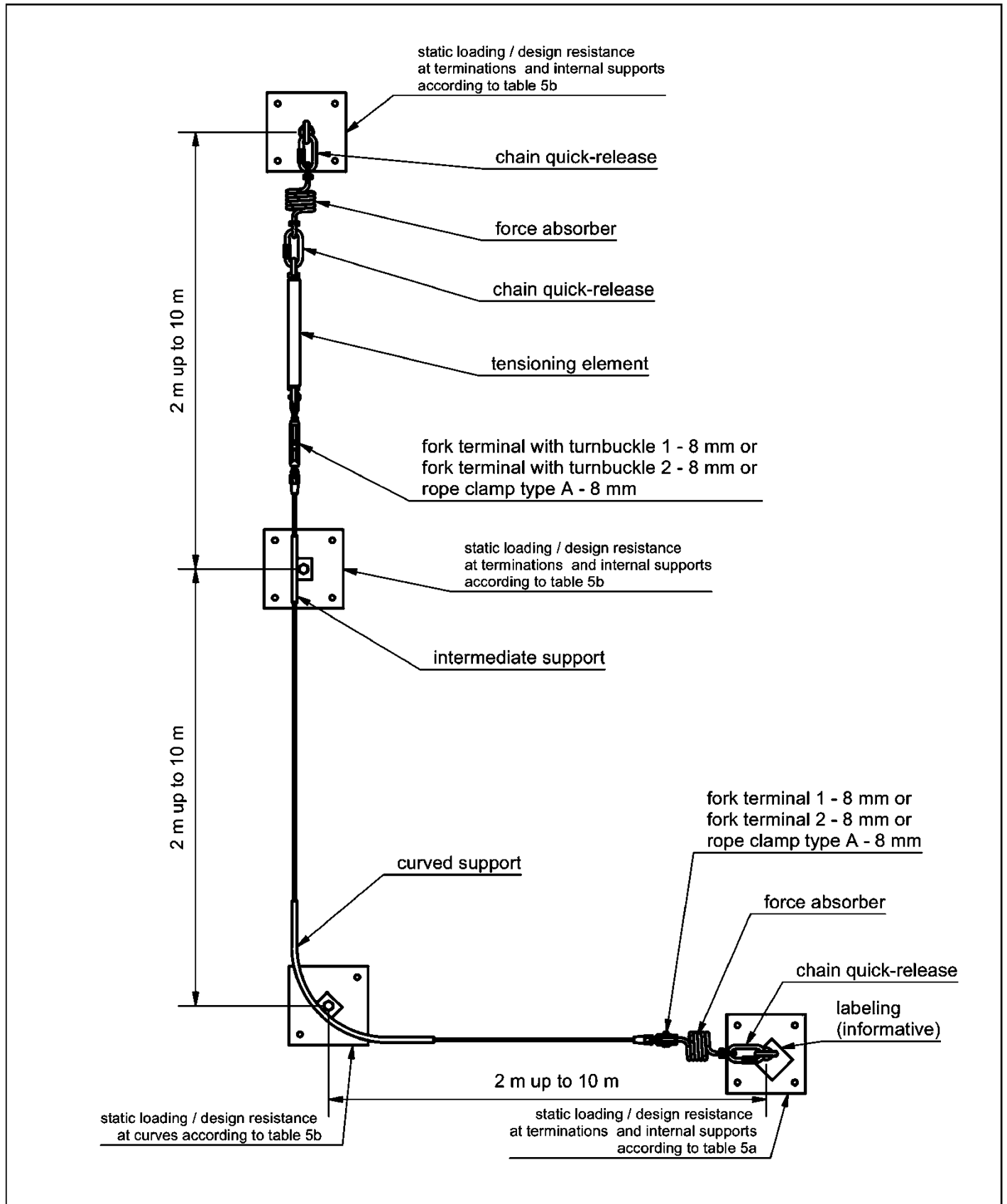
Annex B4



Horizontal rope kits for personal fall protection systems

Life line system BR8 – straight design variant (without curves)

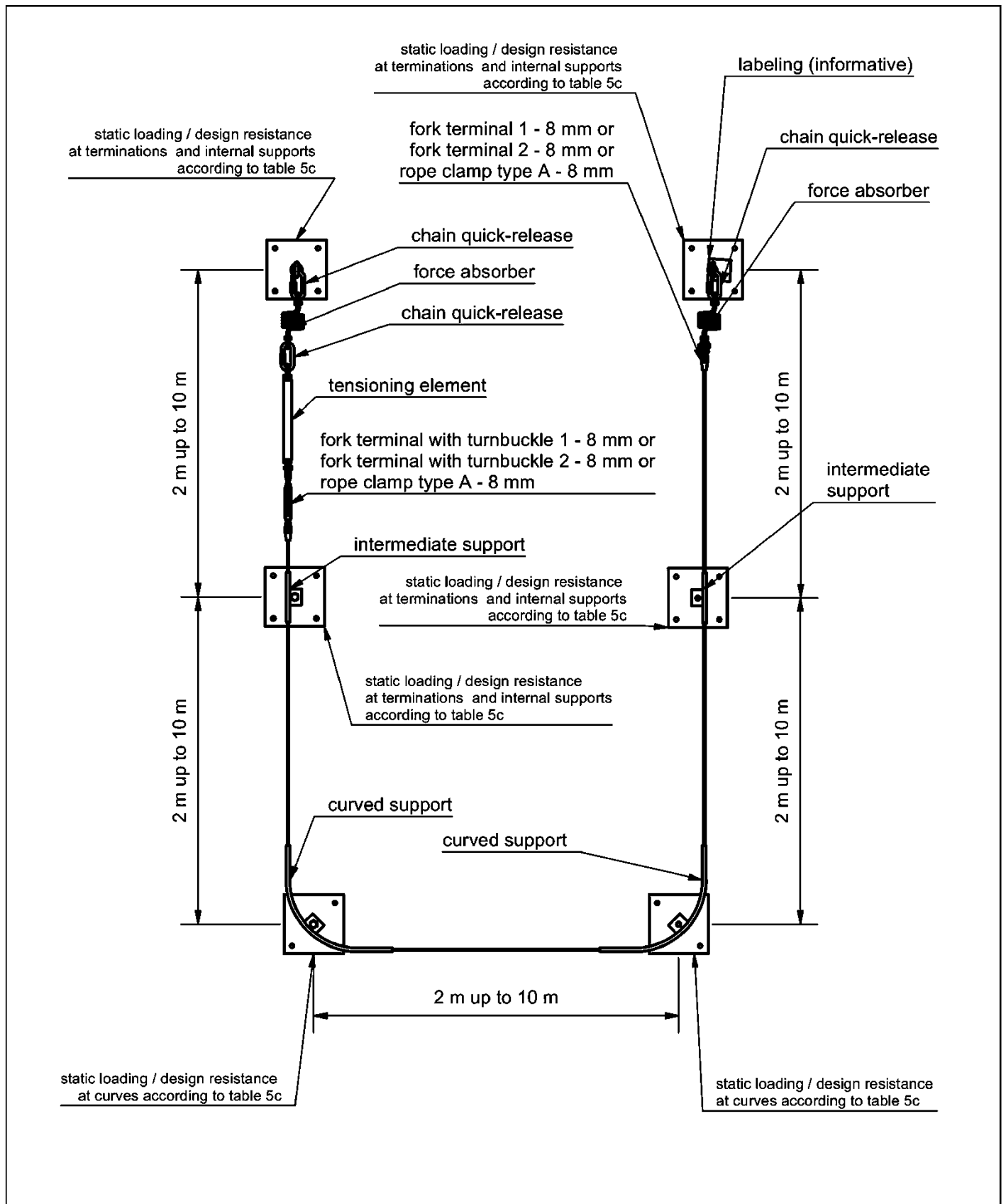
Annex B5



Horizontal rope kits for personal fall protection systems

Life line system BR8 – design variant with one curve

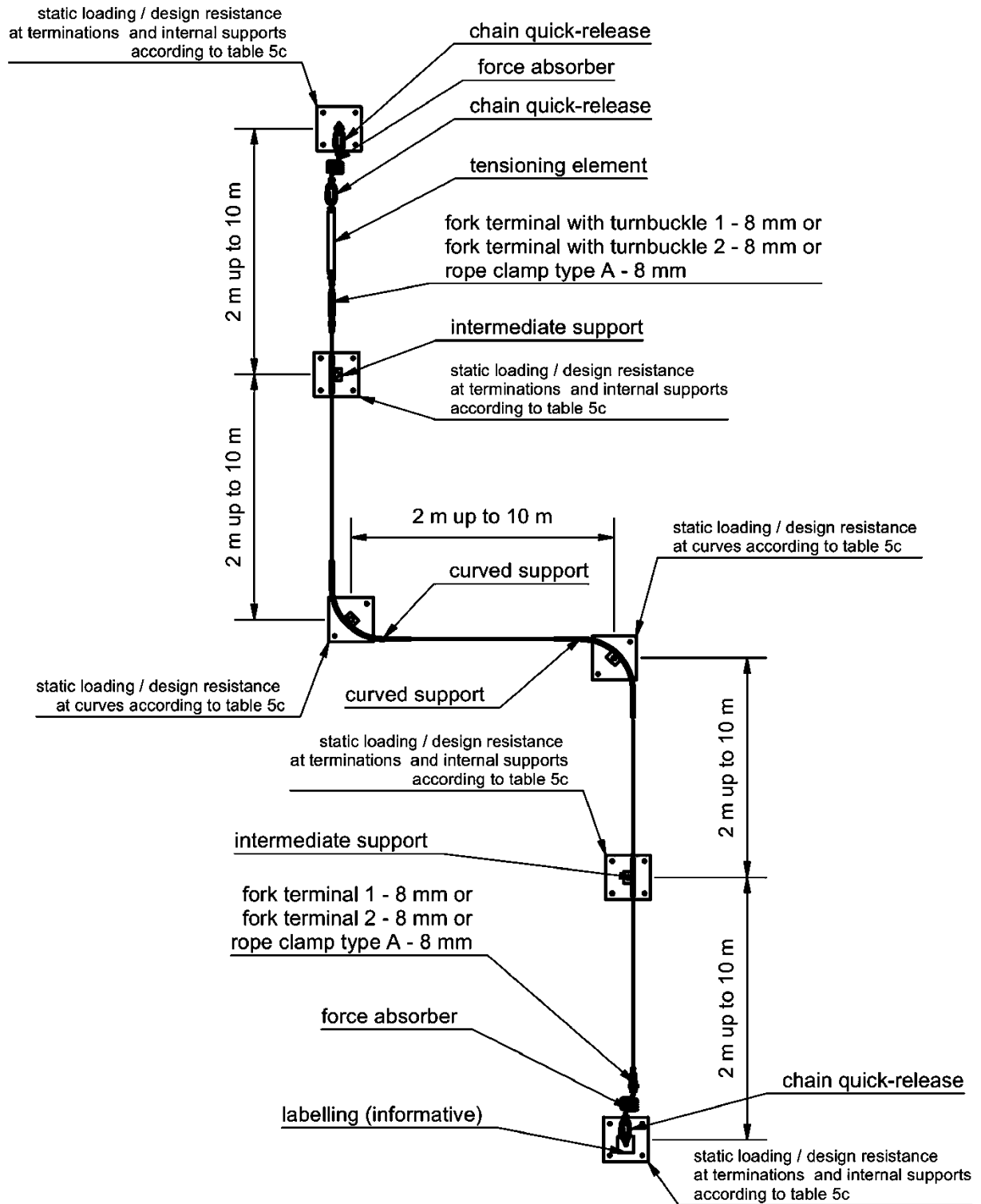
Annex B6



Horizontal rope kits for personal fall protection systems

Life line system BR8 – design variant with multiple curves

Annex B7

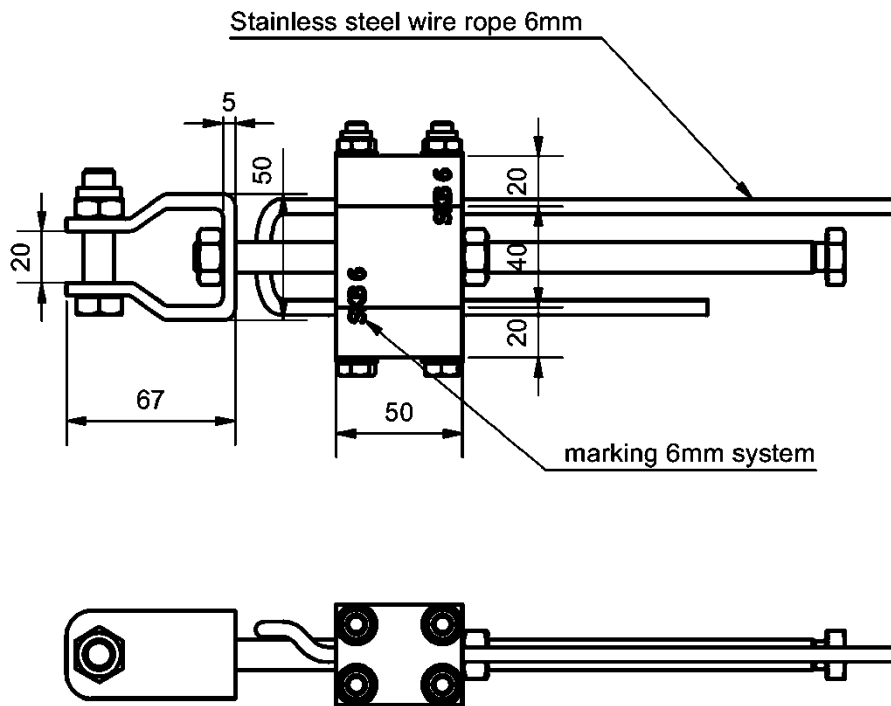


Horizontal rope kits for personal fall protection systems

Life line system BR8 – design variant with multiple curves

Annex B8

all dimensions in [mm]  
Illustration of the main outer dimensions

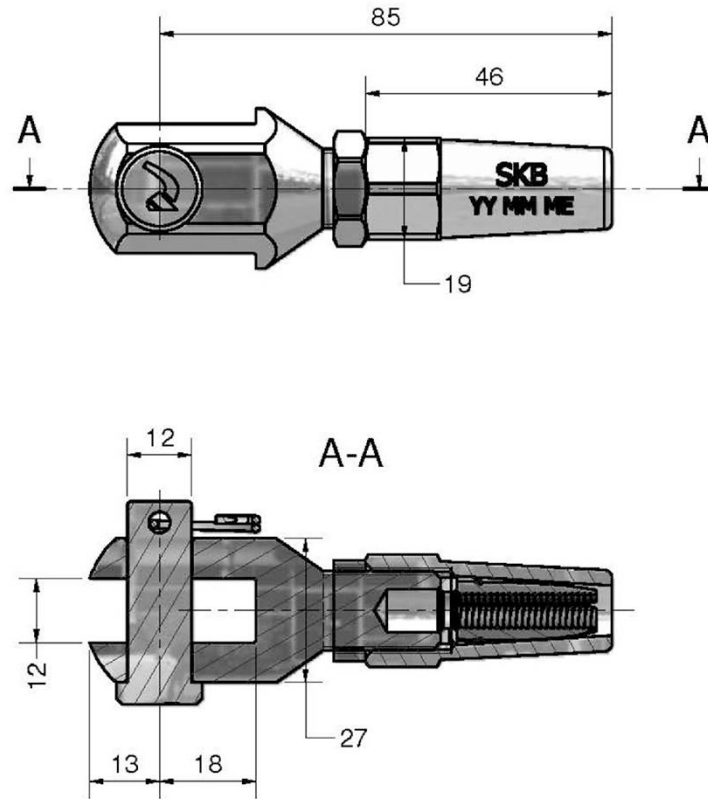


Horizontal rope kits for personal fall protection systems

Rope clamp type A – 6 mm

Annex C1

all dimensions in [mm]  
Illustration of the main outer dimensions

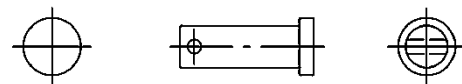
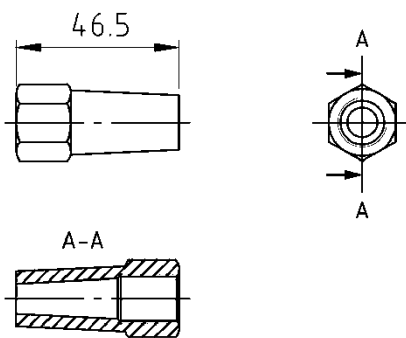
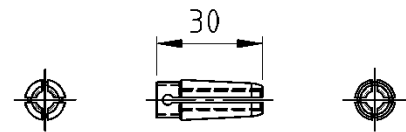
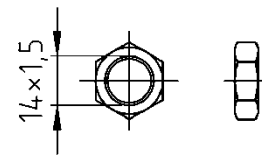
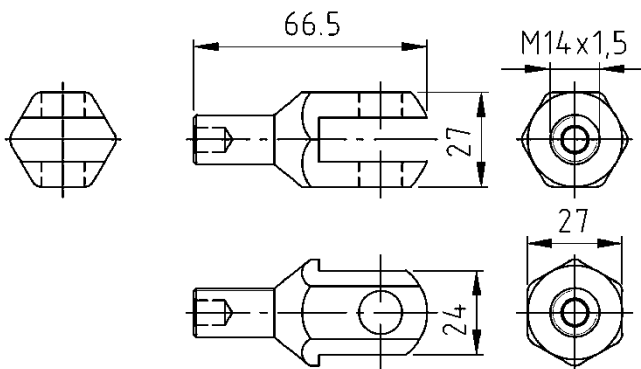
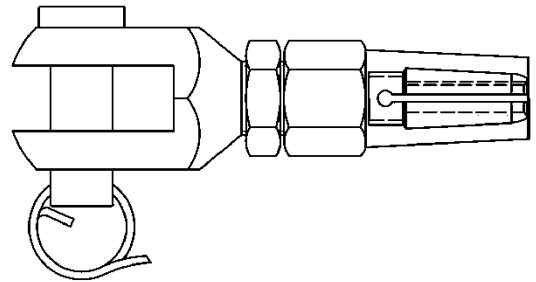
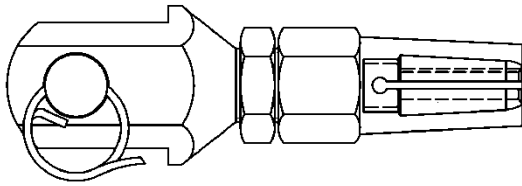


Horizontal rope kits for personal fall protection systems

Fork terminal 1 – 6 mm

Annex C2

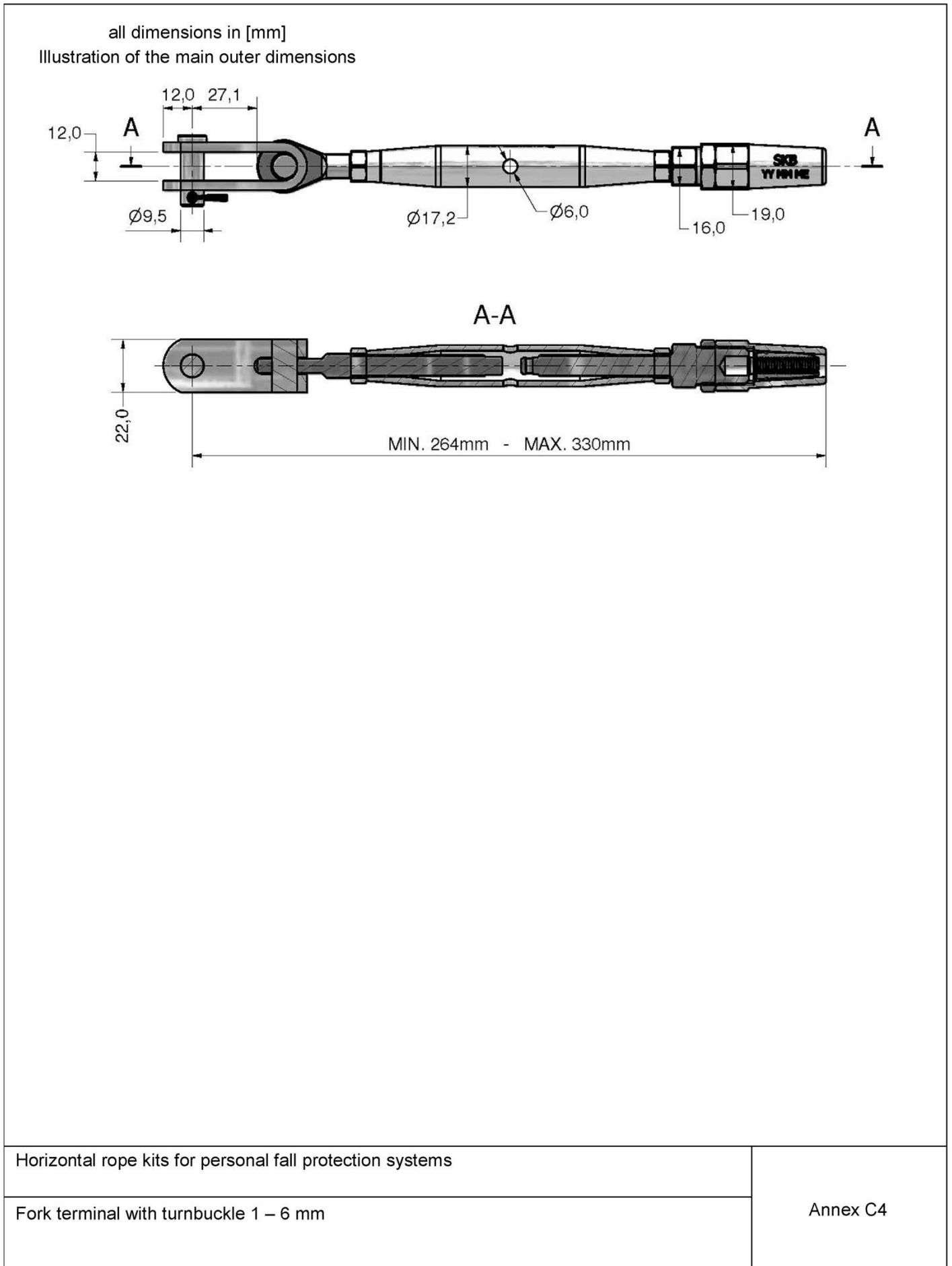
all dimensions in [mm] Illustration of the main outer dimensions



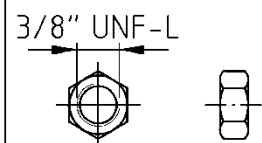
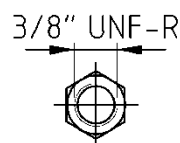
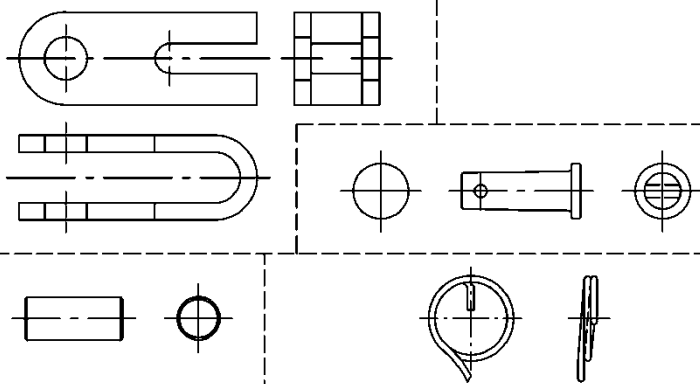
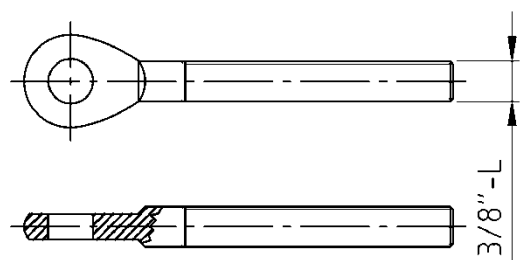
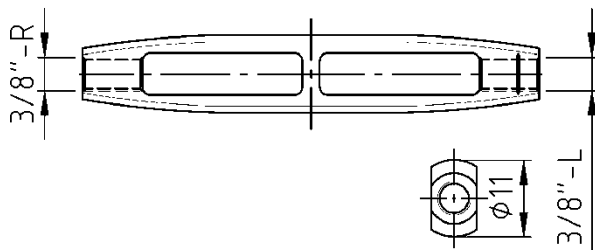
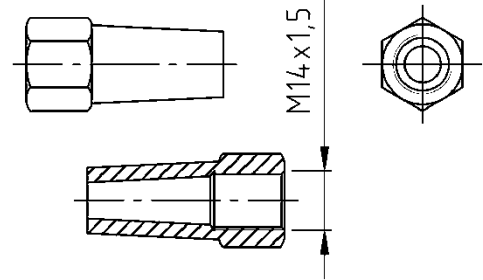
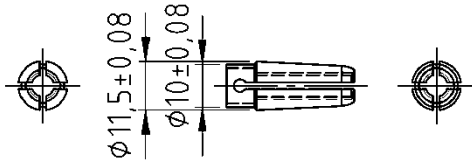
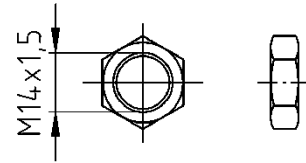
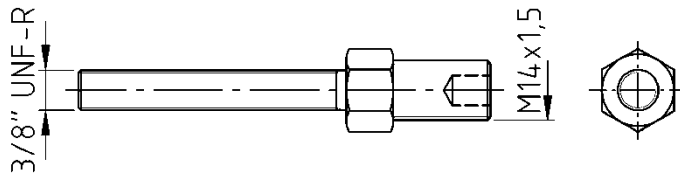
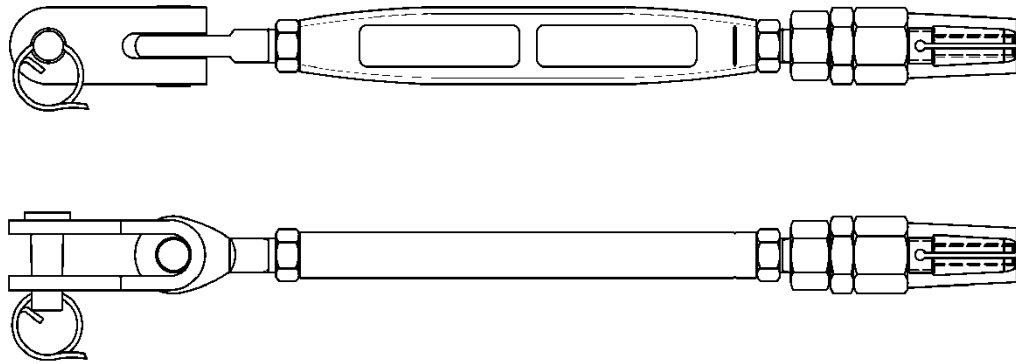
Horizontal rope kits for personal fall protection systems

Fork terminal 2 – 6 mm

Annex C3



all dimensions in [mm] Illustration of the main outer dimensions

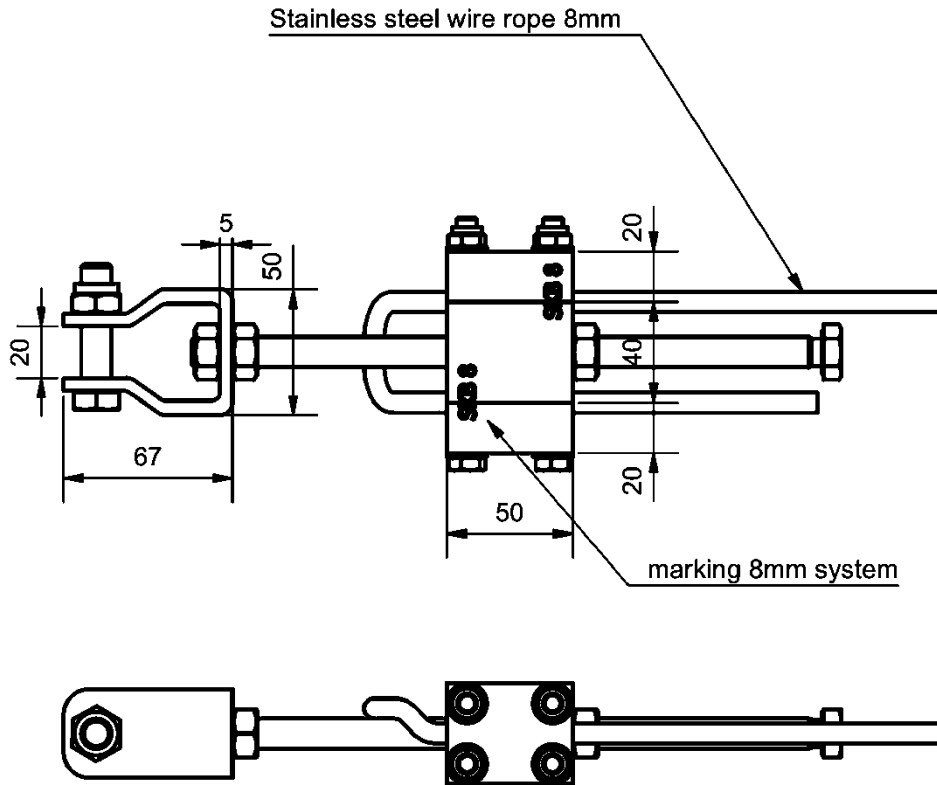


Horizontal rope kits for personal fall protection systems

Fork terminal with turnbuckle 2 – 6 mm

Annex C5

all dimensions in [mm]  
Illustration of the main outer dimensions

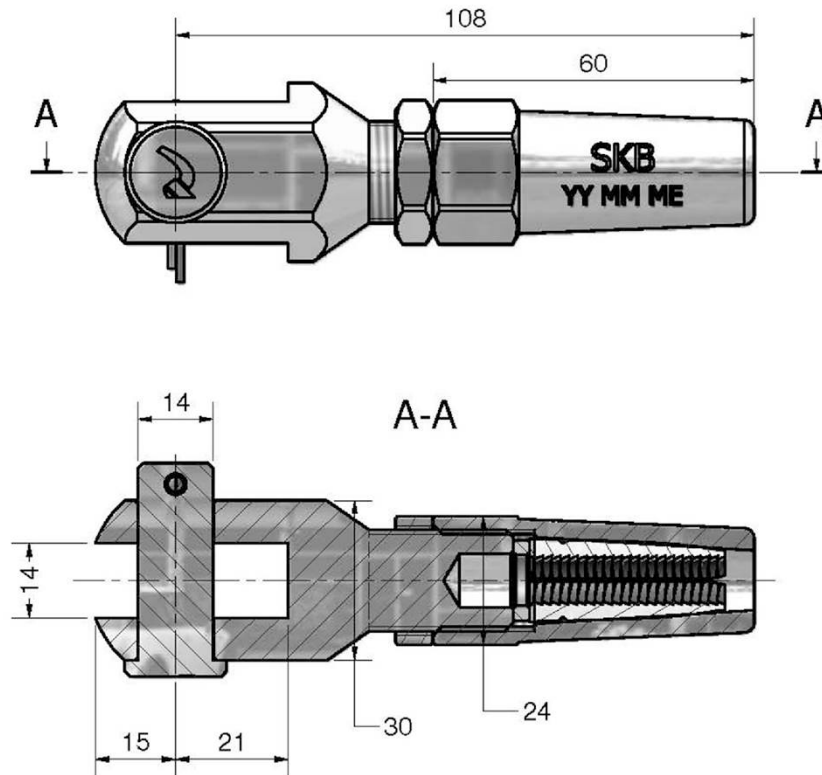


Horizontal rope kits for personal fall protection systems

Rope clamp type A – 8 mm

Annex C6

all dimensions in [mm]  
Illustration of the main outer dimensions

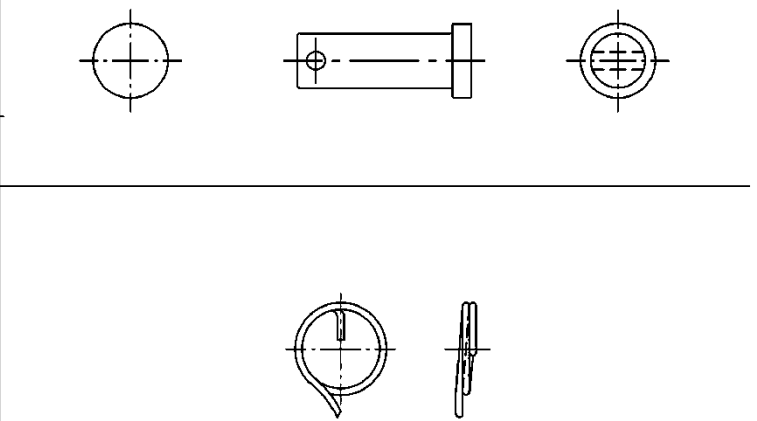
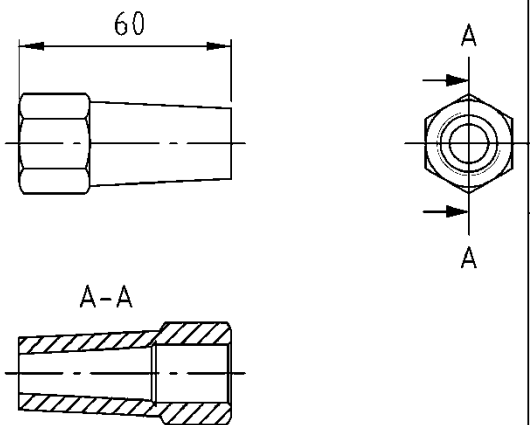
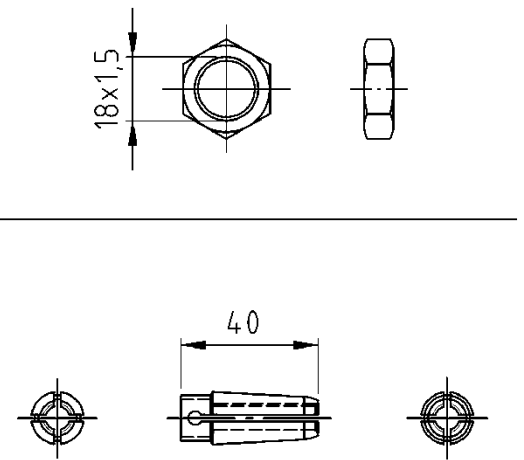
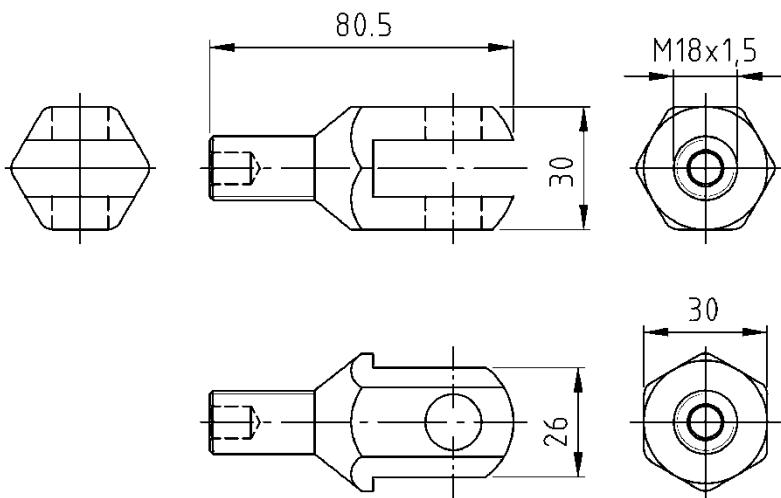
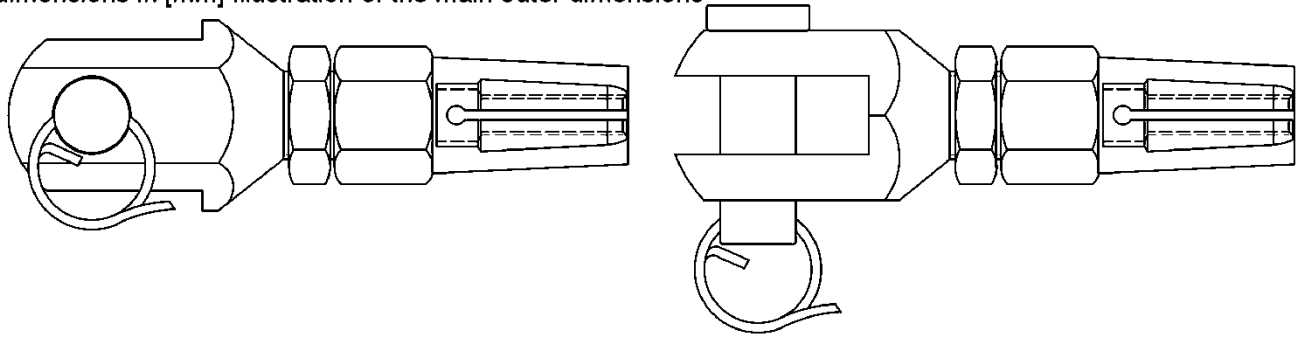


Horizontal rope kits for personal fall protection systems

Fork terminal 1 – 8 mm

Annex C7

all dimensions in [mm] Illustration of the main outer dimensions



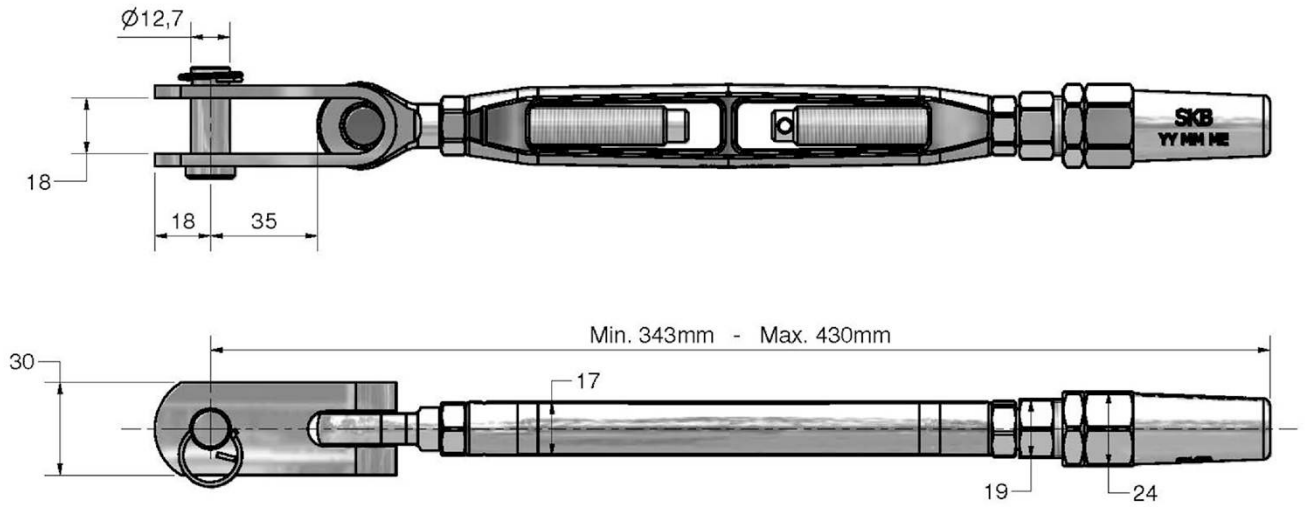
Horizontal rope kits for personal fall protection systems

Fork terminal 2 – 8 mm

Annex C8

all dimensions in [mm]

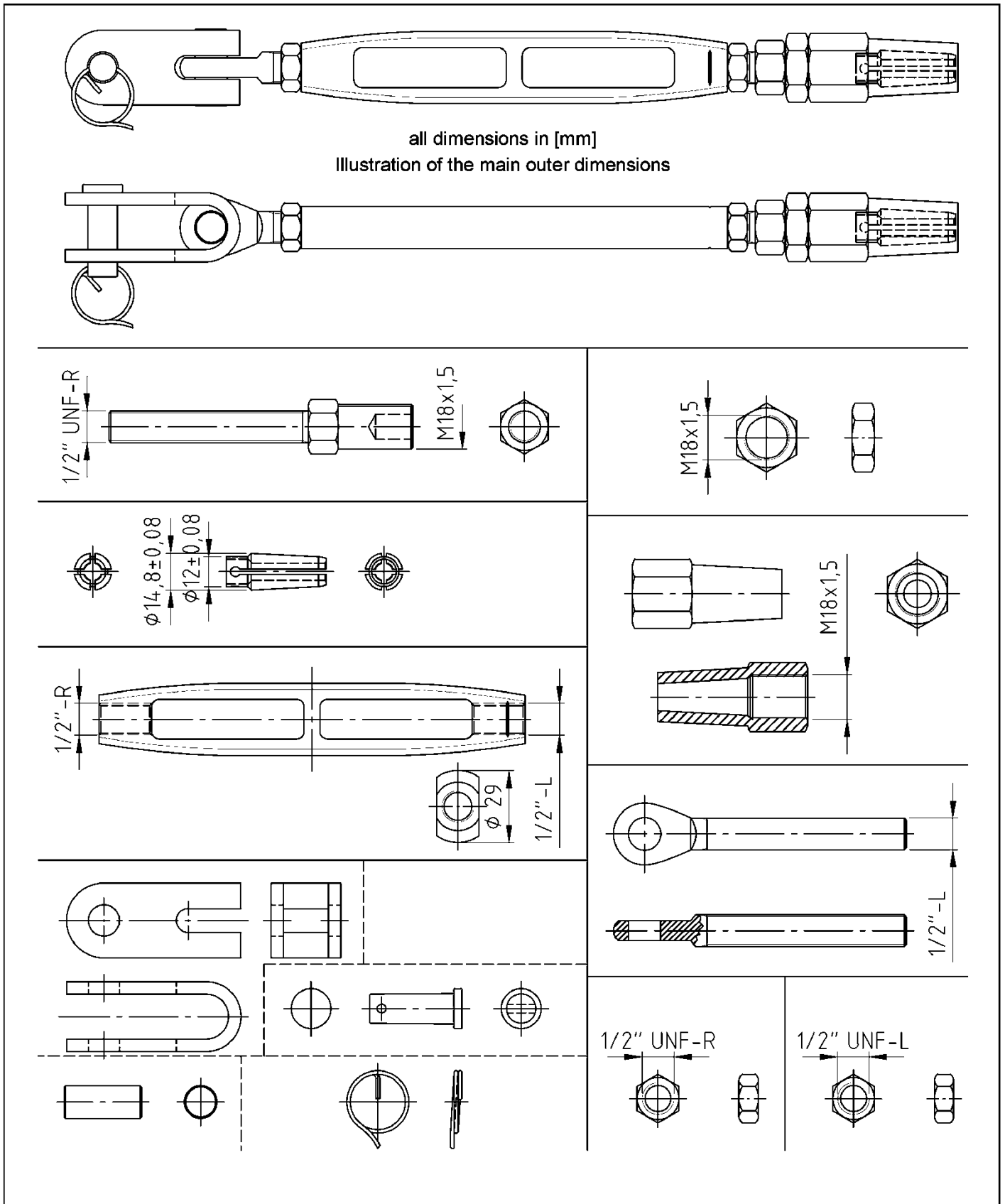
Illustration of the main outer dimensions



Horizontal rope kits for personal fall protection systems

Fork terminal with turnbuckle 1 – 8 mm

Annex C9

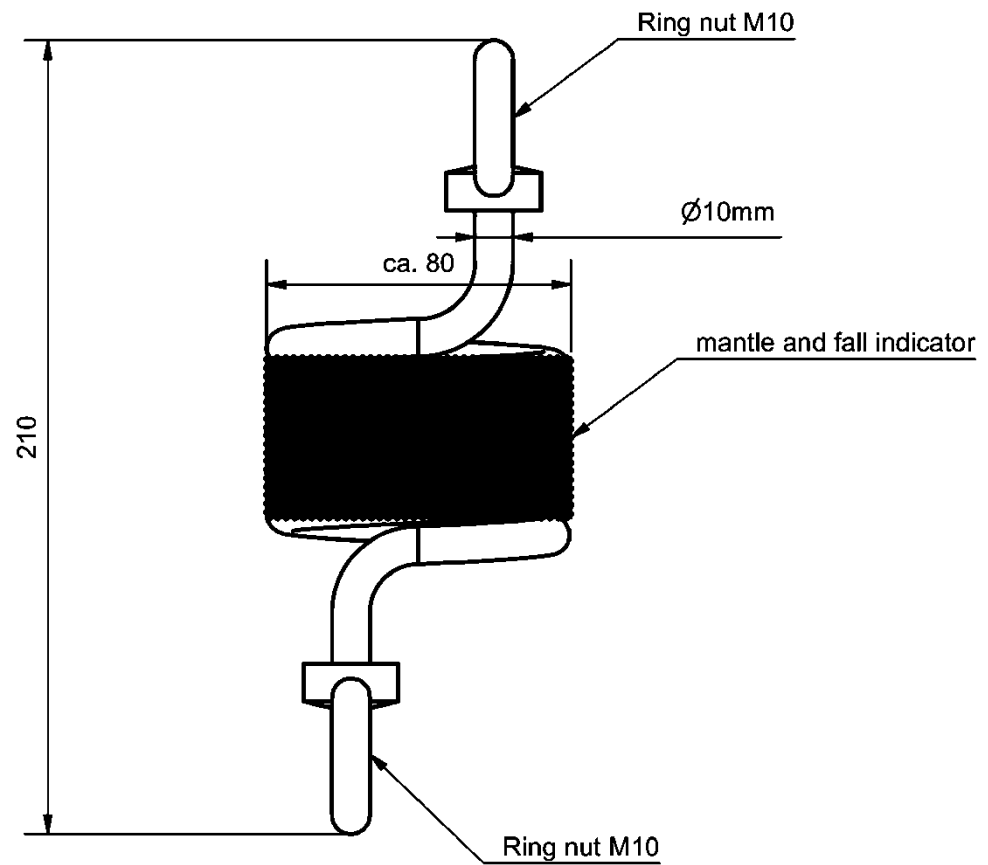


Horizontal rope kits for personal fall protection systems

Fork terminal with turnbuckle 2 – 8 mm

Annex C10

all dimensions in [mm]  
Illustration of the main outer dimensions

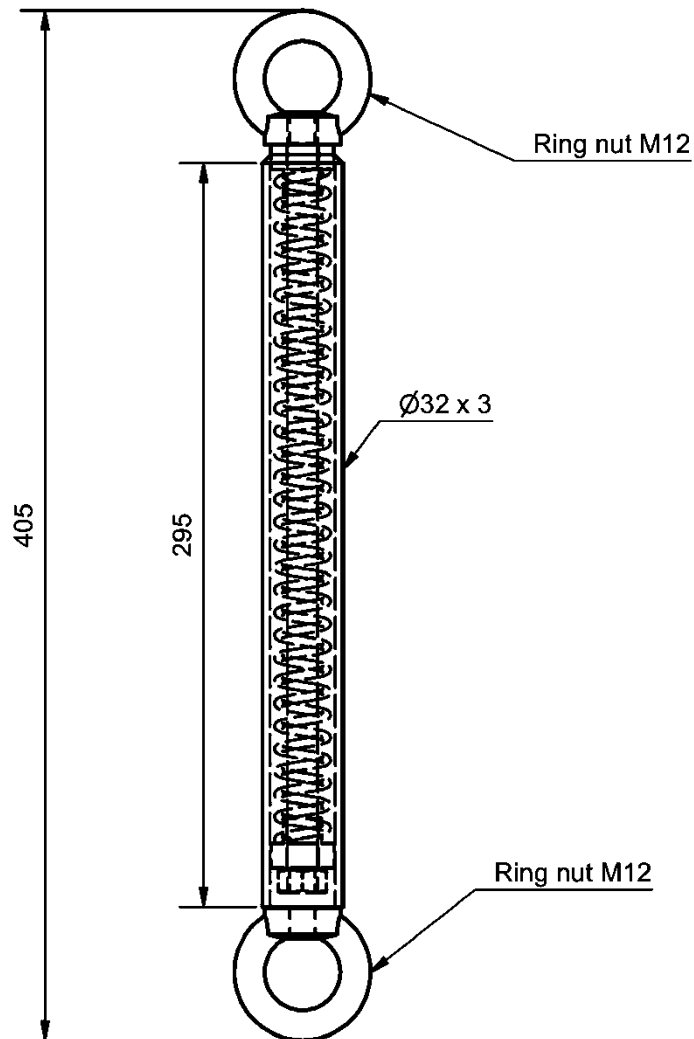


Horizontal rope kits for personal fall protection systems

Force absorber

Annex C11

all dimensions in [mm]  
Illustration of the main outer dimensions

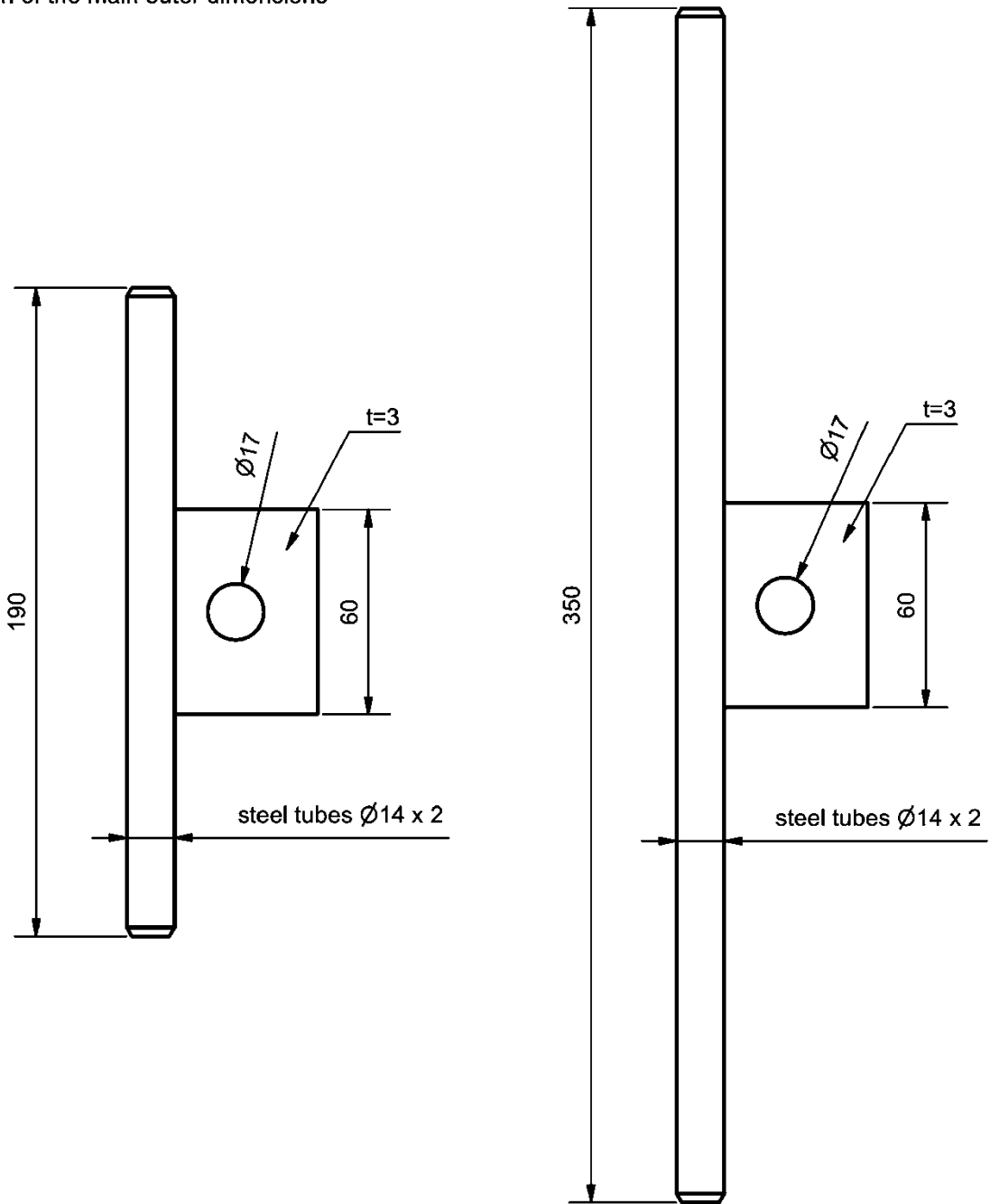


Horizontal rope kits for personal fall protection systems

Tensioning element

Annex C12

all dimensions in [mm]  
Illustration of the main outer dimensions

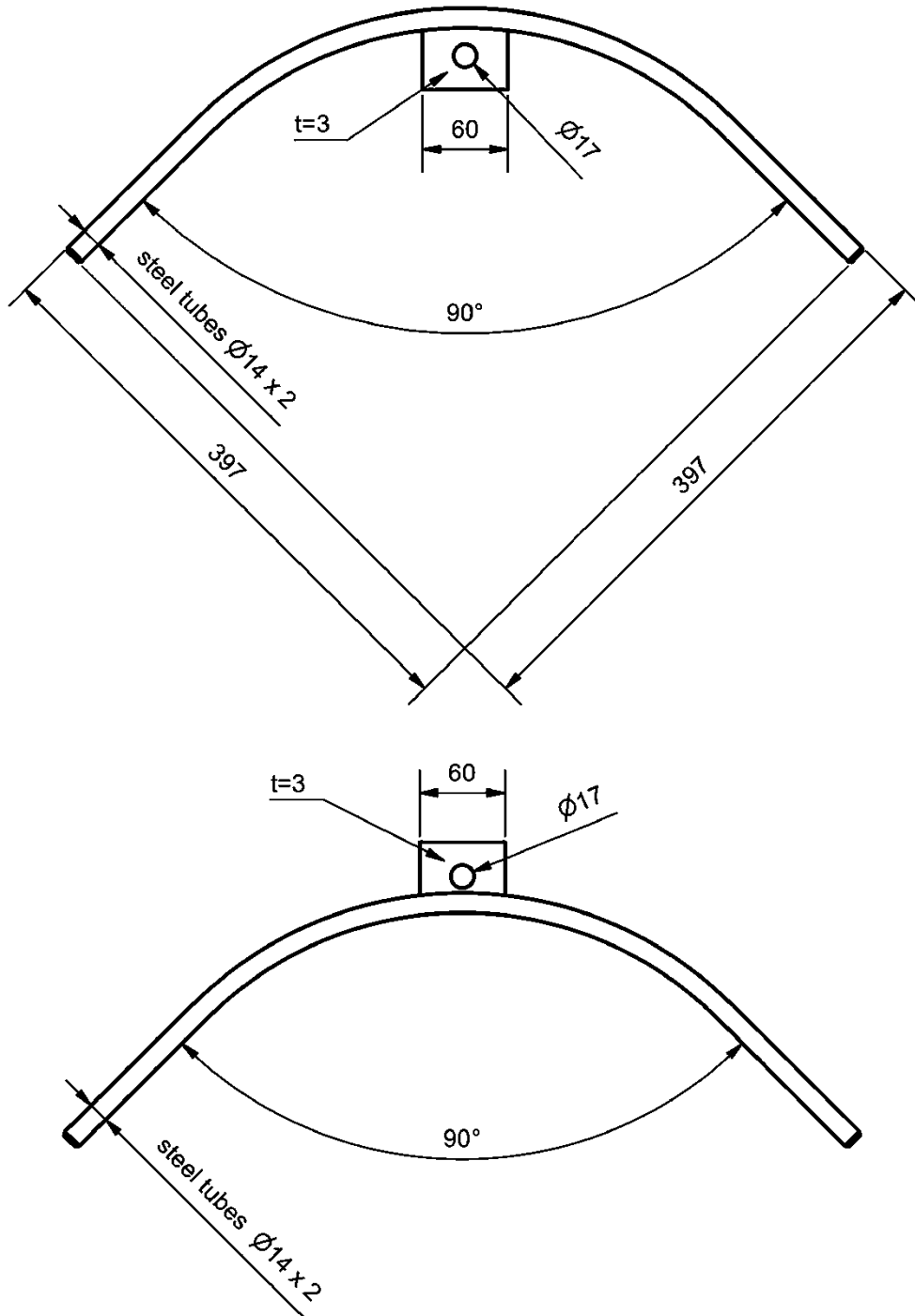


Horizontal rope kits for personal fall protection systems

Intermediate support

Annex C13

all dimensions in [mm]  
Illustration of the main outer dimensions

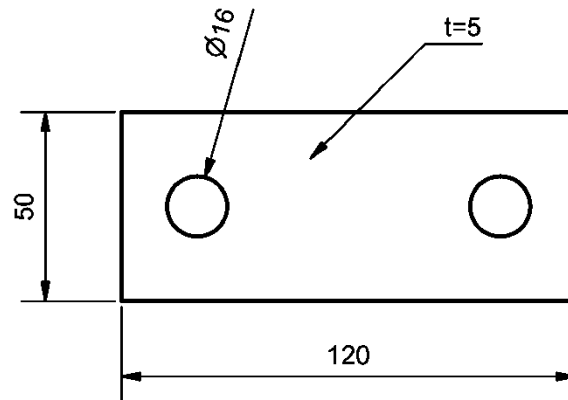


Horizontal rope kits for personal fall protection systems

Curved supports / curves

Annex C14

all dimensions in [mm]  
Illustration of the main outer dimensions

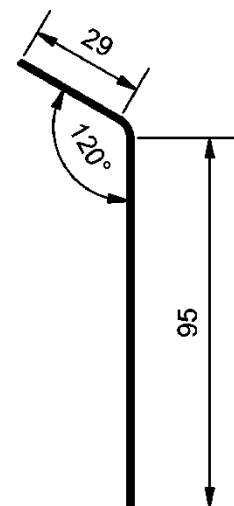
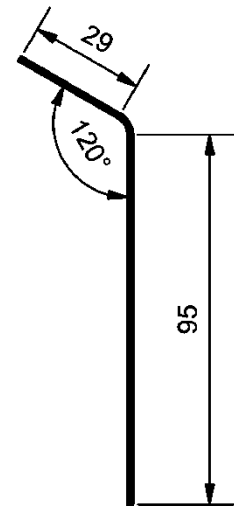
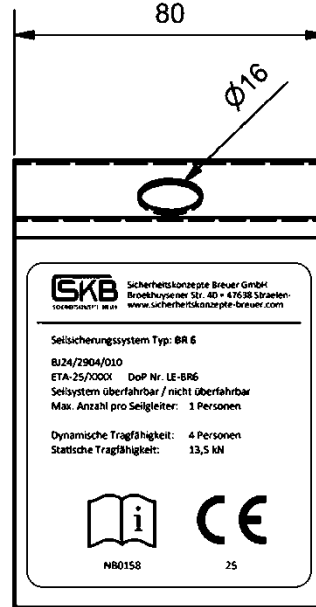


Horizontal rope kits for personal fall protection systems

Joint connector

Annex C15

all dimensions in [mm]  
Illustration of the main outer dimensions



Horizontal rope kits for personal fall protection systems

Labelling (informative)

Annex C16