



J+
ZINC



JE+
A4



JS+
ZINC



JSR+
ZINC

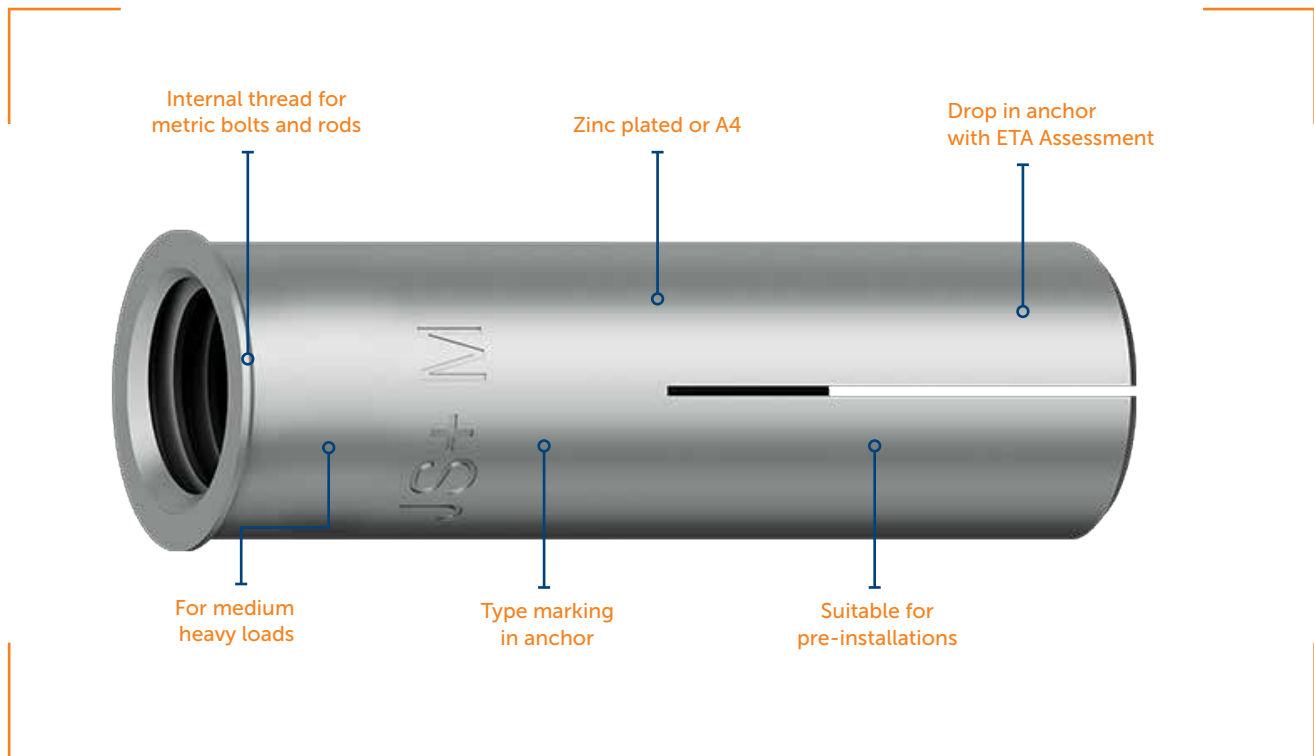
DROP IN ANCHORS

PRODUCT DATA SHEET



ETA-approved drop in anchors ideal for suspension systems

Internal thread for metric bolts and rods



DROP IN ANCHORS J, JE+, JS+, JSR+

Description

- For multiple use for non-structural applications in cracked and uncracked concrete, hollow core slab
- Deformation controlled expansion anchor
- Drop in anchors for pre-installation with an installation tool
- Internal thread for metric bolts and rods
- Suitable bolt length is 1-1,5 x the nominal size of the anchor + fixture thickness.
- ZP for dry indoor and temporary outdoor use.
- Fixing screws or anchor rods
 - Steel grades categories 4.6, 5.6, 5.8 or 8.8 acc. EN ISO 898-1

Description

- Drop in anchors for pre-installations with an installation tool
- Internal thread for metric bolts and rods
- Suitable bolt length is 1-1,5 x the nominal size of the anchor + fixture thickness
- Suitable for medium heavy loads
- Displacement controlled expansion anchors
- Fixing screws or anchor rods
 - Steel grade categories 4.6, 5.6, 5.8 or 8.8 acc. EN ISO 898-1
 - Stainless steel A4-50, A4-70, A4-80



J+ carbon steel

Zinc electroplated acc. EN ISO 4042, $t \geq 5 \mu\text{m}$



Dry indoor conditions, indoor with temporary condensation.

JS+ carbon steel

Zinc electroplated acc. EN ISO 4042, $t \geq 5 \mu\text{m}$



Dry indoor conditions, indoor with temporary condensation.

JSR+ carbon steel

Zinc electroplated



Dry indoor conditions, indoor with temporary condensation.

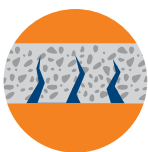
JE+ A4 stainless steel



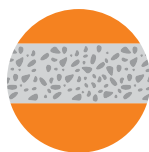
Dry internal conditions, external atmospheric exposure or to permanent internal damp conditions.

Base materials

Approved for



Cracked concrete



Uncracked concrete










Hollow core slab

Also suitable for

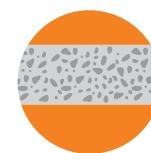


Natural stone

ASSESSMENTS / CERTIFICATIONS / APPLICATIONS

| Description of document | | Authority/ Laboratory | ID | Additional info |
|--|--|--|-------------|--|
| European Technical Assessment |  | Instituto de ciencias De la construcción Eduardo torroja | ETA-22/0913 | EAD 330232-00-0601 "Mechanical Fasteners for use in concrete" |
| European Technical Assessment |  | Instituto de ciencias De la construcción Eduardo torroja | ETA-22/0912 | EAD 330747-00-0601, "Fasteners for use in concrete for redundant non-structural systems" |
| Fire resistance |  | Instituto de ciencias De la construcción Eduardo torroja | ETA-22/0912 | EAD 330747-00-0601 |
| Sormat Trustfix anchor calculation software |  | Sormat Oy / S&P Software Consulting | | TrustFIX anchor calculation |
| CAD-blocks for AutoCAD |  | EJOT Sormat Oy | | Blocks installation instructions for AutoCAD |
| Drop in anchor components for TEKLA Structures |  | EJOT Sormat Oy | | Tekla structures components + instructions video |
| YouTube installation videos |  | EJOT Sormat Oy | | Drop in anchor installation video |

STATIC AND QUASI-STATIC LOADS FOR REDUNDANT NON-STRUCTURAL SYSTEMS



The data of these tables is based on: ETA-22/0912

- J+ / JS+ / JSR+ / JE+ / JSE+
- Anchors for redundant non-structural applications
- Concrete C20/25, $f_{ck,cube} = 25 \text{ N/mm}^2$
- Installation has been done correctly (see page 8)
- Edge- and spacing distance's (see page 11)
- Respect of minimum base material thickness (see page 11)
- Load values are based on screw or rod with steel grade ≥ 4.6
- Zinc plated anchors: J+, JS+, JSR+
- A4 Stainless steel: JE+, JSE+

Characteristic resistance

| Anchor size | | M6 | M8 | M10 | M12 | M16 | M20 | | |
|---|-----------------------|--------------------|------|------|------|------|------|------|--|
| Assessment | | ETA-22/0912 | | | | | | | |
| Effective anchorage depth h_{ef} | J+ / JS+ / JE+ / JSE+ | h_{ef} [mm] | 25 | 30 | 40 | 50 | 65 | 80 | |
| | JSR+ | h_{ef} [mm] | - | 25 | 25 | 25 | - | - | |
| Characteristic resistance in any direction F_{Rk} | J+ / JS+ | F_{Rk} [kN] | 2,00 | 3,00 | 5,00 | 7,50 | 12,0 | 20,0 | |
| | JSR+ | F_{Rk} [kN] | - | 2,50 | 4,00 | 4,00 | - | - | |
| | JE+ / JSE+ | F_{Rk} [kN] | 2,50 | 3,50 | 3,50 | 6,50 | 12,5 | 16,5 | |

Design resistance

| Anchor size | | M6 | M8 | M10 | M12 | M16 | M20 | |
|---|-----------------------|---------------|------|------|------|------|------|------|
| Effective anchorage depth h_{ef} | J+ / JS+ / JE+ / JSE+ | h_{ef} [mm] | 25 | 30 | 40 | 50 | 65 | 80 |
| | JSR+ | h_{ef} [mm] | - | 25 | 25 | 25 | - | - |
| Design resistance in any direction F_{Rd} | J+ / JS+ | F_{Rd} [kN] | 2,00 | 3,00 | 5,00 | 7,50 | 12,0 | 20,0 |
| | JSR+ | F_{Rd} [kN] | - | 2,50 | 4,00 | 4,00 | - | - |
| | JE+ / JSE+ | F_{Rd} [kN] | 2,50 | 3,50 | 3,50 | 6,50 | 12,5 | 16,5 |

Recommended load

| Anchor size | | M6 | M8 | M10 | M12 | M16 | M20 | |
|---|-----------------------|----------------|------|------|------|------|------|------|
| Effective anchorage depth h_{ef} | J+ / JS+ / JE+ / JSE+ | h_{ef} [mm] | 25 | 30 | 40 | 50 | 65 | 80 |
| | JSR+ | h_{ef} [mm] | - | 25 | 25 | 25 | - | - |
| Recommended load in any direction F_{rec} | J+ / JS+ | F_{rec} [kN] | 2,00 | 3,00 | 5,00 | 7,50 | 12,0 | 20,0 |
| | JSR+ | F_{rec} [kN] | - | 2,50 | 4,00 | 4,00 | - | - |
| | JE+ / JSE+ | F_{rec} [kN] | 2,50 | 3,50 | 3,50 | 6,50 | 12,5 | 16,5 |

The partial safety factor for action is $\gamma = 1.4$.

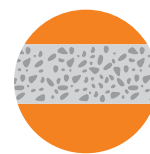
Requirements for multiple anchoring

The definition of member states are included in an annex to the ETAG 001 Part 6, Annex 1

| Minimum number of fixing points | Minimum number of anchors per fixing point | Maximum design load of action N_{Sd} per fixing point |
|---------------------------------|--|---|
| 3 | 1 | 2 kN |
| 4 | 1 | 3 kN |

The value N_{Sd} might be increased if in the design it is shown that the requirements on the strength and stiffness of the fixture in the serviceability and ultimate states after the failure of one anchor are fulfilled.

STATIC AND QUASI-STATIC LOADS FOR USE IN UNCRACKED CONCRETE



The data of these tables is based on: ETA-22/0913

- J+ / JS+
- Anchors for use in uncracked concrete
- Concrete C20/25, $f_{ck,cube} = 25 \text{ N/mm}^2$
- Installation has been done correctly (p. 8)
- Edge- and spacing distance's acc. page 11.
- Respect of minimum base material thickness (p. 11)
- Load values are based on screw or rod with steel grade ≥ 4.6
- Zinc plated anchors

Characteristic resistance

| Anchor size | | | M6 | M8 | M10 | M12 | M16 | M20 |
|---------------------------|----------|------|-------------|------|------|------|------|------|
| Assessment | | | ETA-22/0913 | | | | | |
| Effective anchorage depth | h_{ef} | [mm] | 25 | 30 | 40 | 50 | 65 | 80 |
| Tension | N_{Rk} | [kN] | 6,15 | 8,08 | 12,4 | 17,4 | 25,8 | 35,2 |
| Shear | V_{Rk} | [kN] | 4,00 | 7,30 | 11,6 | 16,8 | 31,4 | 49,0 |

Design resistance

| Anchor size | | | M6 | M8 | M10 | M12 | M16 | M20 |
|---------------------------|----------|------|------|------|------|------|------|------|
| Effective anchorage depth | h_{ef} | [mm] | 25 | 30 | 40 | 50 | 65 | 80 |
| Tension | N_{Rd} | [kN] | 3,42 | 4,49 | 5,93 | 8,28 | 12,3 | 16,8 |
| Shear | V_{Rd} | [kN] | 2,40 | 4,37 | 6,95 | 10,1 | 18,8 | 29,3 |

Recommended load

| Anchor size | | | M6 | M8 | M10 | M12 | M16 | M20 |
|---------------------------|-----------|------|------|------|------|------|------|------|
| Effective anchorage depth | h_{ef} | [mm] | 25 | 30 | 40 | 50 | 65 | 80 |
| Tension | N_{rec} | [kN] | 2,44 | 3,21 | 4,23 | 5,92 | 8,77 | 12,0 |
| Shear | V_{rec} | [kN] | 1,71 | 3,12 | 4,96 | 7,19 | 13,4 | 21,0 |

The partial safety factor for action is $\gamma = 1.4$.

BASIC LOADING DATA FOR PRECAST PRE-STRESSED HOLLOW CORE SLABS



The data of these tables is based on ETA-22/0912

- Precast prestressed hollow core concrete slabs C30/37 to C50/60:
- Installation has been done correctly (page 8).
- Edge distances and spacings acc. page 11.
- Respect of minimum base material thickness (p. 11)
- Load values are based on screw or rod with steel grade ≥ 4.6
- Zinc plated anchors (JSR+)

Characteristic resistance

| Anchor size | | | M8x25 | M10x25 | M12x25 |
|-------------------------|-----------|------|-------|--------|--------|
| Nominal anchorage depth | h_{nom} | [mm] | 25 | 25 | 25 |
| Flange thickness | d_b | [mm] | 35 | 35 | 35 |
| Load for all directions | F_{Rk} | [kN] | 5,50 | 6,00 | 6,50 |

Design resistance

| Anchor size | | | M8x25 | M10x25 | M12x25 |
|-------------------------|-----------|------|-------|--------|--------|
| Nominal anchorage depth | h_{nom} | [mm] | 25 | 25 | 25 |
| Flange thickness | d_b | [mm] | 35 | 35 | 35 |
| Load for all directions | F_{Rd} | [kN] | 3,06 | 2,86 | 3,10 |

Recommended load

| Anchor size | | | M8x25 | M10x25 | M12x25 |
|-------------------------|-----------|------|-------|--------|--------|
| Nominal anchorage depth | h_{nom} | [mm] | 25 | 25 | 25 |
| Flange thickness | d_b | [mm] | 35 | 35 | 35 |
| Load for all directions | F_{rec} | [kN] | 2,18 | 2,04 | 2,21 |

The partial safety factor for action is $\gamma = 1.4$.

Requirements for multiple anchoring

The definition of multiple use according to the Member States is given in annex of the ETAG 001 Part 6.

| Minimum number of fixing points | Minimum number of anchors per fixing point | Maximum design load of action N_{Sd} |
|---------------------------------|--|--|
| 3 | 1 | 2 kN |
| 4 | 1 | 3 kN |

The value N_{Sd} might be increased if in the design it is shown that the requirements on the strength and stiffness of the fixture in the serviceability and ultimate states after the failure of one anchor are fulfilled.

FIRE RESISTANCE UNDER FIRE EXPOSURE IN ANY LOAD DIRECTION, ZINC PLATED ANCHORS



The data of these tables is based on: ETA-22/0912

- Anchors for redundant non-structural applications
- Concrete C20/25, $f_{ck,cube} = 25 \text{ N/mm}^2$
- Installation has been done correctly (see page 8)
- Edge- and spacing distances (see page 11)
- Respect of minimum base material thickness (see page 11)
- Load values are based on screw or rod with steel grade ≥ 4.6

ZINC PLATED ANCHORS

Characteristic resistance

| Anchor size | | M6 | M8x25 | M8 | M10x25 | M10 | M12x25 | M12 | M16 | M20 |
|---------------------------------|-------------------|--------------------|-------|------|--------|------|--------|------|------|------|
| Assessment | | ETA-22/0912 | | | | | | | | |
| Effective anchorage depth | h_{ef} [mm] | 25 | 25 | 30 | 25 | 40 | 50 | 25 | 65 | 80 |
| R30 (\geq Steel 4.6) | $F_{Rk, fi}$ [kN] | 0,20 | 0,31 | 0,37 | 0,50 | 0,87 | 0,50 | 1,69 | 3,00 | 4,90 |
| R120 (\geq Steel 4.6) | $F_{Rk, fi}$ [kN] | 0,10 | 0,18 | 0,18 | 0,40 | 0,46 | 0,40 | 0,84 | 1,57 | 2,45 |

Design resistances

| Anchor size | | M6 | M8x25 | M8 | M10x25 | M10 | M12x25 | M12 | M16 | M20 |
|---------------------------------|-------------------|--------------------|-------|------|--------|------|--------|------|------|------|
| Assessment | | ETA-22/0912 | | | | | | | | |
| Effective anchorage depth | h_{ef} [mm] | 25 | 25 | 30 | 25 | 40 | 50 | 25 | 65 | 80 |
| R30 (\geq Steel 4.6) | $F_{Rd, fi}$ [kN] | 0,20 | 0,26 | 0,37 | 0,42 | 0,87 | 0,42 | 1,69 | 2,14 | 4,90 |
| R120 (\geq Steel 4.6) | $F_{Rd, fi}$ [kN] | 0,10 | 0,18 | 0,18 | 0,33 | 0,46 | 0,33 | 0,84 | 1,57 | 2,45 |

Recommended load

| Anchor size | | M6 | M8x25 | M8 | M10x25 | M10 | M12x25 | M12 | M16 | M20 |
|---------------------------------|--------------------|--------------------|-------|------|--------|------|--------|------|------|------|
| Assessment | | ETA-22/0912 | | | | | | | | |
| Effective anchorage depth | h_{ef} [mm] | 25 | 25 | 30 | 25 | 40 | 50 | 25 | 65 | 80 |
| R30 (\geq Steel 4.6) | $F_{rec, fi}$ [kN] | 0,14 | 0,18 | 0,26 | 0,30 | 0,62 | 0,30 | 1,21 | 1,53 | 3,50 |
| R120 (\geq Steel 4.6) | $F_{rec, fi}$ [kN] | 0,07 | 0,13 | 0,13 | 0,24 | 0,33 | 0,24 | 0,60 | 1,12 | 1,75 |

Spacing and edge distance under fire exposure

| | | |
|-----------------------|-------------------|-------------------|
| Anchor spacing | $S_{cr, fi}$ [mm] | $4 \times h_{ef}$ |
| Edge distance | $C_{cr, fi}$ [mm] | $2 \times h_{ef}$ |

In the absence of other national regulations the partial safety factor for resistance under fire exposure $\gamma_{M, fi} = 1,0$ is recommended.

FIRE RESISTANCE UNDER FIRE EXPOSURE IN ANY LOAD DIRECTION, STAINLESS STEEL ANCHORS



The data of these tables is based on: ETA-22/0912

- Anchors for redundant non-structural applications
- Concrete C20/25, $f_{ck,cube} = 25 \text{ N/mm}^2$
- Installation has been done correctly (see page 8)
- Edge- and spacing distances (see page 11)
- Respect of minimum base material thickness (see page 11)
- Load values are based on screw or rod with steel grade ≥ 4.6

STAINLESS STEEL ANCHORS

Characteristic resistance

| Anchor size | | | M6 | M8 | M10 | M12 | M16 | M20 | |
|---|--------------|------|--------------------|------|------|------|------|------|--|
| Assessment | | | ETA-22/0912 | | | | | | |
| Effective anchorage depth | h_{ef} | [mm] | 25 | 30 | 40 | 25 | 65 | 80 | |
| R30 (Steel $\geq 500\text{MPa}$) | $F_{Rk, fi}$ | [kN] | 0,20 | 0,53 | 0,70 | 1,63 | 3,13 | 4,13 | |
| R120 (Steel $\geq 500\text{MPa}$) | $F_{Rk, fi}$ | [kN] | 0,10 | 0,37 | 0,56 | 1,30 | 2,50 | 3,30 | |

Design resistances

| Anchor size | | | M6 | M8 | M10 | M12 | M16 | M20 | |
|---|--------------|------|--------------------|------|------|------|------|------|--|
| Assessment | | | ETA-22/0912 | | | | | | |
| Effective anchorage depth | h_{ef} | [mm] | 25 | 30 | 40 | 25 | 65 | 80 | |
| R30 (Steel $\geq 500\text{MPa}$) | $F_{Rd, fi}$ | [kN] | 0,20 | 0,38 | 0,50 | 1,16 | 2,23 | 2,95 | |
| R120 (Steel $\geq 500\text{MPa}$) | $F_{Rd, fi}$ | [kN] | 0,10 | 0,37 | 0,56 | 0,93 | 1,79 | 2,36 | |

Recommended load

| Anchor size | | | M6 | M8 | M10 | M12 | M16 | M20 | |
|---|---------------|------|--------------------|------|------|------|------|------|--|
| Assessment | | | ETA-22/0912 | | | | | | |
| Effective anchorage depth | h_{ef} | [mm] | 25 | 30 | 40 | 25 | 65 | 80 | |
| R30 (Steel $\geq 500\text{MPa}$) | $F_{rec, fi}$ | [kN] | 0,14 | 0,27 | 0,36 | 0,83 | 1,59 | 2,11 | |
| R120 (Steel $\geq 500\text{MPa}$) | $F_{rec, fi}$ | [kN] | 0,07 | 0,26 | 0,40 | 0,66 | 1,28 | 1,68 | |

Spacing and edge distance under fire exposure

| | | | | | | | |
|-----------------------|--------------|------|--------------|--|--|--|--|
| Anchor spacing | $S_{cr, fi}$ | [mm] | 4 x h_{ef} | | | | |
| Edge distance | $C_{cr, fi}$ | [mm] | 2 x h_{ef} | | | | |

In the absence of other national regulations the partial safety factor for resistance under fire exposure $\gamma_{M, fi} = 1.0$ is recommended.

MATERIALS AND DIMENSIONS

Material quality and coating

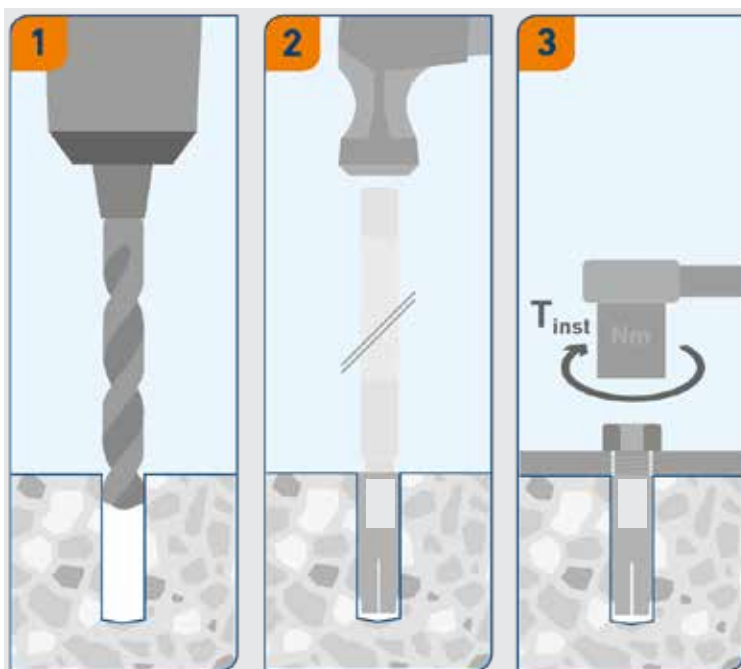
Anchor

| | |
|----------|--------------------------------------|
| Material | Cold formed steel or Stainless steel |
| Coating | Zinc electroplated min. 5 µm |

SETTING INSTRUCTIONS

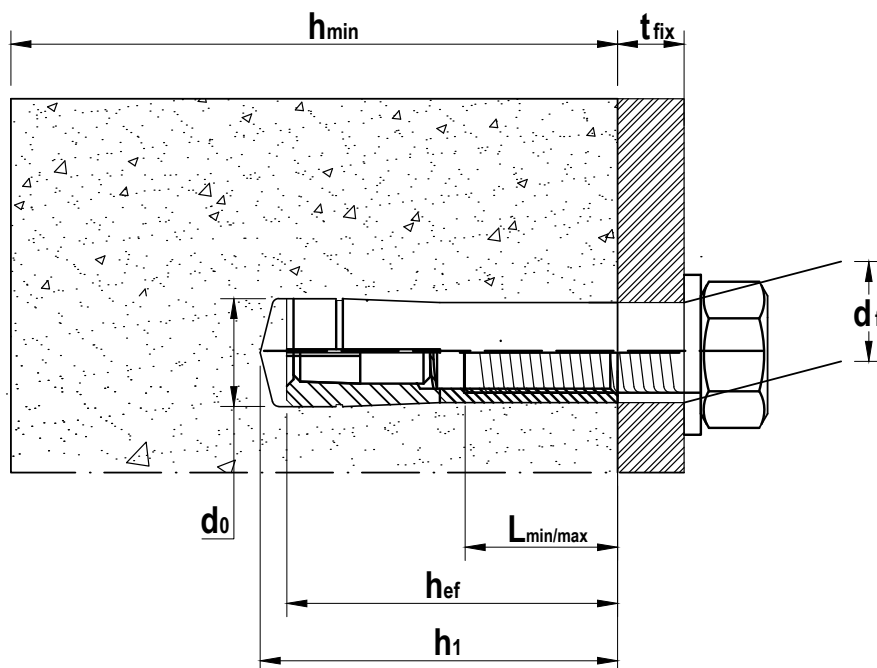
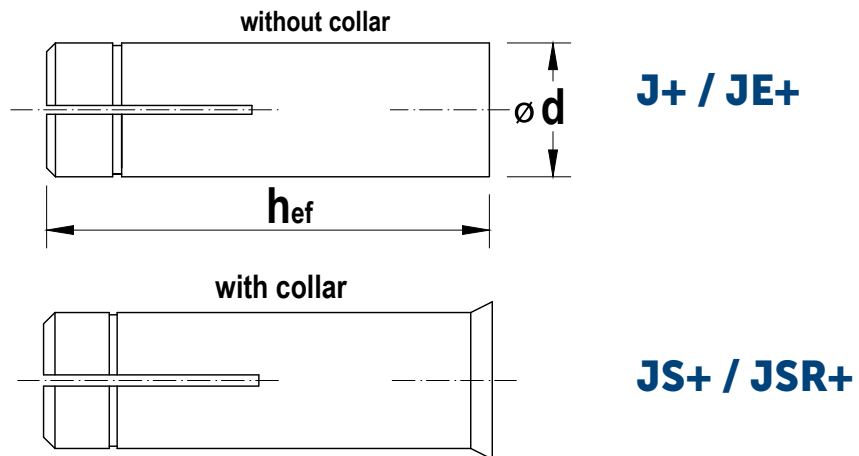
Installation equipment

| Specification | M6 | M8 | M10 | M12 | M16 |
|------------------|--|---------|---------|---------|---------|
| Rotary hammer | Hole drilling by rotary plus hammer mode. | | | | |
| Drill bit | SDS+ 2-CUT or 4-CUT | | | | |
| | Ø 8 mm | Ø 10 mm | Ø 12 mm | Ø 15 mm | Ø 20 mm |
| Additional tools | Air pump/compressor, setting tool, hammer, torque wrench | | | | |



Installation data and anchor dimensions

| Parameters and anchors sizes | | | M6 x 25 | M8 x 25 | M8 x 30 | M10 x 25 | M10 x 40 | M12 x 50 | M16 x 65 | M20 x 80 |
|---|------------------------------------|------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|
| Anchor outer diameter | d | [mm] | 8 | 10 | 10 | 12 | 12 | 15 | 20 | 25 |
| Drill hole diameter | d ₀ | [mm] | 8 | 10 | 10 | 12 | 12 | 12 | 20 | 25 |
| Anchorage depth | h _{ef} / h _{nom} | [mm] | 25 | 25 | 30 | 25 | 40 | 50 | 65 | 80 |
| Depth of drilled hole to deepest point | h ₁ ≥ | [mm] | 27 | 28 | 33 | 28 | 43 | 54 | 70 | 86 |
| Diameter of clearance hole in the fixture | d _f ≤ | [mm] | 7 | 9 | 9 | 12 | 12 | 14 | 18 | 22 |
| Max installation torque moment | T _{inst} | [Nm] | 4 | 11 | 11 | 17 | 17 | 38 | 60 | 100 |
| Maximum screwing depth J+/JE+/JS+ | L _{max} | [mm] | 10 | 12 | 13 | 13 | 17 | 21 | 27 | 34 |
| Minimum screwing depth JSR+ | L _{min} | [mm] | 6 | 7 | 8 | 8 | 10 | 12 | 16 | 20 |



INSTALLATION

Setting tools 2.0

| Anchor | | M6 | M8 | M10 | M12 | M16 | M20 |
|--------|--|----|----|-----|-----|-----|-----|
|--------|--|----|----|-----|-----|-----|-----|

Drop in anchors J+ / JS+ / JE+

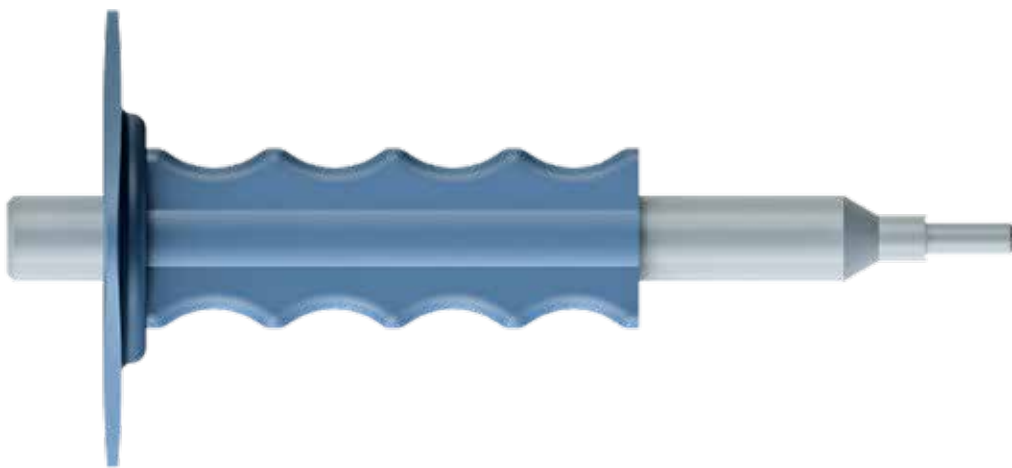
| | | | | | | | |
|----|------|------|------|------|------|------|------|
| D1 | [mm] | 8,0 | 10,0 | 12,0 | 15,0 | 20,0 | 25,0 |
| D2 | [mm] | 4,9 | 6,4 | 8,2 | 10,0 | 13,5 | 17,0 |
| Ls | [mm] | 15,0 | 18,0 | 21,0 | 30,0 | 36,0 | 48,0 |

Drop in anchor JSR+

| | | | | | | | |
|----|------|---|------|------|------|---|---|
| D1 | [mm] | - | 10,0 | 12,0 | 15,0 | - | - |
| D2 | [mm] | - | 6,4 | 8,2 | 10,0 | - | - |
| Ls | [mm] | - | 15,0 | 16,0 | 10,4 | - | - |



Setting tool 2.0 manual with hand protector



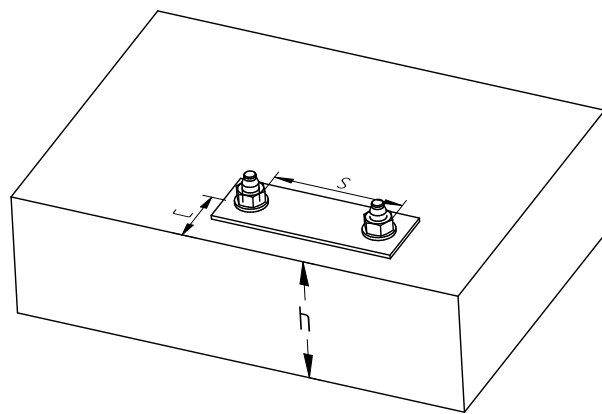
Setting tool 2.0 manual no-grip



INSTALLATION

Minimum thickness of concrete member, spacing and edge distance

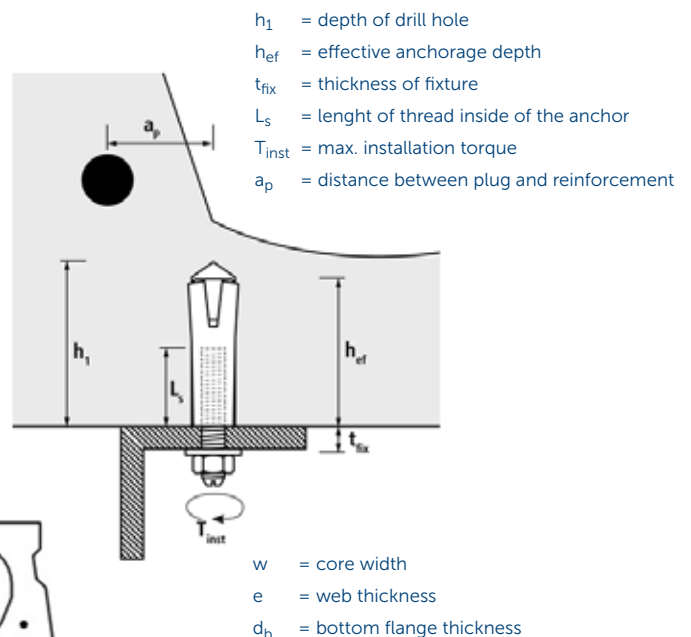
| Cracked and uncracked concrete | | | M6 x 25 | M8 x 25 | M8 x 30 | M10 x 25 | M10 x 40 | M12 x 50 | M16 x 65 | M20 x 80 | |
|------------------------------------|--------------------|------|---------------------------|---------|---------|----------|----------|----------|----------|----------|--|
| Assessment | | | ETA-22/0912 / ETA-22/0913 | | | | | | | | |
| Anchorage depth | $h_{ef} = h_{nom}$ | [mm] | 25 | 25 | 30 | 25 | 40 | 50 | 65 | 80 | |
| Minimum thickness of base material | h_{min} | [mm] | 100 | 100 | 100 | 100 | 100 | 100 | 130 | 160 | |
| Minimum spacing | s_{min} | [mm] | 60 | 75 | 60 | 75 | 100 | 100 | 130 | 160 | |
| Minimum edge distance | c_{min} | [mm] | 105 | 60 | 105 | 60 | 140 | 130 | 230 | 280 | |
| Characteristic spacing | s_{cr} | [mm] | 75 | 120 | 90 | 120 | 120 | 150 | 195 | 240 | |
| Characteristic edge distance | c_{cr} | [mm] | 40 | 110 | 60 | 60 | 60 | 75 | 100 | 120 | |



Minimum thickness, spacing and edge distance of precast prestressed hollow core slabs : JSR+

| Precast prestressed hollow core slabs flange thickness ≥ 35 mm | | | M8 x 25 | M10 x 25 | M12 x 25 |
|---|--------------------|------|-------------|----------|----------|
| Assessment | | | ETA-22/0912 | | |
| Anchorage depth | $h_{ef} = h_{nom}$ | [mm] | 25 | 25 | 25 |
| Minimum thickness of base material | h_{min} | [mm] | 200 | 200 | 200 |
| Distance between plug position and prestressing steel | $a_p \geq$ | [mm] | 50 | 50 | 50 |
| Minimum spacing | s_{min} | [mm] | 200 | 200 | 200 |
| Minimum edge distance | c_{min} | [mm] | 150 | 150 | 150 |
| Characteristic spacing | s_{cr} | [mm] | 200 | 200 | 200 |
| Characteristic edge distance | c_{cr} | [mm] | 150 | 150 | 150 |

JSR+ -intended use in precast prestressed hollow core slabs ($w/e \leq 4,2$) with flange thickness ≥ 35 mm and concrete C45/55 to C50/60



Delivery program



| Size | Length | Zinc | A4 | Zinc | Zinc |
|----------|--------|------|----|------|------|
| M6 x 25 | 25 | • ■ | ■ | • ■ | ■ |
| M8 x 25 | 25 | ■ | ■ | ■ | ■ |
| M8 x 30 | 30 | • ■ | ■ | • ■ | ■ |
| M10 X 25 | 25 | ■ | ■ | • ■ | ■ |
| M10 x 40 | 40 | • ■ | ■ | ■ | ■ |
| M12 x 50 | 50 | • ■ | ■ | • ■ | ■ |
| M16 x 65 | 65 | • ■ | ■ | • ■ | ■ |
| M20 x 80 | 80 | • ■ | ■ | • ■ | ■ |

• ETA-22/0913 (Uncracked concrete) ■ ETA-22/0912 (For redundant non-structural systems)

Setting tool 2.0 manual with hand protector



Setting tool 2.0 manual no-grip

