

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-23/0846
of 28 November 2023

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

Primo 4 TP, Primo 4 TP2, Primo 4 TP3

Product family
to which the construction product belongs

Anchor devices for fastening personal fall protection
systems to Steel or aluminium trapezoidal sheeting
substructures

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

12 pages including 8 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

334812-00-0602

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Specific part

1 Technical description of the product

The fall protection systems Primo are made of stainless steel. They are fastened to steel trapezoidal sheeting substructures according to EN 10346¹, marked with CE according to EN 1090-1². The fastening to the sheeting substructures is done with a toggle fastener according to the annexes.

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

Table 1: Products of this ETA

Annex No.	Trade Name (Product of this ETA)	associated Fastener
2	Primo 4 TP	toggle fastener SKB
3	Primo 4 TP2	toggle fastener SKB
4	Primo 4 TP3	toggle fastener SKB

The components and the system setup of the product are given in Annex (1-5).

2 Specification of the intended use in accordance with the applicable EAD 331846-00-0603 – Anchor Devices for Fastening Personal Fall Protection Systems to Timber Substructures

The fall protection system is used to protect operators working at height (max. 3 persons at once), by arresting them in a fall. The operators attach themselves to the eye using e.g. ropes and karabiners. In the case of a fall the fall protection system prevents the fall and resulting physical damage assuming the correct usage by the operator. The fall protection system Primo is designed for use in all areas of industry, construction and maintenance.

The fall protection system is intended to be used, fastened or inserted on flat roofs or other flat planes made of timber only. The direction of force therefore shall be perpendicular ($90^\circ \pm 5\%$) to the fastening element. Thus use at a (timber-) wall is intended only when the direction of force still applies at a 90° angle to the fastening axis.

The performances given in Section 3 are only valid if the products listed in the Table 1 is used in compliance with the specifications and conditions given in Annexes (1-5).

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.

1 EN 10346:2015 Continuously hot-dip coated steel flat products for cold forming - Technical delivery conditions
 2 EN 1090-1:2009 Execution of steel structures and aluminium structures - Part 1: Requirements for conformity assessment of structural components

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 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Watertightness	No performance assessed

3.3 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Static loading for primo	Level (kN); see respective product in annexes
Static loading for toggle fastener	≥ 22 kN
Dynamic loading	Level (No. of users); see respective product in annexes
Check of deformation capacity in case of constraining forces	see respective product in annexes
Aspects of durability	
Durability	No performance assessed

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

In accordance with EAD No. 334812-00-0602, the applicable European legal act is: Decision (EU) 2018/771

The system to be applied is: 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 28 November 2023 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)	Fastener	Substructure
2	Primo 4 TP	Toggle fastener SKB	Trapezoidal steel sheeting \geq S320GD ^a Negative position
3	Primo 4 TP2	Toggle fastener SKB	Trapezoidal steel sheeting \geq S320GD ^a Positive position
4	Primo 4 TP3	Toggle fastener SKB	Trapezoidal steel sheeting \geq S320GD ^a Positive position

Annexes 2 to 4 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 γ_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: $F_{Ed} = F_{Ek} \cdot \gamma_F = (6 + 3) \text{ kN} \cdot 1,5 = 13,5 \text{ kN}$

a DIN EN 10346:2015-10 Continuously hot-dip coated steel flat products for cold forming - Technical delivery conditions

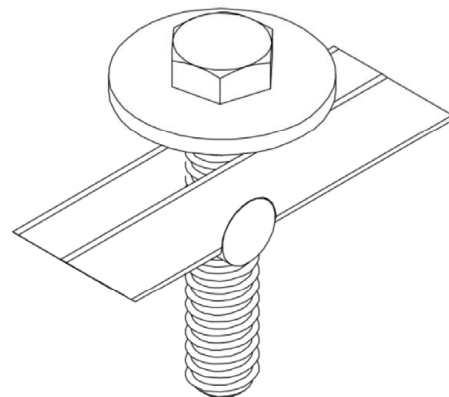
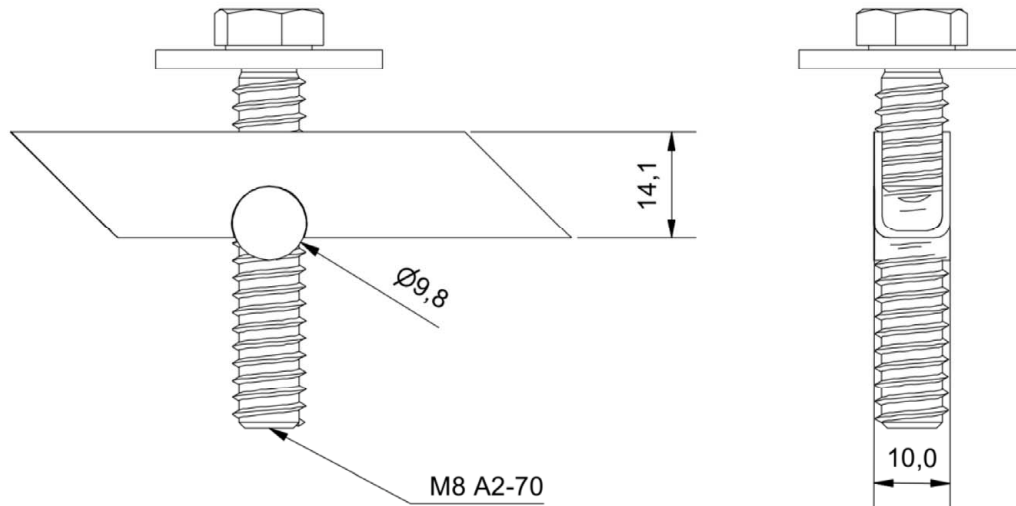
Fall protection Primo

Design Values

Annex 1

Toggle fastener SKB

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



Fall protection Primo

Toggle fastener SKB

Annex 2

Table 2: Substructure trapezoidal steel sheeting

Anchor Device	Bar height [mm]	Fastener	Trapezoidal steel sheeting		
			Position	Variety	Minimum substructure thickness t_{nom} [mm]
Primo 4 TP	400	Toggle fastener SKB	Negative	$\geq S320GD^a$	$\geq 0,75$

The anchor device and all components can be used in weathered outdoor areas.

Regulations for Primo 4 TP

The edge distance in the transverse direction must be at least one panel width of the trapezoidal steel profile. The edge distance to the end support of the trapezoidal steel profile (purlin or truss) shall be at least 500 mm.

Trapezoidal steel profiles are also permissible as perforated sheeting provided that the main dimensions, the minimum sheet thickness and the minimum tensile strengths of the steel grades used for the acoustic profiles correspond to the requirements formulated here for conventional trapezoidal steel profiles. Perforations (round holes up to $\varnothing 5$ mm) may only be located in the profile webs and not in the lower or upper flanges of the acoustic profiles.

Static loading / design resistance

$$F_{R,d} = \frac{F_{R,k}}{\gamma_M} = \frac{13,3}{1,33} = 10,0 \text{ kN}$$

The recommended partial factor γ_M is 1,33, provided no partial factor is given in national regulations or national Annexes to EN 1993.

Dynamic loading

Three users

Deformation capacity

≤ 9 mm at 0.7 kN, maximum overhang above roof membrane 700 mm

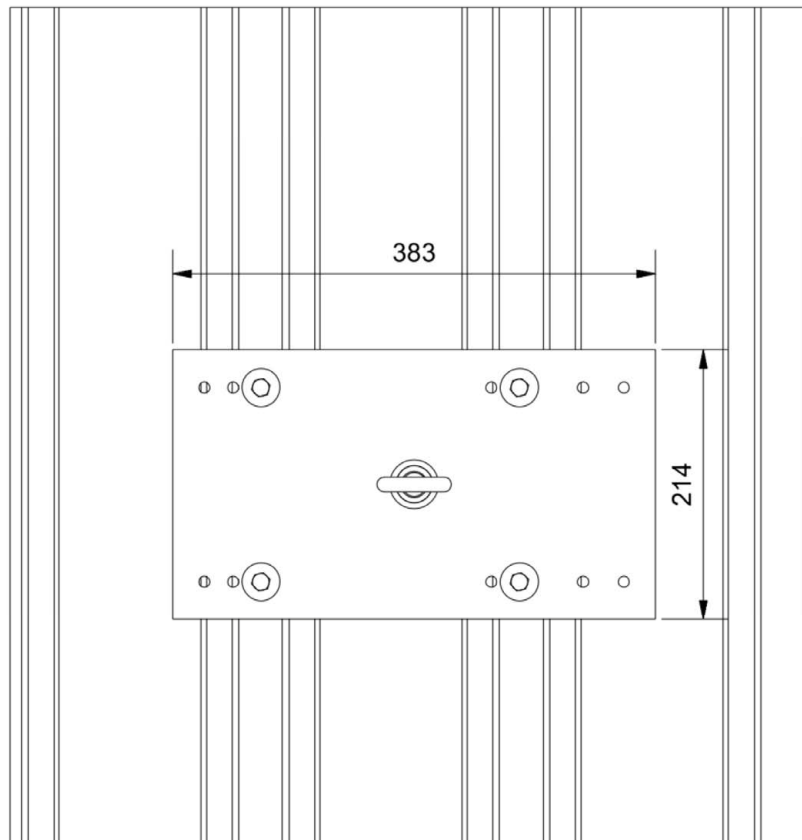
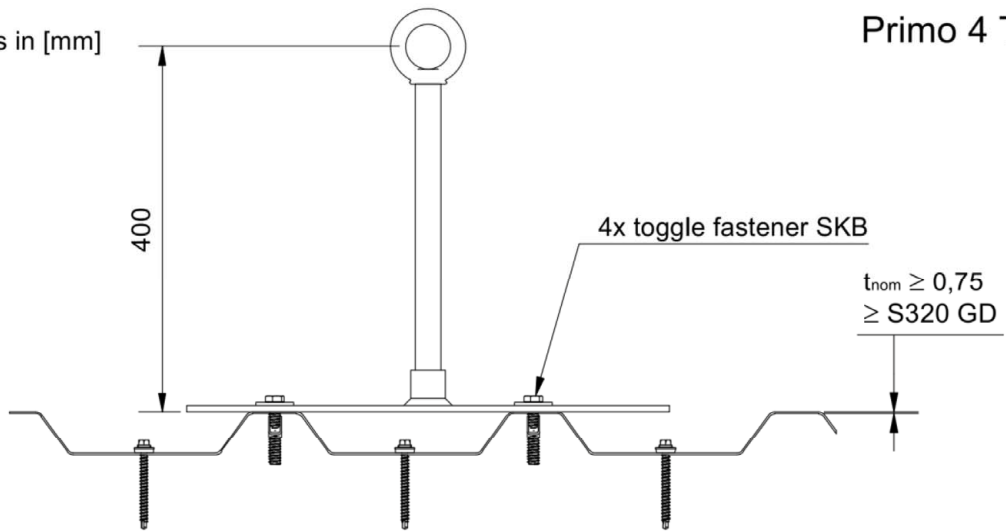
Fall protection Primo

Primo 4 TP for trapezoidal steel sheeting height 35mm up to 165mm in negative position

Annex 3.1

all dimensions in [mm]

Primo 4 TP



Fall protection Primo

Primo 4 TP for trapezoidal steel sheeting height 35mm up to 165mm in negative position

Annex 3.2

Table 3: Substructure trapezoidal steel sheeting

Anchor Device	Bar height [mm]	Fastener	Trapezoidal steel sheeting		
			Position	Variety	Minimum substructure thickness t_{nom} [mm]
Primo 4 TP2	400 - 1000	Toggle fastener SKB	Positive	≥ S320GD	≥ 0,75

The anchor device and all components can be used in weathered outdoor areas.

Regulations for Primo 4 TP2

The edge distance in the transverse direction must be at least one panel width of the trapezoidal steel profile. The edge distance to the end support of the trapezoidal steel profile (purlin or truss) shall be at least 500 mm.

Trapezoidal steel profiles are also permissible as perforated sheeting provided that the main dimensions, the minimum sheet thickness and the minimum tensile strengths of the steel grade used for the acoustic profiles correspond to the requirements formulated here for conventional trapezoidal steel profiles. Perforations (round holes up to Ø 5 mm) may only be located in the profile webs and not in the lower or upper flanges of the acoustic profiles.

Static loading / design resistance

$$F_{R,d} = \frac{F_{R,k}}{\gamma_M} = \frac{17,0}{1,33} = 12,8 \text{ kN}$$

The recommended partial factor γ_M is 1,33, provided no partial factor is given in national regulations or national Annexes to EN 1993.

Dynamic loading

Four users

Deformation capacity

≤ 9 mm at 0.7 kN, maximum overhang above roof membrane 700 mm

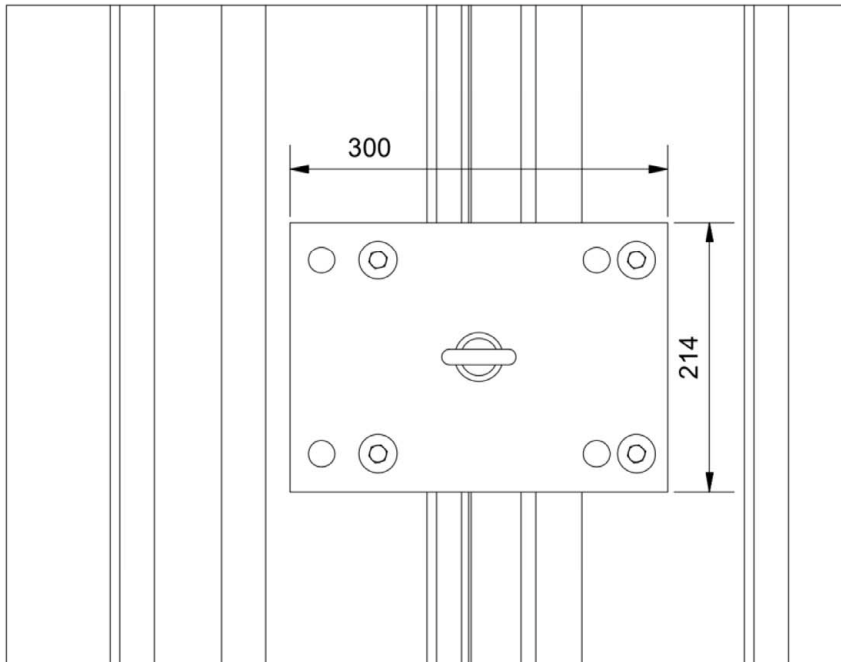
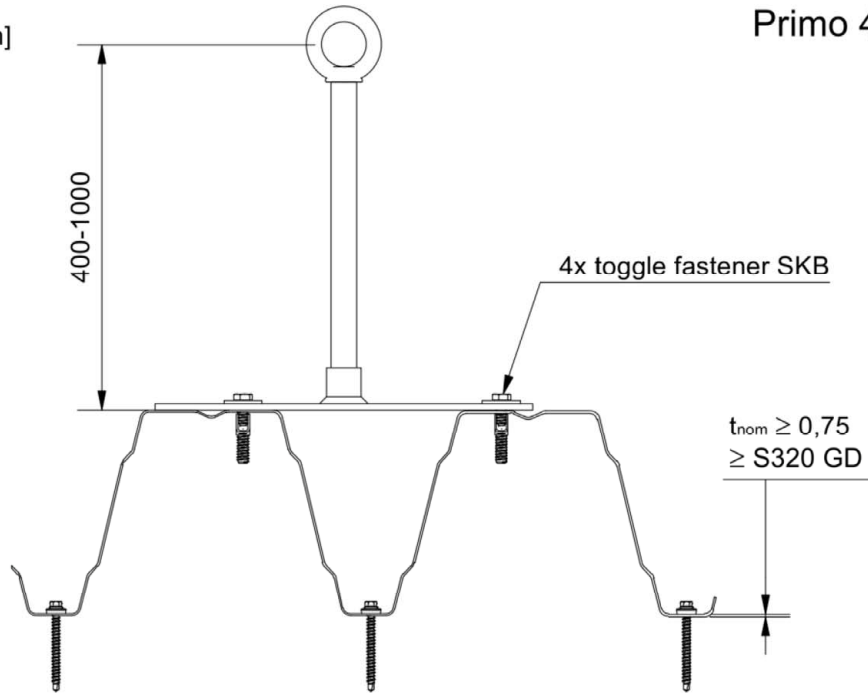
Fall protection Primo

Primo 4 TP2 for trapezoidal steel sheeting height 35mm up to 165mm in positive position

Annex 4.1

all dimensions in [mm]

Primo 4 TP2



Fall protection Primo

Primo 4 TP2 for trapezoidal steel sheeting height 35mm up to 165mm in positive position

Annex 4.2

Table 4: Substructure trapezoidal steel sheeting

Anchor Device	Bar height [mm]	Fastener	Trapezoidal steel sheeting		
			Position	Variety	Minimum substructure thickness t_{nom} [mm]
Primo 4 TP3	400 - 700	Toggle fastener SKB	Positive	≥ S320GD	≥ 0,75

The anchor device and all components can be used in weathered outdoor areas.

Regulations for Primo 4 TP3

The edge distance in the transverse direction must be at least one panel width of the trapezoidal steel profile. The edge distance to the end support of the trapezoidal steel profile (purlin or truss) shall be at least 500 mm.

Trapezoidal steel profiles are also permissible as perforated sheeting provided that the main dimensions, the minimum sheet thickness and the minimum tensile strengths of the steel grades used for the acoustic profiles correspond to the requirements formulated here for conventional trapezoidal steel profiles. Perforations (round holes up to Ø 5 mm) may only be located in the profile webs and not in the lower or upper flanges of the acoustic profiles.

Static loading / design resistance

$$F_{R,d} = \frac{F_{R,k}}{\gamma_M} = \frac{18,9}{1,33} = 14,2 \text{ kN}$$

The recommended partial factor γ_M is 1,33, provided no partial factor is given in national regulations or national Annexes to EN 1993.

Dynamic loading

Four users

Deformation capacity

≤ 9 mm at 0.7 kN, maximum overhang above roof membrane 700 mm

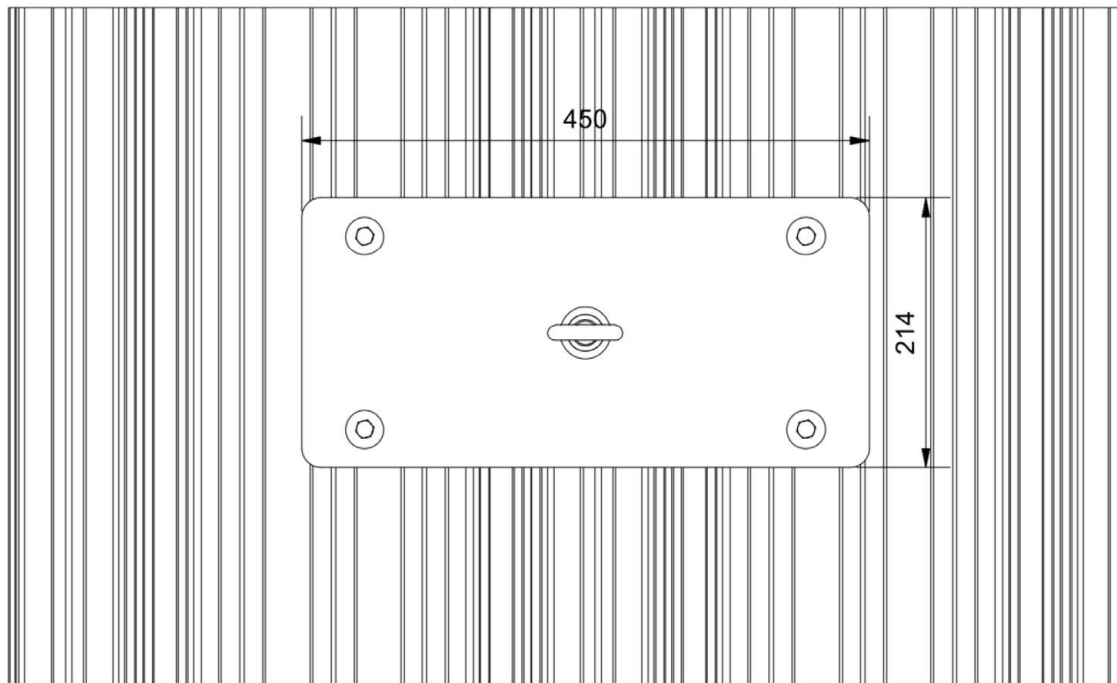
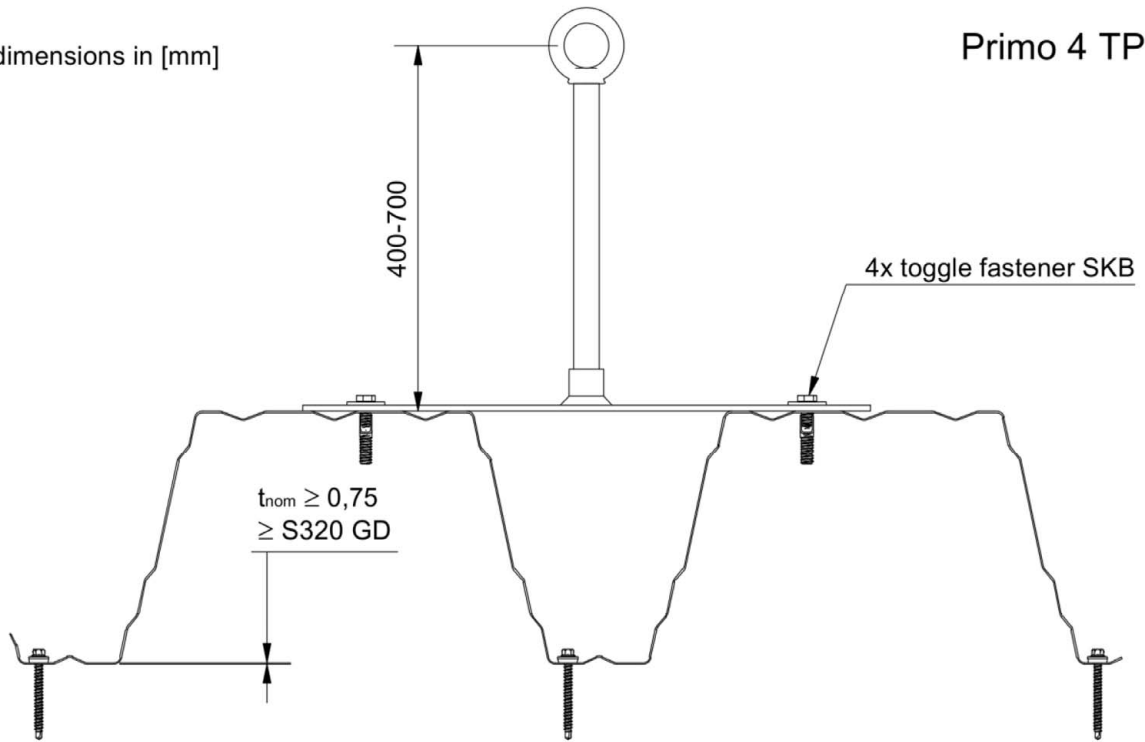
Fall protection Primo

Primo 4 TP3 for trapezoidal steel sheeting height 200mm up to 206mm in positive position

Annex 5.1

all dimensions in [mm]

Primo 4 TP3



Fall protection Primo

Primo 4 TP3 for trapezoidal steel sheeting height 200mm up to 206mm in positive position

Annex 5.2