

## OCS-55/63 Stainless steel self-drilling screws for composite panels max 6mm

**Stainless steel self drilling screw with the special drill bit shape designed to provide quick and trouble-free installation in metal constructions made from cold formed sections**



### Approvals and Reports

- ETA-13/0453



### Product information

#### Features and benefits

- Stainless steel self drilling screw made with BIMETAL
- Hardened surface of the thread (flexible core). Corrosion resistant zinc coating of thickness not less than 12 µm.
- The shape of the thread and its height is designed for applications into sandwich panels and steel construction.
- Two types of threads: one designed for mounting into a steel structure, second under head thread, prevents external panel dents and helps to seal the connection.
- The drill bit is designed to provide quick and trouble-free installation in the steel. Sharp point of the drill prevents movement of the surface of the fixture.

#### Applications

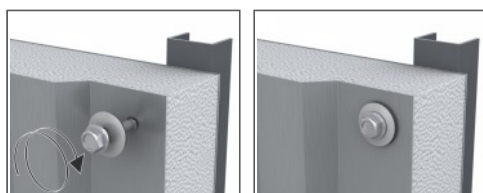
- For fixing of: Composite panels to cold formed sections structures

#### Base materials

##### Approved for use in:

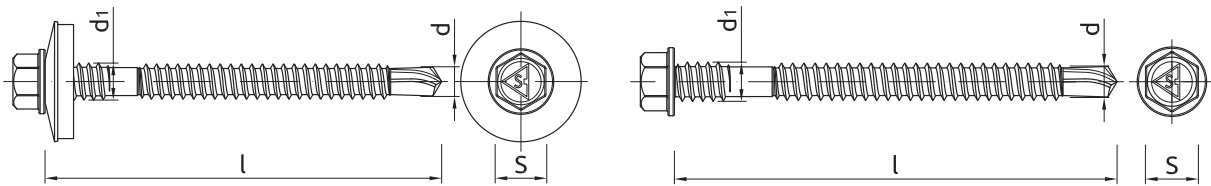
- Structural Steel

### Installation guide



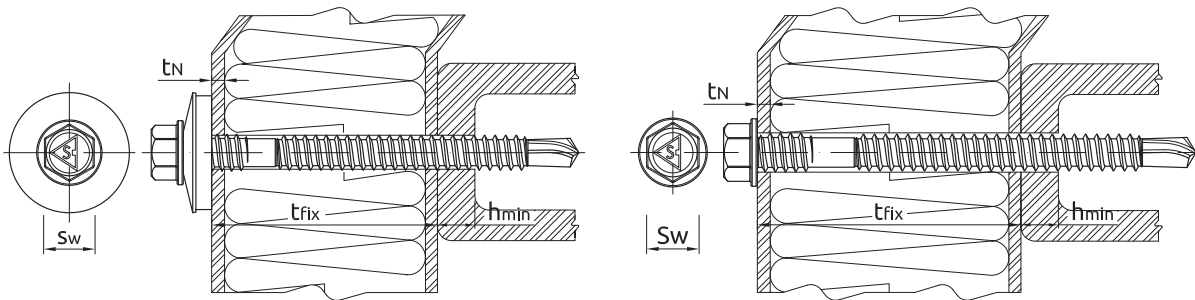
1. Screw must be installed at 90 degrees to substrate.
2. Special driver must be used.
3. Lowest torque setting on impact screwdriver to start.
4. Reduce speed when the washer starts to deform.
5. Use a cordless Impact screwdriver. Note: Never use a power drill.
6. For installation please use screwdriver of load capacity 1600 - 2000 rpm with regulated trogue.

**Product information**



| Size     | Product Code | Screw    |                |        |           | Fixture                    |                               | Max. drilling thickness | Washer size |
|----------|--------------|----------|----------------|--------|-----------|----------------------------|-------------------------------|-------------------------|-------------|
|          |              | Diameter |                | Length | Head size | Max. thickness with washer | Max. thickness without washer |                         |             |
|          |              | d        | d <sub>1</sub> | l      | S         | t <sub>fix</sub>           |                               |                         |             |
| [mm]     |              |          |                |        |           |                            |                               |                         |             |
| Ø5.5/6.3 | OCS-55/63070 | 5.5      | 6.3            | 70     | 8         | 52                         | 55                            | 6                       | 16, 19      |
|          | OCS-55/63090 | 5.5      | 6.3            | 90     | 8         | 72                         | 75                            | 6                       | 16, 19      |
|          | OCS-55/63110 | 5.5      | 6.3            | 110    | 8         | 92                         | 95                            | 6                       | 16, 19      |
|          | OCS-55/63130 | 5.5      | 6.3            | 130    | 8         | 112                        | 115                           | 6                       | 16, 19      |
|          | OCS-55/63150 | 5.5      | 6.3            | 150    | 8         | 132                        | 135                           | 6                       | 16, 19      |
|          | OCS-55/63170 | 5.5      | 6.3            | 170    | 8         | 152                        | 155                           | 6                       | 16, 19      |
|          | OCS-55/63200 | 5.5      | 6.3            | 200    | 8         | 182                        | 185                           | 6                       | 16, 19      |
|          | OCS-55/63230 | 5.5      | 6.3            | 230    | 8         | 212                        | 215                           | 6                       | 16, 19      |

**Installation data**



| Size                         | Ø5.5/6.3         |      |         |
|------------------------------|------------------|------|---------|
| Screw diameter               | d                | [mm] | 5.5/6.3 |
| Hole diameter in substrate   | d <sub>0</sub>   | [mm] | -       |
| Min. hole depth in substrate | h <sub>0</sub>   | [mm] | -       |
| Min. installation depth      | h <sub>nom</sub> | [mm] | -       |
| Min. substrate thickness     | h <sub>min</sub> | [mm] | 2       |
| Min. spacing                 | s <sub>min</sub> | [mm] | 30      |
| Min. edge distance           | c <sub>min</sub> | [mm] | 10      |
| Wrench size                  | Sw               | [mm] | 8       |

## Basic performance data

Performance data for single screw without influence of edge distance and spacing

| Size                       |      | TENSION LOAD   |  | SHEAR LOAD |  |
|----------------------------|------|----------------|--|------------|--|
|                            |      | Ø5.5/6.3 (S16) |  | Ø5.5/6.3   |  |
| <b>MEAN ULTIMATE LOAD</b>  |      |                |  |            |  |
| Substrate thickness 1,50mm | [kN] | 1.35           |  | 1.57       |  |
| Substrate thickness 2,50mm | [kN] | 3.30           |  | -          |  |
| <b>CHARACTERISTIC LOAD</b> |      |                |  |            |  |
| Substrate thickness 1,50mm | [kN] | 1.06           |  | 1.15       |  |
| Substrate thickness 2,50mm | [kN] | 2.60           |  | -          |  |
| <b>DESIGN LOAD</b>         |      |                |  |            |  |
| Substrate thickness 1,50mm | [kN] | 0.80           |  | 0.86       |  |
| Substrate thickness 2,50mm | [kN] | 1.95           |  | -          |  |
| <b>RECOMMENDED LOAD</b>    |      |                |  |            |  |
| Substrate thickness 1,50mm | [kN] | 0.57           |  | 0.62       |  |
| Substrate thickness 2,50mm | [kN] | 1.40           |  | -          |  |

## Design performance data

DESIGN PERFORMANCE DATA Ø5.5/6.3

TENSION LOAD

| Size                                   |           |      | Ø5.5/6.3 |      |      |
|--|-----------|------|----------|------|------|
| Substrate thickness                    | $h_{min}$ | [mm] | 1.50     | 2.50 | 4.00 |
| Characteristic load                    | $N_{Rk}$  | [kN] | 1.06     | 2.99 | 5.44 |
| Design resistance $\gamma_{Ms} = 1.33$ | $N_{Rd}$  | [kN] | 0.80     | 2.25 | 4.09 |

TENSION LOAD TO PULL SCREW WITH WASHER 16/19 THROUGH FIXTURE

| Size                                   |            |      | Ø5.5/6.3 |      |      |      |
|--|------------|------|----------|------|------|------|
| Sheet metal thickness                  | $t_N$      | [mm] | 0.40     | 0.50 | 0.63 | 0.75 |
| Characteristic resistance              | $N_{o,Rk}$ | [kN] | 1.42     | 2.60 | 3.61 | 3.99 |
| Design resistance $\gamma_{Ms} = 1.33$ | $N_{o,Rd}$ | [kN] | 1.07     | 1.95 | 2.71 | 3.00 |

SHEAR LOAD

| Size                                   |          |      | Ø5.5/6.3 |      |      |
|--|----------|------|----------|------|------|
| Sheet metal thickness                  | $t_N$    | [mm] | 0.40     | 0.50 | 0.60 |
| <b>SUBSTRATE THICKNESS 1.50 mm</b>     |          |      |          |      |      |
| Characteristic resistance              | $V_{Rk}$ | [kN] | 0.85     | 1.15 | 1.59 |
| Design resistance $\gamma_{Mc} = 1.33$ | $V_{Rd}$ | [kN] | 0.64     | 0.86 | 1.20 |

## Product commercial data

| Product Code               | Screw         | Washer size [mm] | Quantity [pcs] |       |        | Weight [kg] |       |        | Bar Codes     |
|----------------------------|---------------|------------------|----------------|-------|--------|-------------|-------|--------|---------------|
|                            | Diameter [mm] |                  | Box            | Outer | Pallet | Box         | Outer | Pallet |               |
| OCS-55/63070 <sup>1)</sup> | 6.3           | 16, 19           | 100            | 1200  | 28800  | 1.17        | 14.0  | 367.0  | 5906675341125 |
| OCS-55/63090 <sup>1)</sup> | 6.3           | 16, 19           | 100            | 500   | 28800  | 1.45        | 7.3   | 447.9  | 5906675341224 |
| OCS-55/63110 <sup>1)</sup> | 6.3           | 16, 19           | 100            | 1200  | 28800  | 1.61        | 19.3  | 493.7  | 5906675341323 |
| OCS-55/63130 <sup>1)</sup> | 6.3           | 16, 19           | 100            | 800   | 19200  | 1.86        | 14.9  | 387.1  | 5906675341422 |
| OCS-55/63150 <sup>1)</sup> | 6.3           | 16, 19           | 100            | 800   | 19200  | 2.1         | 17.0  | 439.0  | 5906675341521 |
| OCS-55/63170 <sup>1)</sup> | 6.3           | 16, 19           | 100            | 800   | 19200  | 2.1         | 17.0  | 439.0  | 5906675341620 |
| OCS-55/63200 <sup>1)</sup> | 6.3           | 16, 19           | 100            | 800   | 19200  | 2.8         | 22.0  | 558.0  | 5906675341729 |
| OCS-55/63230 <sup>1)</sup> | 6.3           | 16, 19           | 100            | 800   | 19200  | 3.4         | 26.9  | 675.1  | 5906675003160 |

1) ETA-13/0453