

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

**ETA-16/0789**  
**of 30 September 2020**

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

Personal Fall-Protection System Primo 2 AD,  
Primo 3 AD-10, Primo 3 AD-12, Primo 3 SP-HO,  
Primo 6 AD

Product family  
to which the construction product belongs

Anchor Devices for Fastening Personal Fall Protection  
Systems to Concrete Structures

Manufacturer

Sicherheitskonzepte Breuer GmbH  
Broekhuysener Straße 40  
47638 Straelen  
DEUTSCHLAND

Manufacturing plant

Sicherheitskonzepte Breuer GmbH  
Broekhuysener Straße 40  
47638 Straelen  
Germany

This European Technical Assessment  
contains

15 pages including 11 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 331072-00-0601

This version replaces

ETA-16/0789 issued on 1 November 2018

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## Specific part

### 1 Technical description of the product

The fall protection system Primo is made of stainless steel. It is fastened to reinforced normal concrete (cracked or uncracked), strength classes C20/25 to C50/60 and pre-stressed concrete with at least the strength class C45/55 according to EN 206.

The fall protection system Primo is fastened to the concrete with the different fasteners which can be seen in 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)	Fastener	Note
2	Primo 2 AD	FAZ II 12/10 R	
3	Primo 3 AD-10	FAZ II 10/10 K R	only uncracked concrete
4	Primo 3 AD-12	FAZ II 12/10 K R	
5	Primo 3 SP-HO	FHY M10 A4	only pre-stressed concrete
6	Primo 6 AD	FAZ II 16/25 R	

The components and the system setup of the product are given in Annex (1-6).

### 2 Specification of the intended use in accordance with the applicable European Assessment Document 331072-00-0601

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

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 Primo 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.

**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 and accessibility in use (BWR 4)**

Essential characteristic	Performance
Static loading	see Annexes 2-6
Dynamic loading	see Annexes 2-6
Check of deformation capacity in case of constraining forces	deformation capacity at 0.7 kN see Annexes 2-6
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. 331072-00-0601, 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 30 September 2020 by Deutsches Institut für Bautechnik

BD Dipl.-Ing. Andreas Kummerow  
Head of Department

*beglaubigt:*  
Hahn

This ETA includes the product variants listed in Table 1:

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

Annex	Tradename (Product in this ETA)	Fastener	Substructure
2	Primo 2 AD	Bolt Anchor FAZ II 12/10 R <sup>b</sup>	reinforced concrete C20/25 to C50/60 <sup>a</sup> (cracked and uncracked))
3	Primo 3 AD-10	Bolt Anchor FAZ II 10/10 K R <sup>b</sup>	reinforced concrete C20/25 to C50/60 <sup>a</sup> (uncracked)
4	Primo 3 AD-12	Bolt Anchor FAZ II 12/10 K R <sup>b</sup>	reinforced concrete C20/25 to C50/60 <sup>a</sup> (cracked and uncracked))
5	Primo 3 SP-HO	Hollow-ceiling anchor FHY M10 A4	hollow-core slabs of C45/55 <sup>a</sup>
6	Primo 6 AD	Bolt Anchor FAZ II 16/25 R <sup>b</sup>	reinforced concrete C20/25 to C50/60 <sup>a</sup> (cracked and uncracked))

Annexes 2 to 6 show the components and the system structure 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 Eurocode 0. 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:  $F_{Ed} = F_{Ek} \cdot \gamma_F = (6 + 2) \text{ kN} \cdot 1,5 = 12 \text{ kN}$

- a EN 206:2013+A1:2016 Concrete - Specification, performance, production and conformity  
b ETA-05/0069 fischer Bolt Anchor FAZ II, FAZ II R, FAZ II HCR

Fallprotection Primo

Design Values

Annex 1

**Table 2: Substructure reinforced concrete C20/25 to C50/60 (cracked and uncracked)**

Anchor Device	Bar height [mm]	Fastener	Edge distance $C_{min}$ [mm]	Minimum substructure thickness $h_{min}$ [mm]
Primo 2 AD	200-1000	FAZ II 12/10 R	200	120

All components can be used in weathered outdoor areas.

**Regulations for Primo 2 AD on concrete**

The concrete substructure is to be pre-drilled with a borehole diameter of 12mm and a borehole depth of  $\geq 95$ mm. The installation is carried out with a torque of 60Nm.

The installation of all connecting elements and concrete anchors has to be performed with an examined torque wrench. The concrete anchors are only allowed to be applied with loading if the required torque is applied.

**Static loading / design resistance**

$$F_{R,d} = \frac{F_{R,k}}{\gamma_M} = \frac{18,0}{1,5} = 12,0 \text{ kN}$$

The recommended partial factor  $\gamma_M$  is 1,5, provided no partial factor is given in national regulations or national Annexes to Eurocode 2.

**Dynamic loading / design resistance**

Three users

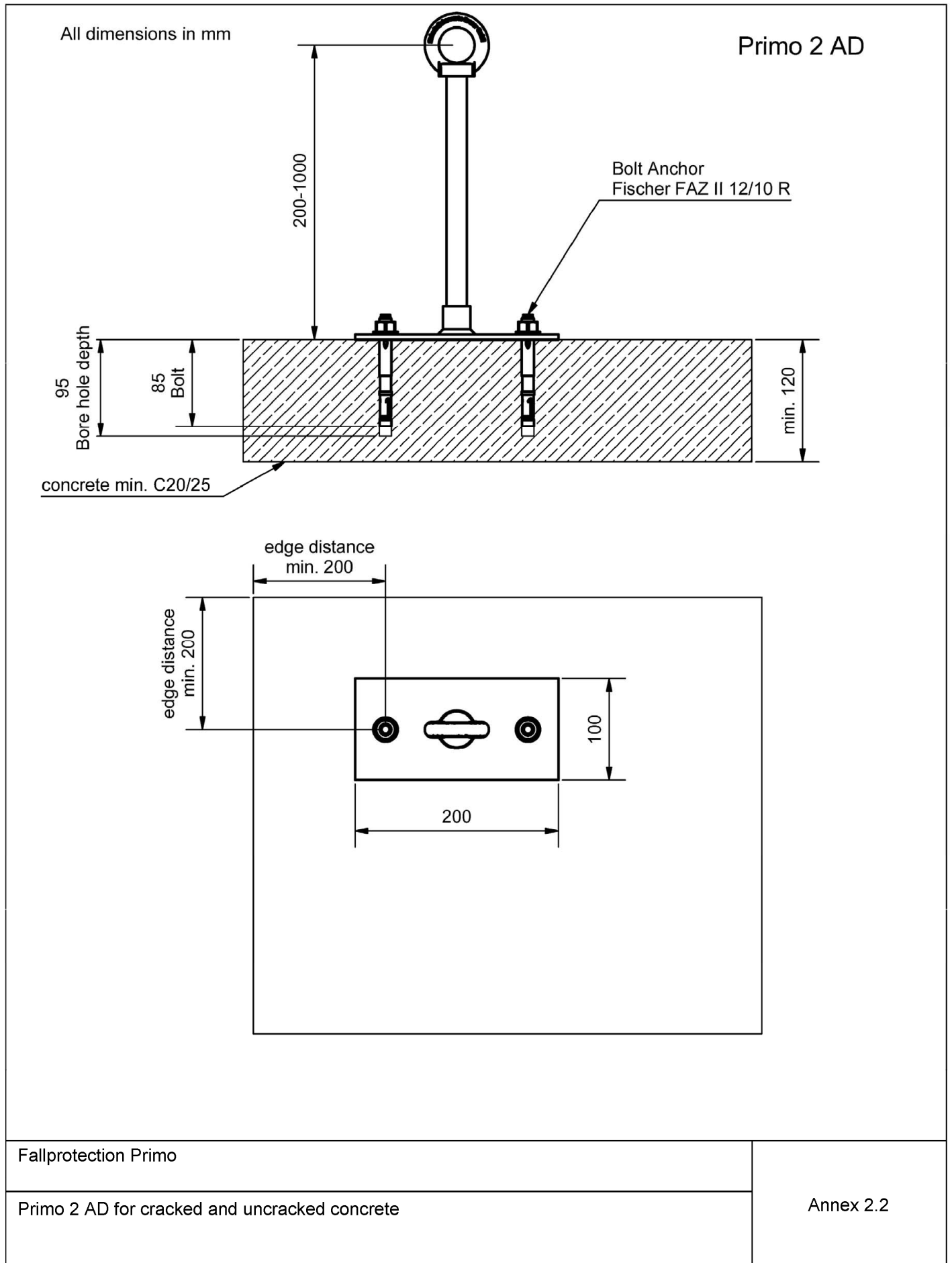
**Deformation capacity**

9 mm

Fallprotection Primo

Primo 2 AD for cracked and uncracked concrete

Annex 2.1



**Table 3: Substructure reinforced concrete C20/25 to C50/60 (uncracked)**

Anchor Device	Bar height [mm]	Fastener	Edge distance $C_{min}$ [mm]	Minimum substructure thickness $h_{min}$ [mm]
Primo 3 AD-10	200-1000	FAZ II 10/10 K R	200	80

The Primo 3 AD-10 may only be installed in non-cracked concrete (pressure zone). All components can be used in weathered outdoor areas.

**Regulations for Primo 3 AD-10 on concrete**

The concrete substructure is to be pre-drilled with a borehole diameter of 10mm and a borehole depth of  $\geq 63$ mm. The installation is carried out with a torque of 45Nm.

The installation of all connecting elements and concrete anchors has to be performed with an examined torque wrench. The concrete anchors are only allowed to be applied with loading if the required torque is applied.

**Static loading / design resistance**

$$F_{R,d} = \frac{F_{R,k}}{\gamma_M} = \frac{28,7}{1,5} = 19,1 \text{ kN}$$

The recommended partial factor  $\gamma_M$  is 1,5, provided no partial factor is given in national regulations or national Annexes to Eurocode 2.

**Dynamic loading / design resistance**

Three users

**Deformation capacity**

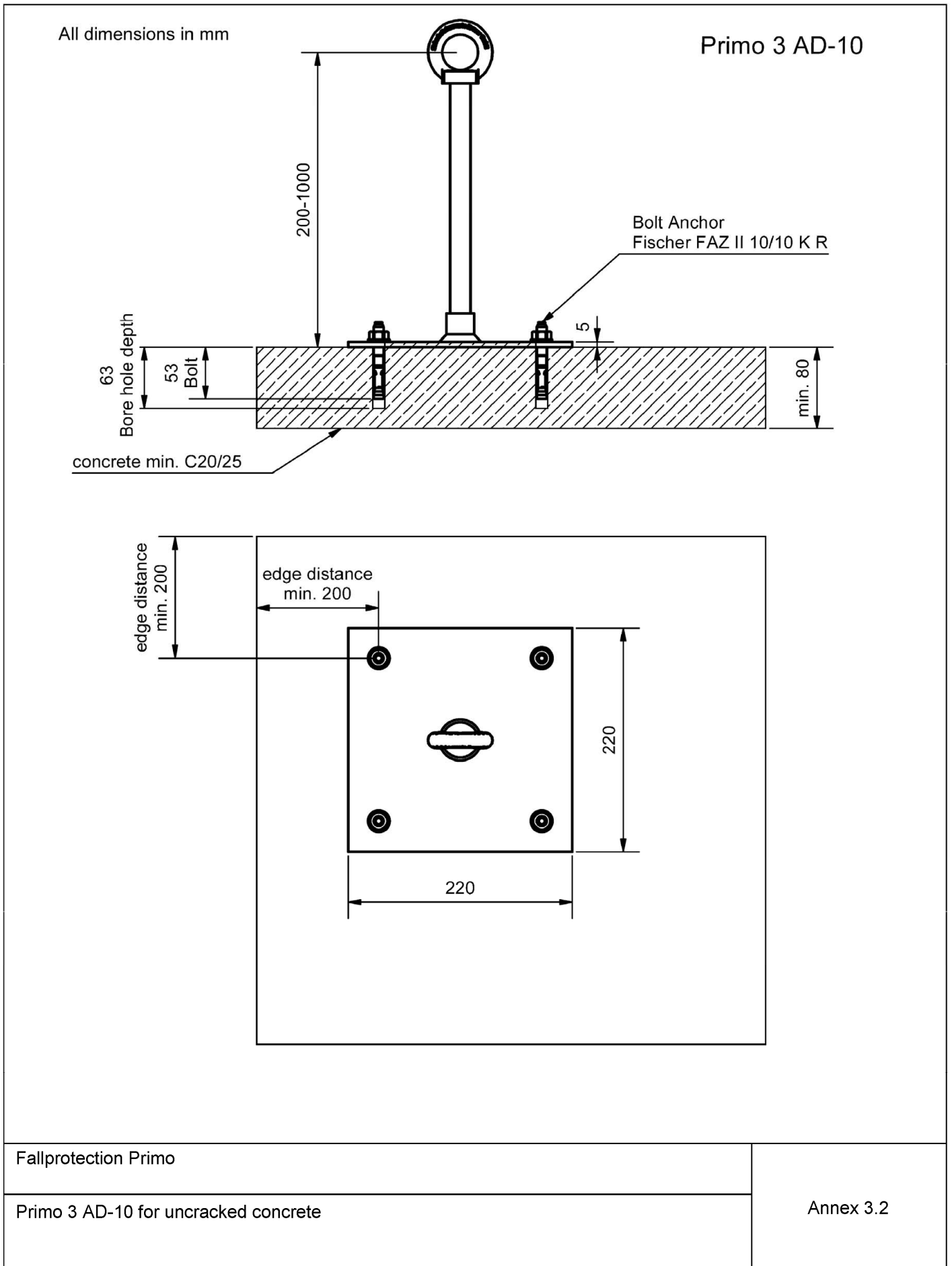
9 mm

Fallprotection Primo

Primo 3 AD-10 for uncracked concrete

Annex 3.1





**Table 4: Substructure reinforced concrete C20/25 to C50/60 (cracked and uncracked)**

Anchor Device	Bar height [mm]	Fastener	Edge distance $C_{min}$ [mm]	Minimum substructure thickness $h_{min}$ [mm]
Primo 3 AD-12	200-1000	FAZ II 12/10 K R	200	100

All components can be used in weathered outdoor areas.

**Regulations for Primo 3 AD-12 on concrete**

The concrete substructure is to be pre-drilled with a borehole diameter of 12mm and a borehole depth of  $\geq 75$ mm. The installation is carried out with a torque of 60Nm.

The installation of all connecting elements and concrete anchors has to be performed with an examined torque wrench. The concrete anchors are only allowed to be applied with loading if the required torque is applied.

**Static loading / design resistance**

$$F_{R,d} = \frac{F_{R,k}}{\gamma_M} = \frac{18,3}{1,5} = 12,2 \text{ kN}$$

The recommended partial factor  $\gamma_M$  is 1,5, provided no partial factor is given in national regulations or national Annexes to Eurocode 2.

**Dynamic loading / design resistance**

Three users

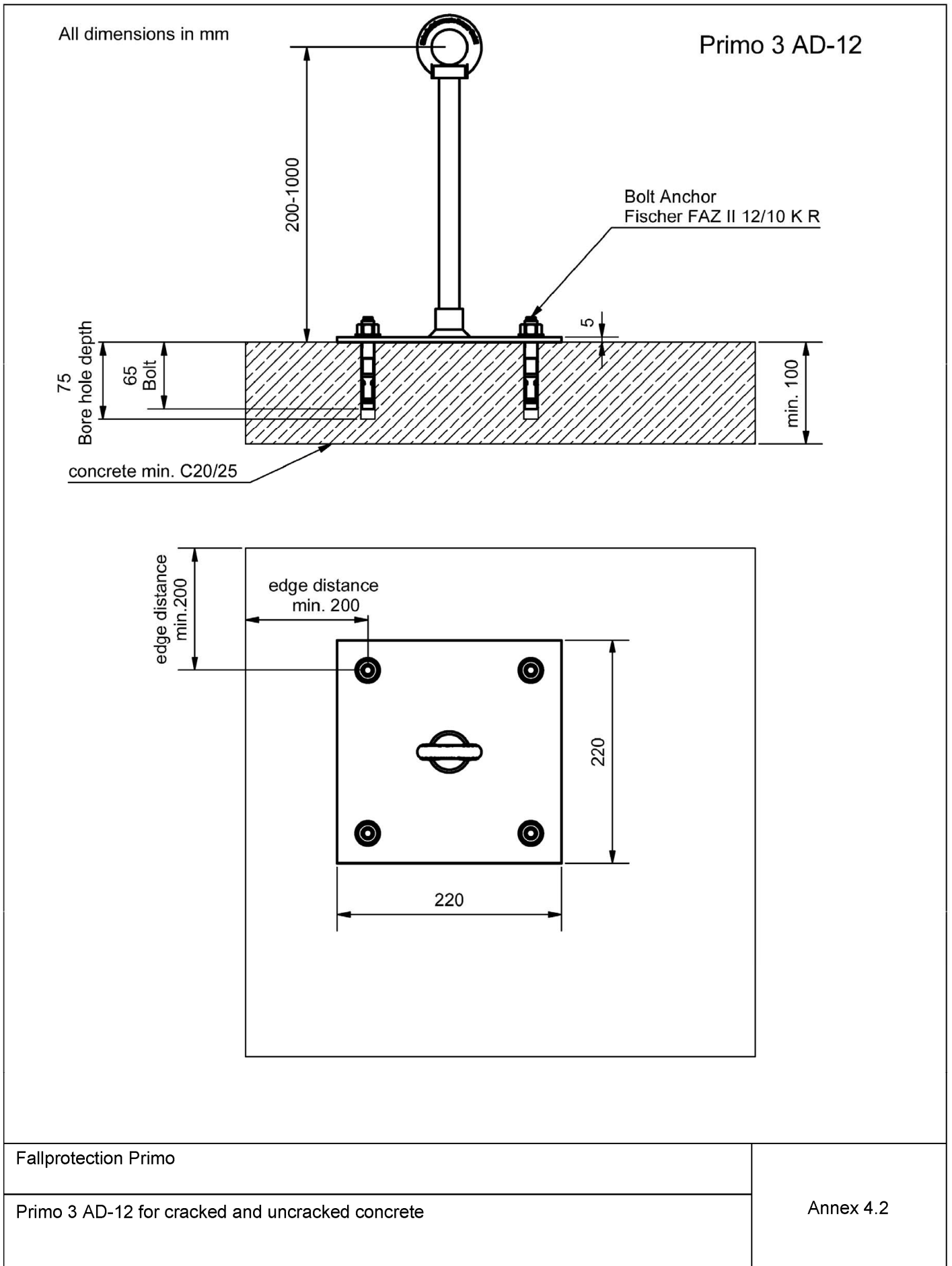
**Deformation capacity**

9 mm

Fallprotection Primo

Primo 3 AD-12 for cracked and uncracked concrete

Annex 4.1



**Table 5: Substructure hollow-core slabs min. C45/55**

Anchor Device	Bar height [mm]	Fastener	Edge distance $C_{min}$ [mm]	Minimum substructure thickness $h_{min}$ [mm]
Primo 3 SP-HO	200-1000	FHY M10 A4	300	27,5

All components can be used in weathered outdoor areas.

**Regulations for Primo 3 SP-HO on hollow-core slabs**

The concrete substructure is to be pre-drilled with a borehole diameter of 16mm and a borehole depth of  $\geq 65$ mm. The installation is carried out with a torque of 20Nm.

The installation of all connecting elements and concrete anchors has to be performed with an examined torque wrench. The concrete anchors are only allowed to be applied with loading if the required torque is applied.

**Static loading / design resistance**

$$F_{R,d} = \frac{F_{R,k}}{\gamma_M} = \frac{18,0}{1,5} = 12,0 \text{ kN}$$

The recommended partial factor  $\gamma_M$  is 1,5, provided no partial factor is given in national regulations or national Annexes to Eurocode 2.

**Dynamic loading / design resistance**

Three users

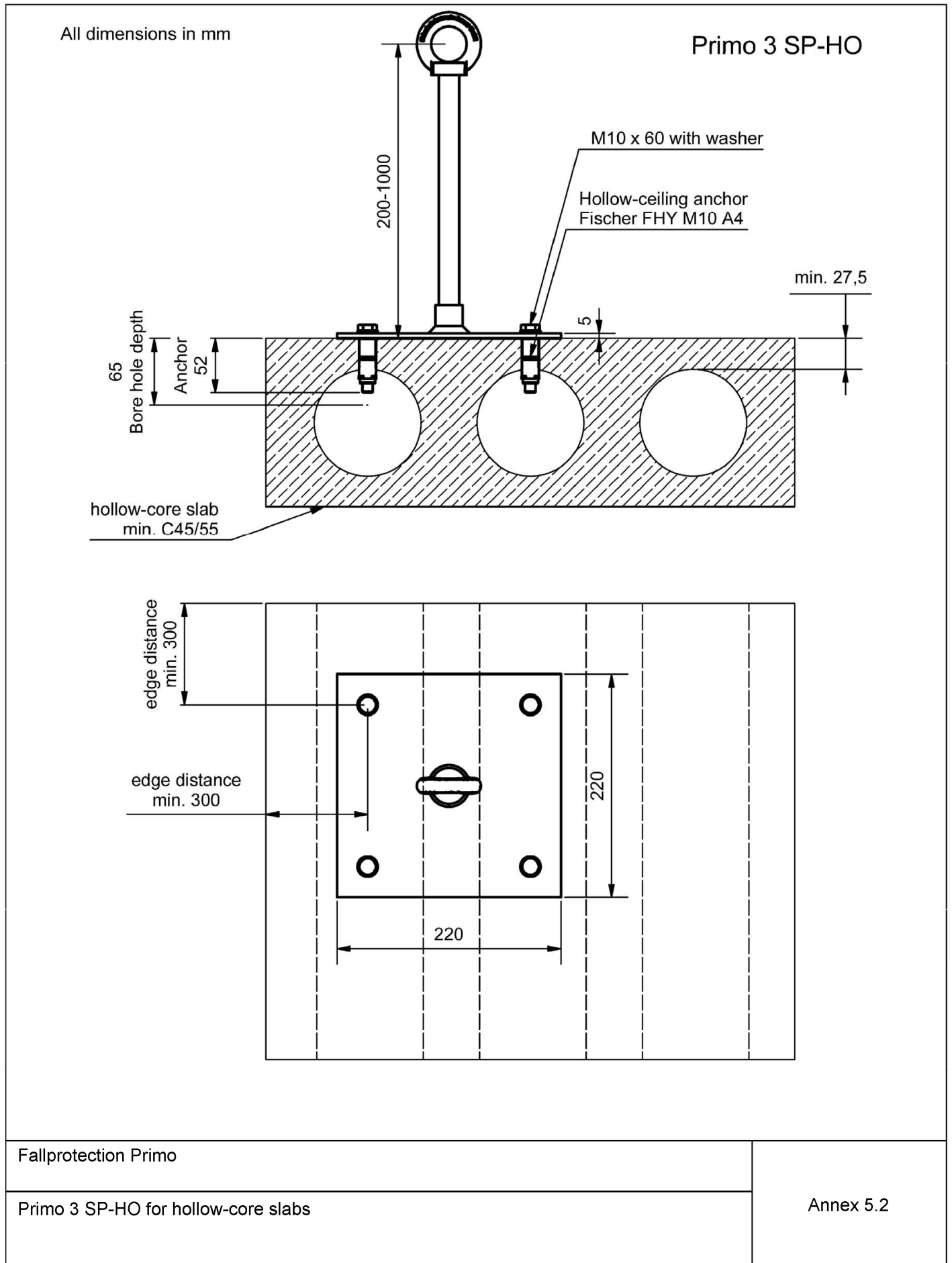
**Deformation capacity**

9 mm

Fallprotection Primo

Primo 3 SP-HO for hollow-core slabs

Annex 5.1



**Table 6: Substructure reinforced concrete C20/25 to C50/60 (cracked and uncracked)**

Anchor Device	Bar height [mm]	Fastener	Edge distance $C_{min}$ [mm]	Minimum substructure thickness $h_{min}$ [mm]
Primo 6 AD	200-1000	FAZ II 16/25 R	300	140

All components can be used in weathered outdoor areas.

#### Regulations for Primo 6 AD on concrete

The concrete substructure is to be pre-drilled with a borehole diameter of 16mm and a borehole depth of  $\geq 110$ mm. The installation is carried out with a torque of 110Nm. The thread of the anchor bolt must reach at least 45mm out of the concrete surface before installing the anchor device.

The installation of all connecting elements and concrete anchors has to be performed with an examined torque wrench. The concrete anchors are only allowed to be applied with loading if the required torque is applied.

#### Static loading / design resistance

$$F_{R,d} = \frac{F_{R,k}}{\gamma_M} = \frac{22,7}{1,5} = 15,1 \text{ kN}$$

The recommended partial factor  $\gamma_M$  is 1,5, provided no partial factor is given in national regulations or national Annexes to Eurocode 2.

#### Dynamic loading / design resistance

Three users

#### Deformation capacity

6 mm

Fallprotection Primo

Primo 6 AD for cracked and uncracked concrete

Annex 6.1

