

## R-ORR-63/70 Zinc flake self-drilling screws for composite panels up to 18mm

Special zinc flake corrosion-resistant coating for highly effective protection



### Approvals and Reports

- ETA-17/0518
- UKTA-22/6345



### Product information

#### Features and benefits

- Hardened screw's thread surface. High quality anti-corrosion coating guarantees resistance of 15 Kesternich cycles.
- Coloured polyester protective coating with a thickness of 45-50 um (RAL, NCS, RR), provides additional protection against corrosion. Various colours available to suit all metal sheet variants. UV stabilizers ensure colour quality over a long period of use.
- 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.

#### Applications

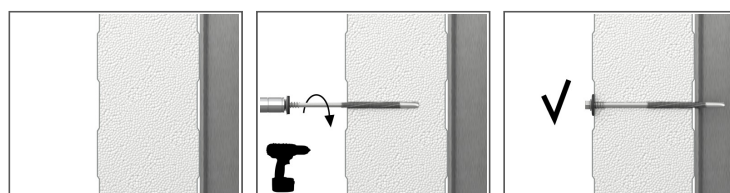
- For fixing of: Composite panels to thick wall hot rolled steel sections

#### Base materials

##### Approved for use in:

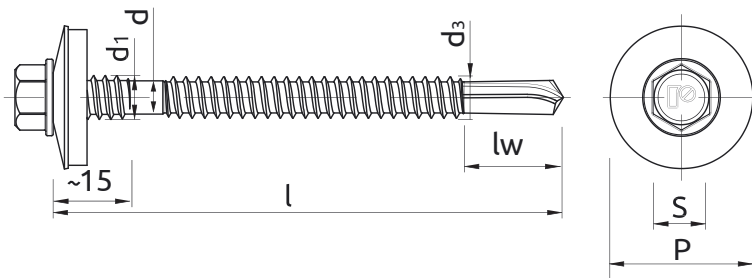
- Structural Steel up to 18mm

### Installation guide



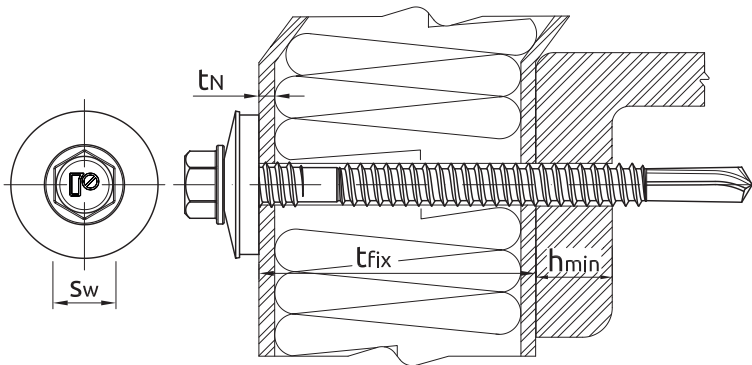
1. Screw must be installed at 90 degrees to substrate.
2. Magnetic driver must be used.
3. Lowest torque setting on impact screwdriver to start.
4. Reduce speed when the washer starts to deform.
5. Use a cordless Impact screwdriver. Note: Never use a power drill.
6. For installation please use screwdriver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

## Product information



| Size              | Product Code      | Screw    |                |        |           | Fixture                    | Max. drilling thickness | Washer size |
|-------------------|-------------------|----------|----------------|--------|-----------|----------------------------|-------------------------|-------------|
|                   |                   | Diameter |                | Length | Head size | Max. thickness with washer |                         |             |
|                   |                   | d        | d <sub>1</sub> | l      | S         | t <sub>fix</sub>           |                         |             |
| [mm]              |                   |          |                |        |           |                            |                         |             |
| Ø6.3/7.0          | R-ORR-63/70109A19 | 6.3      | 7              | 109    | 8         | 60                         | 18                      | 19          |
|                   | R-ORR-63/70129A19 | 6.3      | 7              | 129    | 8         | 80                         | 18                      | 19          |
|                   | R-ORR-63/70149A19 | 6.3      | 7              | 149    | 8         | 100                        | 18                      | 19          |
|                   | R-ORR-63/70169A19 | 6.3      | 7              | 169    | 8         | 120                        | 18                      | 19          |
|                   | R-ORR-63/70179A19 | 6.3      | 7              | 179    | 8         | 130                        | 18                      | 19          |
|                   | R-ORR-63/70199A19 | 6.3      | 7              | 199    | 8         | 150                        | 18                      | 19          |
|                   | R-ORR-63/70219A19 | 6.3      | 7              | 219    | 8         | 170                        | 18                      | 19          |
|                   | R-ORR-63/70249A19 | 6.3      | 7              | 249    | 8         | 200                        | 18                      | 19          |
|                   | R-ORR-63/70259A19 | 6.3      | 7              | 259    | 8         | 210                        | 18                      | 19          |
|                   | R-ORR-63/70269A19 | 6.3      | 7              | 269    | 8         | 220                        | 18                      | 19          |
| R-ORR-63/70309A19 | 6.3               | 7        | 309            | 8      | 260       | 18                         | 19                      |             |

## Installation data



| Size                     | Ø6.3/7.0         |      |         |
|--------------------------|------------------|------|---------|
| Wrench size              | Sw               | [mm] | 8       |
| Min. substrate thickness | h <sub>min</sub> | [mm] | 8       |
| Max. substrate thickness | h <sub>max</sub> | [mm] | 18      |
| Min. spacing             | s <sub>min</sub> | [mm] | 30      |
| Min. edge distance       | c <sub>min</sub> | [mm] | 10      |
| Screw diameter           | d                | [mm] | 6.3/7.0 |

## Basic performance data

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

| Size  |      | TENSION LOAD   |  | SHEAR LOAD     |  |
|---|------|----------------|--|----------------|--|
|   |      | Ø6.3/7.0 (A19) |  | Ø6.3/7.0 (A19) |  |
| <b>MEAN ULTIMATE LOAD</b>                           |      |                |  |                |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.4  | [kN] | 2.79           |  | 1.65           |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.5  | [kN] | 4.79           |  | 2.72           |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.63 | [kN] | 6.06           |  | 3.36           |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.75 | [kN] | 6.23           |  | 4.26           |  |
| <b>CHARACTERISTIC LOAD</b>                          |      |                |  |                |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.4  | [kN] | 1.86           |  | 1.10           |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.5  | [kN] | 3.19           |  | 1.81           |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.63 | [kN] | 4.04           |  | 2.24           |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.75 | [kN] | 4.15           |  | 2.84           |  |
| <b>DESIGN LOAD</b>                                  |      |                |  |                |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.4  | [kN] | 1.40           |  | 0.83           |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.5  | [kN] | 2.40           |  | 1.36           |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.63 | [kN] | 3.04           |  | 1.68           |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.75 | [kN] | 3.12           |  | 2.14           |  |
| <b>RECOMMENDED LOAD</b>                             |      |                |  |                |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.4  | [kN] | 1.00           |  | 0.59           |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.5  | [kN] | 1.71           |  | 0.97           |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.63 | [kN] | 2.17           |  | 1.20           |  |
| Substrate thickness ≥ 8.0 mm; t <sub>n</sub> ≥ 0.75 | [kN] | 2.23           |  | 1.53           |  |

## Product commercial data

| Product Code                    | Screw         | Washer size [mm] | Quantity [pcs] |       |        | Weight [kg] |       |        | Bar Codes     |
|---------------------------------|---------------|------------------|----------------|-------|--------|-------------|-------|--------|---------------|
|                                 | Diameter [mm] |                  | Box            | Outer | Pallet | Box         | Outer | Pallet |               |
| R-ORR-63/70109A19 <sub>1)</sub> | 7             | 19               | 100            | 100   | 28800  | 2.2         | 2.2   | 669.8  | 5906675435398 |
| R-ORR-63/70129A19 <sub>1)</sub> | 7             | 19               | 100            | 100   | 28800  | 2.5         | 2.5   | 737.3  | 5906675435404 |
| R-ORR-63/70149A19 <sub>1)</sub> | 7             | 19               | 100            | 100   | 28800  | 2.7         | 2.7   | 818.1  | 5906675435411 |
| R-ORR-63/70169A19 <sub>1)</sub> | 7             | 19               | 100            | 100   | 28800  | 3.1         | 3.1   | 909.1  | 5906675435527 |
| R-ORR-63/70179A19 <sub>1)</sub> | 7             | 19               | 100            | 100   | 28800  | 3.2         | 3.2   | 937.9  | 5906675435428 |
| R-ORR-63/70199A19 <sub>1)</sub> | 7             | 19               | 100            | 100   | 28800  | 3.4         | 3.4   | 1021.5 | 5906675435534 |
| R-ORR-63/70219A19 <sub>1)</sub> | 7             | 19               | 100            | 100   | 28800  | 3.8         | 3.8   | 1115.4 | 5906675435435 |
| R-ORR-63/70249A19 <sub>1)</sub> | 7             | 19               | 100            | 100   | 11200  | 4.3         | 4.3   | 513.0  | 5906675438030 |
| R-ORR-63/70259A19 <sub>1)</sub> | 7             | 19               | 100            | 100   | 11200  | 4.5         | 4.5   | 532.4  | 5906675435541 |
| R-ORR-63/70269A19 <sub>1)</sub> | 7             | 19               | 100            | 100   | 11200  | 4.7         | 4.7   | 551.8  | 5906675438047 |
| R-ORR-63/70309A19 <sub>1)</sub> | 7             | 19               | 100            | 100   | 11200  | 5.5         | 5.5   | 644.9  | 5906675435558 |

1) ETA-17/0518