

TECHNICAL DATASHEET

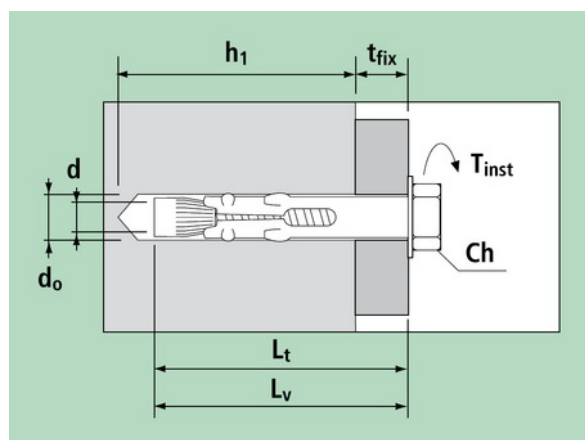
DELTA ACCIAIO sleeve anchor for heavy loads

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Base material

| specific use | suitable |
|--|------------------|
| concrete solid stone solid brick | semi-solid brick |



- d_0 = anchor diameter = hole diameter
- L_t = anchor length
- d = screw diameter
- L_v = screw length
- t_{fix} = fixable thickness
- h_1 = minimum hole depth
- h_{nom} = overall embedment depth
- h_{ef} = effective anchorage depth
- Ch = spanner
- T_{inst} = tightening torque

DELTA ACCIAIO

with hex bolt 8.8 grade and oversize washer DIN 9021, white zinc plated



| art. | descr. | d_0 mm | L_t mm | d mm | L_v mm | t_{fix} mm | h_1 mm | h_{nom} mm | Ch mm | T_{inst} Nm |
|-------|-----------|-------------|-------------|-----------|-------------|-----------------|-------------|-----------------|----------|------------------|
| 33027 | DELV845 | 8 | 45 | M6 | 45 | 5 | 50 | 40 | 10 | 15 |
| 33028 | DELV870 | | 70 | | 70 | 30 | | | | |
| 33145 | DELV890 | | 90 | | 90 | 50 | | | | |
| 33029 | DELV1055 | 10 | 55 | M8 | 55 | 15 | 50 | 40 | 13 | 20 |
| 33169 | DELV1065 | | 65 | | 65 | 25 | | | | |
| 33030 | DELV1080 | | 80 | | 80 | 40 | | | | |
| 33031 | DELV10100 | | 100 | | 100 | 60 | | | | |
| 33106 | DELV10120 | | 120 | | 120 | 80 | | | | |
| 33032 | DELV10140 | | 140 | | 140 | 100 | | | | |
| 33033 | DELV1265 | 12 | 65 | M10 | 65 | 5 | 70 | 60 | 17 | 35 |
| 33107 | DELV1280 | | 80 | | 80 | 20 | | | | |
| 33034 | DELV12100 | | 100 | | 100 | 40 | | | | |
| 33108 | DELV12120 | | 120 | | 120 | 60 | | | | |
| 33035 | DELV12140 | | 140 | | 140 | 80 | | | | |
| 33048 | DELV1470 | 14 | 70 | M10 | 70 | 5 | 75 | 65 | 17 | 40 |
| 33127 | DELV14100 | | 100 | | 100 | 35 | | | | |
| 33036 | DELV1675 | 16 | 75 | M12 | 75 | 5 | 80 | 70 | 19 | 60 |
| 33037 | DELV16110 | | 110 | | 110 | 40 | | | | |
| 33129 | DELV20130 | 20 | 130 | M16 | 130 | 50 | 90 | 80 | 24 | 80 |

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DELTA ACCIAIO sleeve anchor for heavy loads

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DELTA ACCIAIO

with threaded bar 4.8 grade and flanged nut, white zinc plated



| art. | descr. | d ₀ mm | L _t mm | d mm | L _v mm | t _{fix} mm | h ₁ mm | h _{nom} mm | Ch mm | T _{inst} Nm |
|-------|-----------|----------------------|----------------------|---------|----------------------|------------------------|----------------------|------------------------|----------|-------------------------|
| 33131 | DELB840 | 8 | 40 | M6 | 45 | 5 | 50 | 40 | 10 | 15 |
| 33132 | DELB890 | | 90 | | 95 | 50 | | | | |
| 33133 | DELB1050 | 10 | 50 | M8 | 55 | 10 | 50 | 40 | 13 | 20 |
| 33134 | DELB1075 | | 75 | | 80 | 35 | | | | |
| 33135 | DELB10100 | | 100 | | 105 | 60 | | | | |
| 33136 | DELB10125 | | 125 | | 130 | 85 | | | | |
| 33137 | DELB1260 | 12 | 60 | M10 | 65 | 5 | 70 | 60 | 17 | 35 |
| 33138 | DELB1275 | | 75 | | 80 | 15 | | | | |
| 33139 | DELB12100 | | 100 | | 105 | 40 | | | | |
| 33140 | DELB12125 | | 125 | | 130 | 65 | | | | |
| 33141 | DELB1665 | 16 | 65 | M12 | 75 | 5 | 80 | 70 | 19 | 60 |
| 33142 | DELB16110 | | 110 | | 120 | 40 | | | | |
| 33143 | DELB16145 | | 145 | | 155 | 75 | | | | |
| 33144 | DELB20160 | 20 | 160 | M16 | 175 | 80 | 90 | 80 | 24 | 80 |

DELTA ACCIAIO

with threaded bar 5.8 grade and oversize washer DIN 9021, white zinc plated (selling out)



| art. | descr. | d ₀ mm | L _t mm | d mm | L _v mm | t _{fix} mm | h ₁ mm | h _{nom} mm | Ch mm | T _{inst} Nm |
|-------|----------|----------------------|----------------------|---------|----------------------|------------------------|----------------------|------------------------|----------|-------------------------|
| 33039 | DELB855 | 8 | 45 | M6 | 55 | 5 | 50 | 40 | 10 | 15 |
| 33040 | DELB1070 | 10 | 55 | M8 | 70 | 15 | 50 | 40 | 13 | 20 |
| 33041 | DELB1090 | | 75 | | 90 | 35 | | | | |

DELTA ACCIAIO

with countersunk flat head bolt 10.9 hexagon socket, white zinc plated



| art. | descr. | d ₀ mm | L _t mm | d mm | L _v mm | t _{fix} mm | h ₁ mm | h _{nom} mm | huella mm | T _{inst} Nm |
|----------|-----------|----------------------|----------------------|---------|----------------------|------------------------|----------------------|------------------------|--------------|-------------------------|
| DELP645 | DELP645 | 8 | 45 | M6 | 45 | 5 | 50 | 40 | HEX4 | 15 |
| DELP860 | DELP860 | 10 | 60 | M8 | 60 | 20 | 50 | 40 | HEX5 | 20 |
| DELP880 | DELP880 | | 80 | | 80 | 40 | | | | |
| DELP1070 | DELP1070 | 12 | 70 | M10 | 70 | 10 | 70 | 60 | HEX6 | 35 |
| DELP1010 | DELP10100 | | 100 | | 100 | 40 | | | | |

DELTA ACCIAIO

with steel hook 5.8 and oversize washer DIN 9021, white zinc plated



| art. | descr. | d ₀ mm | L _t mm | d mm | L _v mm | t _{fix} mm | h ₁ mm | h _{nom} mm | Ch mm | T _{inst} Nm |
|-------|---------|----------------------|----------------------|---------|----------------------|------------------------|----------------------|------------------------|----------|-------------------------|
| 33042 | DELG850 | 8 | 50 | M6 | 50 | - | 60 | 50 | 10 | 15 |

TECHNICAL DATASHEET
DELTA ACCIAIO sleeve anchor for heavy loads

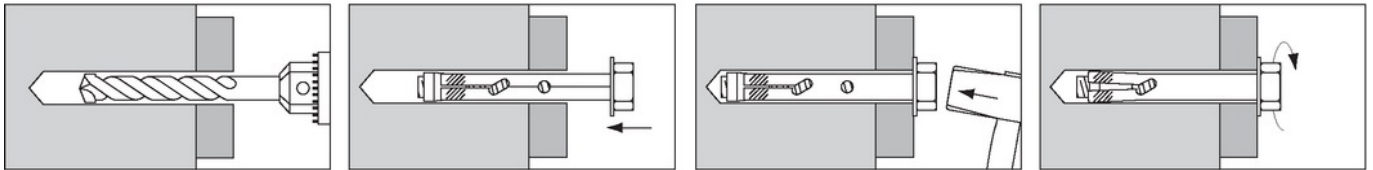
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DELTA ACCIAIO

with bolt 5.8 detachable security head, white zinc plated



| art. | descr. | d ₀ mm | L _t mm | d mm | L _v mm | t _{fix} mm | h ₁ mm | h _{nom} mm | Ch mm | T _{inst} Nm |
|----------|------------|----------------------|----------------------|---------|----------------------|------------------------|----------------------|------------------------|----------|-------------------------|
| DELVAS02 | DELV880/AS | 10 | 80 | M8 | 85 | 40 | 50 | 40 | 10 | 20 |

Installation

Materials

| part | material | coating |
|-----------------------|--------------|--|
| shield | carbon steel | white zinc $\geq 5 \mu\text{m}$ ISO 4042 |
| screw and accessories | carbon steel | |

Setting parameters

| size | | Ø8 | Ø10 | Ø12 | Ø14 | Ø16 | Ø20 |
|------------------------------------|---------------------|-----|-----|-----|-----|-----|-----|
| minimum thickness of base material | h _{min} mm | 100 | 100 | 110 | 120 | 130 | 140 |
| critical spacing | s _{cr} mm | 150 | 150 | 180 | 200 | 210 | 240 |
| critical edge distance | c _{cr} mm | 75 | 75 | 90 | 100 | 105 | 120 |

Strength data

Valid for a single anchor, isolated and far from the edges, on a thick concrete member of class C20/25.

Characteristic resistance (kN)

| size | | Ø8 | Ø8 with hook | Ø10 | Ø12 | Ø14 | Ø16 | Ø20 |
|---------|--------------------|----|-----------------|-----|-----|-----|-----|-----|
| tension | N _{Rk} kN | 6 | 2.5 | 11 | 18 | 20 | 25 | 33 |
| shear | V _{Rk} kN | 8 | 2.5 | 10 | 20 | 20 | 28 | 33 |

 1 kN \approx 100 kg

An appropriate safety factor, of at least 3, is recommended.

 Characteristic resistances N_{Rk} and V_{Rk} derive from tests conducted in G&B Fissaggi's laboratories according to relevant guidelines. For anchorages with reduced spacing or edge distance (lower than critical values) resistance must be decreased. Load values are valid only if installation is performed correctly. Designer is responsible for the choice of size and number of anchors.

Recommended load (kN)

| size | | Ø8 | Ø8 with hook | Ø10 | Ø12 | Ø14 | Ø16 | Ø20 |
|---------|---------------------|-----|-----------------|-----|-----|-----|-----|-----|
| tension | N _{rec} kN | 1.4 | 0.6 | 2.6 | 4.3 | 4.8 | 6.0 | 7.9 |
| shear | V _{rec} kN | 1.9 | 0.6 | 2.4 | 4.8 | 4.8 | 6.7 | 7.9 |

 1 kN \approx 100 kg

Recommended loads include the above mentioned partial safety factor 3 and the further safety factor 1.4.