

ATS-evo

Heavy Duty Safety Anchor

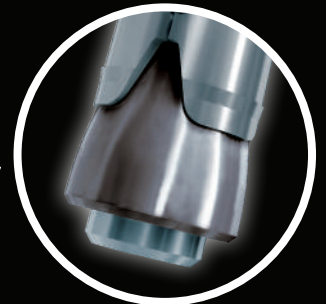
The Ultimate Anchor for Cracked Concrete

ETA OPTION 1: FOR CRACKED CONCRETE



RELIABLE INSTALLATION

Optimal expansion guaranteed by the coupling of the cone and body



UNIFORM EXPANSION

Three Dimensional Expansion

ANTI-ROTATION

Unique shape of Ring improves performance



since 1966

CERTIFICATION OF QUALITY MANAGEMENT SYSTEM

ISO 9001 Cert. n° 1085



CERTIFICATION OF ENVIRONMENTAL MANAGEMENT SYSTEM

ISO 14001 Cert. n° 0050A



ATS-evo

Heavy duty safety bolt for cracked concrete

Versions Available

- ATS-evo S –Hex head Bolt version
- ATS-evo B- threaded stud version with washer & nut
- ATS-evo SK- counter sunk head bolt

OPTION 1

Heavy duty safety bolt for cracked concrete



ANTIROTATION
The special bush shape prevents rotation



RELIABLE INSTALLATION
Optimal expansion guaranteed by the coupling of the cone and body

UNIFORM EXPANSION
Single piece three expanding segments

Applications

- Heavy Duty Fixings
- Steel & wooden structural Beams & columns
- Cantilevers, Pipe supports
- Pumps, Machines
- Guard rails, Gates
- Heavy duty ladders
- Mechanical Equipments

ATS-evo S



White Zinc Plated
Hex head Grade 8.8



| Hex Head Code | d x L | Screw | Fixing thickness tfix | df mm | sw | Box Qty |
|---------------|--------|-------|-----------------------|-------|----|---------|
| 79302b10070 | 10x70 | M6 | 10 | 12 | 10 | 50 |
| 79302b10080 | 10x80 | M6 | 20 | 12 | 10 | 50 |
| 79302b10110 | 10x110 | M6 | 50 | 12 | 10 | 50 |
| 79302b12080 | 12x80 | M8 | 10 | 14 | 13 | 25 |
| 79302b12090 | 12x90 | M8 | 20 | 14 | 13 | 25 |
| 79302b12120 | 12x120 | M8 | 50 | 14 | 13 | 25 |
| 79302b15090 | 15x90 | M10 | 10 | 17 | 17 | 20 |
| 79302b15100 | 15x100 | M10 | 20 | 17 | 17 | 20 |
| 79302b15130 | 15x130 | M10 | 50 | 17 | 17 | 20 |
| 79302b15180 | 15x180 | M10 | 100 | 17 | 17 | 20 |
| 79302b18110 | 18x110 | M12 | 10 | 20 | 19 | 20 |
| 79302b18125 | 18x125 | M12 | 25 | 20 | 19 | 20 |
| 79302b18150 | 18x150 | M12 | 50 | 20 | 19 | 20 |
| 79302b18200 | 18x200 | M12 | 100 | 20 | 19 | 20 |
| 79302b24125 | 24x125 | M16 | 10 | 26 | 24 | 10 |
| 79302b24140 | 24x140 | M16 | 25 | 26 | 24 | 10 |
| 79302b24165 | 24x165 | M16 | 50 | 26 | 24 | 10 |
| 79302b24215 | 24x215 | M16 | 100 | 26 | 24 | 10 |

ATS-evo B



White Zinc Plated
Threaded bar grade 8.8
Hex nut grade 8



| Threaded Bar Code | d x L | Screw | Fixing thickness tfix | df mm | sw | Box Qty |
|-------------------|--------|-------|-----------------------|-------|----|---------|
| 79402b10070 | 10x70 | M6 | 10 | 12 | 10 | 50 |
| 79402b10080 | 10x80 | M6 | 20 | 12 | 10 | 50 |
| 79402b10110 | 10x110 | M6 | 50 | 12 | 10 | 50 |
| 79402b12080 | 12x80 | M8 | 10 | 14 | 13 | 25 |
| 79402b12090 | 12x90 | M8 | 20 | 14 | 13 | 25 |
| 79402b12120 | 12x120 | M8 | 50 | 14 | 13 | 25 |
| 79402b15090 | 15x90 | M10 | 10 | 17 | 17 | 20 |
| 79402b15100 | 15x100 | M10 | 20 | 17 | 17 | 20 |
| 79402b15130 | 15x130 | M10 | 50 | 17 | 17 | 20 |
| 79402b15180 | 15x180 | M10 | 100 | 17 | 17 | 20 |
| 79402b18110 | 18x110 | M12 | 10 | 20 | 19 | 20 |
| 79402b18125 | 18x125 | M12 | 25 | 20 | 19 | 20 |
| 79402b18150 | 18x150 | M12 | 50 | 20 | 19 | 20 |
| 79402b18200 | 18x200 | M12 | 100 | 20 | 19 | 20 |
| 79402b24125 | 24x125 | M16 | 10 | 26 | 24 | 10 |
| 79402b24140 | 24x140 | M16 | 25 | 26 | 24 | 10 |
| 79402b24165 | 24x165 | M16 | 50 | 26 | 24 | 10 |
| 79402b24215 | 24x215 | M16 | 100 | 26 | 24 | 10 |

ATS-evo SK



White Zinc Plated
Hex socket Countersunk head
Screw grade 8.8



| Countersunk Code | d x L | Screw | Fixing thickness tfix | df mm | dsk mm | sw | Box Qty |
|------------------|--------|-------|-----------------------|-------|--------|----|---------|
| 79303b10070 | 10x70 | M6 | 15 | 12 | 17 | 5 | 50 |
| 79303b10080 | 10x80 | M6 | 25 | 12 | 17 | 5 | 50 |
| 79303b12080 | 12x80 | M8 | 16 | 14 | 21 | 6 | 25 |
| 79303b12090 | 12x90 | M8 | 26 | 14 | 21 | 6 | 25 |
| 79303b15090 | 15x90 | M10 | 17 | 17 | 26 | 8 | 20 |
| 79303b15100 | 15x100 | M10 | 27 | 17 | 26 | 8 | 20 |
| 79303b18125 | 18x125 | M12 | 33 | 20 | 31 | 10 | 20 |

FEATURES

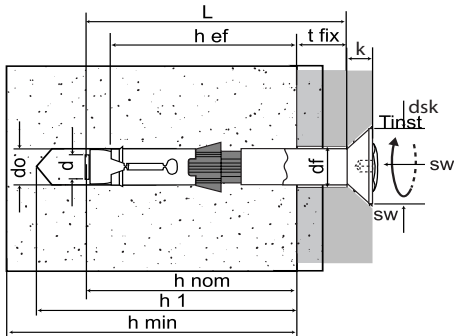
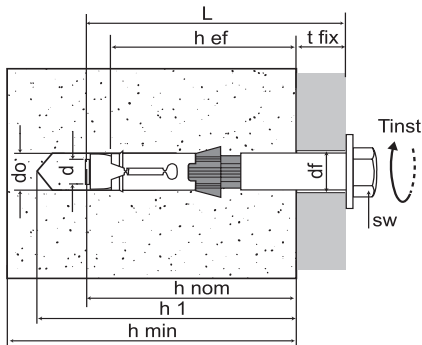
- Heavy Duty Safety Mechanical Anchor
- ETA Option 1 Certification
- F120 Fire Resistance Certification
- The coupling of the cone and body
- Single piece three segments expansion
- Special bush shape plastic collapsible sleeve
- 8.8 grade steel body

ADVANTAGES

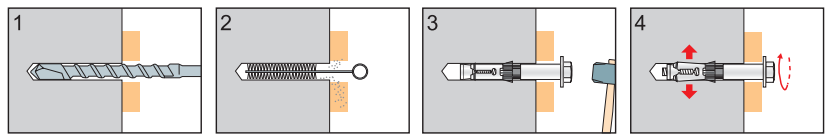
- High shear loads & safe anchoring
- Reliable fixing in cracked & un-cracked concrete
- Fire Resistant upto 120 minutes
- Optimal expansion is guaranteed
- Excellent keying & friction
- Prevents rotation & slipping in the hole while applying torque
- High Tensile Strength

Base Materials

- Cracked Concrete
- Solid Stone



Installation Procedure



| | | | | | |
|------|---|---------------------------------|-------|---|-------------------------|
| d | = | screw/bar diameter | hnom | = | nominal embedment depth |
| df | = | hole diameter of fixing element | k | = | countersunk head depth |
| do | = | hole diameter | L | = | anchor length |
| dsk | = | countersunk head diameter | sw | = | wrench |
| h1 | = | minimum hole depth | tfix | = | fixture thickness |
| hef | = | minimum depth of anchorage | Tinst | = | torque |
| hmin | = | minimum support thickness | | | |

DESIGN⁽¹⁾ AND RECOMMENDED⁽²⁾ LOADS

Single anchor with large anchor spacing and edge distances in cracked and non-cracked concrete C20/25

| Anchor (Screw Diameter) | | M6 | M8 | M10 | M12 | M16 |
|------------------------------|------------------|------|------|------|------|------|
| Minimum support thickness | h_{min} mm | 100 | 120 | 140 | 180 | 200 |
| Minimum hole depth | h_1 mm | 75 | 85 | 95 | 115 | 130 |
| Nominal embedment depth | h_{nom} mm | 60 | 70 | 80 | 100 | 115 |
| Minimum depth of anchorage | h_{ef} mm | 49 | 59 | 67 | 88 | 99 |
| Hole diameter | d_0 mm | 10 | 12 | 15 | 18 | 24 |
| Spacing | $S_{cr,N}$ mm | 147 | 177 | 201 | 264 | 297 |
| Edge distance | $C_{cr,N}$ mm | 74 | 89 | 101 | 132 | 149 |
| Tensile cracked concrete | N_{rd} kN | 6.0 | 8.0 | 10.6 | 16.7 | 23.7 |
| | N kN | 4.3 | 5.7 | 7.6 | 11.9 | 16.9 |
| Tensile non-cracked concrete | N_{rd} kN | 10.7 | 15.2 | 18.4 | 27.7 | 33.1 |
| | N kN | 7.7 | 10.9 | 13.2 | 19.8 | 23.6 |
| Shear $C \geq 10xhef$ | V_{rd} kN | 11.2 | 20.8 | 33.6 | 40.0 | 77.6 |
| | V kN | 8.0 | 14.9 | 24.0 | 28.6 | 55.4 |
| Minimum spacing | S_{min} mm | 50 | 60 | 70 | 80 | 100 |
| | for C mm | 75 | 90 | 100 | 150 | 200 |
| Minimum edge distance | C_{min} mm | 50 | 60 | 70 | 80 | 100 |
| | for S mm | 75 | 90 | 100 | 150 | 200 |
| Shear $C = C_{min}$ | $V_{rd,cmin}$ kN | 2.3 | 3.3 | 4.6 | 6.3 | 9.8 |
| | V_{cmin} kN | 1.6 | 2.4 | 3.3 | 4.5 | 7.0 |
| Torque | T_{inst} Nm | 10 | 20 | 45 | 80 | 150 |






1kN = 100 kgf



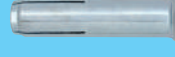


⁽¹⁾ The design loads N_{rd} and V_{rd} derive from the characteristic loads on the ETA 10/0423 certification and are inclusive of the partial safety factors γ_m proportional to each diameter (see ETA).

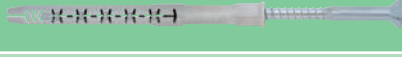


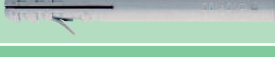
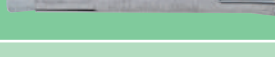

⁽²⁾ The recommended loads N and V derive from the characteristic loads on the ETA 10/0423 certification and are inclusive of the partial safety factors $\gamma_r=1.4$ and γ_m proportional to each diameter (see ETA).

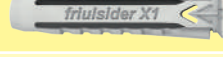





The load values are only valid if the installation has been carried out correctly. The designing and calculation of the anchorage should be carried out in accordance with annex C, of the ETAG 001, design method A.







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