

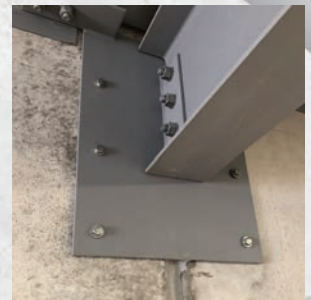
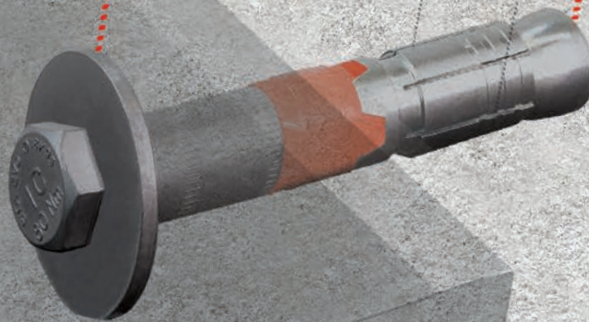


HEAVY DUTY SAFETY ANCHOR FOR THIN PRECAST CONCRETE PANELS



90mm

Ø18



- Designed for use in thin precast concrete panels (125mm min.)
- Available in zinc plated and corrosion resistant zinc nickel
- Comprises of class 8.8 high tensile bolt
- Head and sleeve markings for clear traceability
- High strength large diameter washer (O.D. 44mm)
- Thick sleeve torque controlled expansion anchor

125mm
THIN PANEL MIN.

- Unique engineered nylon compression ring prevents rotation and provides positive fixture clamping effect
- Optimal expansion cone geometry offering ultimate performance



STA-EVO THIN PANEL ANCHOR



ICCONS®
Serious Connections®

INTRODUCING THE REVOLUTIONARY STA-EVO THIN PANEL ANCHOR BY ICCONS®

TDS | 1047.2

Engineered for safety in thin precast concrete panels and slabs, the ICCONS STA-EVO Thin Panel Anchor represents a groundbreaking advancement in heavy-duty structural anchoring. The STA-EVO M12 sets a new standard for versatility and performance.

Traditionally, fasteners with an ETA and a diameter of M12 and larger were limited to concrete base materials $\geq 150\text{mm}$. This posed challenges in designing for fasteners used in thin precast concrete panels, necessitating performance solutions beyond the scope of AS

5216:2021 and the DTS (Deem-To-Satisfy) requirements of the NCC (National Construction Code). ICCONS, in collaboration with its research & development division, has successfully addressed this limitation, culminating in the release of the STA-EVO M12.

UNIFORM EXPANSION

Single piece six expanding segments

EASY IDENTIFICATION

Clear head and body ID and data

SAFE INSTALLATION

Optimal expansion guaranteed by the coupling of the cone and expansion sleeve

ANTI-ROTATION

Unique compression ring prevents rotation

APPLICATIONS IN PRECAST PANELS:

- Raking angles for roof structures
- Precast panel steel plate connectors
- Roof beams
- Steel cleats
- Structural connections

BENEFITS:

- Complies with AS 5216
- ETA assessed
- Suitable for uncracked and cracked concrete
- NCC compliant
- Fire Rated
- Seismic assessment (pending 2024)
- Flexible design using ICCONS AS 5216 Compliant software Design PRO

AS 5216

First AS 5216 compliant heavy duty anchor for use in thin concrete precast panels



ZINC INTERNAL



ZINC NICKEL EXTERNAL

☐ Zinc Clear

☒ Carbon Steel Corrosion Resistant / zinc nickel

NEW



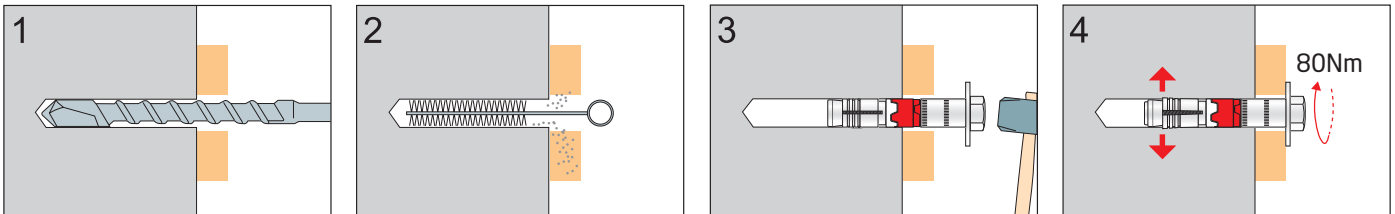
| Part No. | Part No. | Description | Drill Diameter mm | Fixture Clearance Hole mm | Max. Fixture Thickness mm | Anchor Length Under Washer mm | Head / Socket Size mm | qty |
|---------------|--------------------------------|--------------------------------|-------------------|---------------------------|---------------------------|-------------------------------|-----------------------|-----|
| STAEVO18090LW | STAEVO18090LWZN COMING SOON | Heavy Duty Thin Panel Hex Head | 18 | 20 | 12 | 90 | 22 | 20 |



COMING SOON

| Component | Designation | Material for STAEVO18090LW | Material for STAEVO18090LWZN |
|-----------|------------------|---|---|
| 1 | Bolt | DIN 931 ISO 898-1 class 8.8 Zinc $\geq 5 \mu\text{m}$ ISO 4042 Zn5/An/T0 | DIN 931 ISO 898-1 class 8.8 Zinc nickel $\geq 8 \mu\text{m}$, sealed ISO 4042 ZnNi8/Cn/T2 |
| 2 | Washer | DIN 9021 Zinc $\geq 5 \mu\text{m}$ ISO 4042 Zn5/An/T0 | DIN 9021. Zinc Nickel $\geq 8 \mu\text{m}$, sealed ISO 4042 ZnNi8/Cn/T2 |
| 3 | Sleeve | Carbon steel. Zinc $\geq 5 \mu\text{m}$ ISO 4042 Zn5/An/T0 | Carbon steel. Zinc nickel $\geq 8 \mu\text{m}$ sealed ISO 4042 ZnNi8/Cn/T2 |
| 4 | Plastic ring | POM (Polyoxymethylene) | POM (Polyoxymethylene) |
| 5 | Expansion sleeve | Carbon steel. Zinc $\geq 5 \mu\text{m}$ ISO 4042 Zn5/An/T0 | Carbon steel. Zinc $\geq 5 \mu\text{m}$ ISO 4042 Zn5/An/T0 |
| 6 | Cone | Hardened carbon steel. Zinc $\geq 5 \mu\text{m}$ ISO 4042 Zn5/An/T0 | Hardened carbon steel. Zinc $\geq 5 \mu\text{m}$ ISO 4042 Zn5/An/T0 |

INSTALLATION INSTRUCTIONS



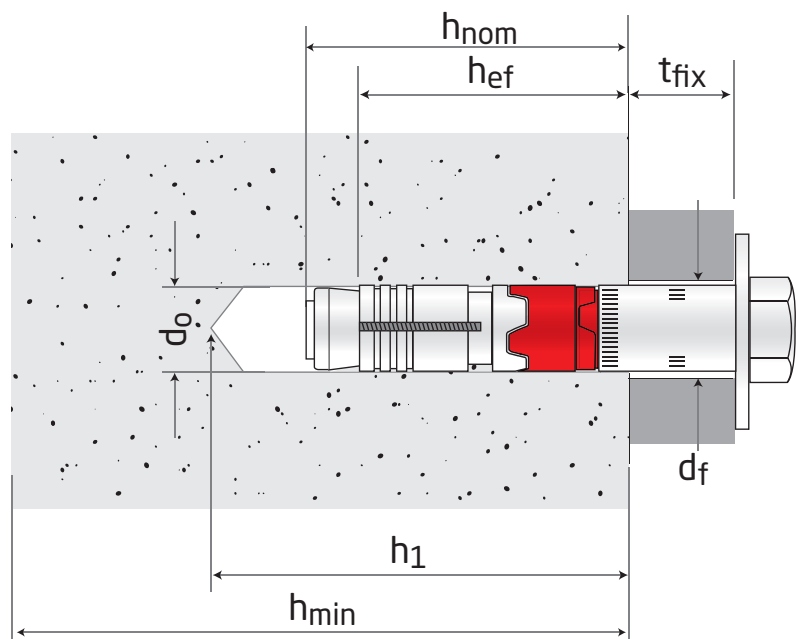
IDENTIFICATION ON ANCHOR:

Bolt: "STA EVO" + "Ø18x90" + "80 Nm" + "IC"

Sleeve: "STA EVO" + "M12 / Ø18x90 / 12"

Plastic ring: Company Logo

- d_o = Nominal diameter of drill bit
- d_f = Fixture clearance hole diameter
- h_{ef} = Effective anchorage depth
- h_1 = Depth of drilled hole
- h_{nom} = Overall anchor embedment depth in the concrete
- h_{min} = Minimum thickness of concrete member
- t_{fix} = Fixture thickness





DESIGN LOADS - DESIGN INFORMATION 32 MPa PRECAST CONCRETE

| Anchor - STAEV018090LW / STAEV018090LWZN | | | M12 |
|---|---------------|----|------|
| Bolt Diameter | d | mm | M12 |
| Anchor Length | L | mm | 90 |
| Minimum thickness of concrete member | h_{min} | mm | 125 |
| Depth of drilled hole \geq | h_1 | mm | 90 |
| Overall anchor embedment depth in the concrete | h_{nom} | mm | 78 |
| Effective anchorage depth | h_{ef} | mm | 68 |
| Nominal Diameter of drill bit | d_o | mm | 18 |
| Clearance Hole in Fixture | d_f | mm | 20 |
| Minimum allowable spacing | S_{min} | mm | 205 |
| Minimum allowable edge distance | C_{min} | mm | 110 |
| Nominal Installation Torque | T_{inst} | Nm | 80 |
| Thickness of fixture | t_{fix} | mm | 12 |
| Socket Size | SW | mm | 22 |
| Uncracked Concrete 32 MPa | | | |
| Design Tension Resistance | $N_{Rd,ucr}$ | kN | 14.8 |
| Design Shear Resistance (parallel to edge) | $V_{Rd/par}$ | kN | 30.6 |
| Design Shear Resistance (perpendicular to edge) | $V_{Rd/perp}$ | kN | 15.3 |
| Cracked Concrete 32 MPa | | | |
| Design Tension Resistance | $N_{Rd,cr}$ | kN | 13.3 |
| Design Shear Resistance (parallel to edge) | $V_{Rd/par}$ | kN | 21.6 |
| Design Shear Resistance (perpendicular to edge) | $V_{Rd/perp}$ | kN | 10.8 |

For detailed design analysis and combined loading applications please refer to ICCONS®.
Design PRO software for calculations in accordance with AS 5216.

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