

# TR STUD ANCHOR



## FEATURES

- Quick and easy through fixing.
- Fully assembled and ready to use.
- Thread diameter same as hole diameter.
- Simple bolt action controlled expansion.
- Long thread length for increased versatility.
- Performance can be improved by deeper embedment.
- Anti-rotation lugs.

## APPLICATIONS

### Steel to concrete

- Curtain's wall brackets, rackings, machineries, hand rails, safety barriers, piping and installation of ducting's brackets steel truss and etc.

### Timber to concrete

- Timber skirting, wooden frame, roofings and floor frame works.

### Concrete to concrete

- Precast panel, decorative and architectural panel or AAC panel fixings.

## MATERIAL SPECIFICATIONS

- Carbon Steel Grade 5.8 Zinc Galvanised to min. 5 µm
- Carbon Steel Grade 5.8 Hot Dipped Galvanised to min. 40 µm
- Stainless Steel 304 (A2)



## RANGE OF CONCRETE QUALITY

C20/25 ~ C50/60

## RANGE OF LOADING

2.4 kN ~ 36.8 kN (SWL)



Heavy loads

## BASE MATERIALS



Concrete



Concrete block solid stone

## ► ORDERING DETAILS

### TR STUD ANCHOR - STEEL CLASS 5.8 ZINC GALVANISED (TR)

| ANCHOR SIZE | THREAD LENGTH (mm) | FIXTURE HOLE DIAMETER (mm) | MAX FIXTURE THICKNESS (mm) | PACKING CONTENT (PCs.) | PRODUCT PART NO. |
|-------------|--------------------|----------------------------|----------------------------|------------------------|------------------|
| M6 x 55     | 25                 | 7                          | 5                          | 100                    | TR655            |
| M6 x 70     | 35                 | 7                          | 20                         | 100                    | TR670            |
| M6 x 85     | 50                 | 7                          | 35                         | 100                    | TR685            |
| M8 x 50     | 20                 | 9                          | -                          | 100                    | TR850            |
| M8 x 65     | 30                 | 9                          | 10                         | 50                     | TR865            |
| M8 x 75     | 40                 | 9                          | 20                         | 50                     | TR875            |
| M8 x 90     | 55                 | 9                          | 35                         | 50                     | TR890            |
| M10 x 60    | 25                 | 12                         | -                          | 50                     | TR1060           |
| M10 x 75    | 40                 | 12                         | 5                          | 50                     | TR1075           |
| M10 x 90    | 55                 | 12                         | 20                         | 50                     | TR1090           |
| M10 x 100   | 55                 | 12                         | 30                         | 50                     | TR10100          |
| M10 x 120   | 60                 | 12                         | 50                         | 50                     | TR10120          |
| M12 x 80    | 35                 | 14                         | -                          | 30                     | TR1280           |
| M12 x 100   | 50                 | 14                         | 5                          | 30                     | TR12100          |
| M12 x 110   | 50                 | 14                         | 15                         | 30                     | TR12110          |
| M12 x 120   | 75                 | 14                         | 25                         | 30                     | TR12120          |
| M12 x 140   | 85                 | 14                         | 45                         | 30                     | TR12140          |
| M12 x 180   | 85                 | 14                         | 85                         | 25                     | TR12180          |
| M16 x 100   | 45                 | 18                         | -                          | 15                     | TR16100          |
| M16 x 125   | 60                 | 18                         | 15                         | 15                     | TR16125          |
| M16 x 140   | 60                 | 18                         | 30                         | 15                     | TR16140          |
| M16 x 150   | 75                 | 18                         | 40                         | 15                     | TR16150          |
| M16 x 175   | 75                 | 18                         | 65                         | 10                     | TR16175          |
| M20 x 120   | 60                 | 22                         | -                          | 10                     | TR20120          |
| M20 x 160   | 75                 | 22                         | 25                         | 10                     | TR20160          |



### TR STUD ANCHOR - STEEL CLASS 5.8 HOT DIPPED GALVANISED (TR-GH)

| ANCHOR SIZE | THREAD LENGTH (mm) | FIXTURE HOLE DIAMETER (mm) | MAX FIXTURE THICKNESS (mm) | PACKING CONTENT (PCs.) | PRODUCT PART NO. |
|-------------|--------------------|----------------------------|----------------------------|------------------------|------------------|
| M6 x 55     | 25                 | 7                          | 5                          | 100                    | TR655GH          |
| M6 x 70     | 35                 | 7                          | 20                         | 100                    | TR670GH          |
| M6 x 85     | 50                 | 7                          | 35                         | 100                    | TR685GH          |
| M8 x 50**   | 20                 | 9                          | -                          | 100                    | TR850GH          |
| M8 x 65     | 30                 | 9                          | 10                         | 50                     | TR865GH          |
| M8 x 75     | 40                 | 9                          | 20                         | 50                     | TR875GH          |
| M8 x 90     | 55                 | 9                          | 35                         | 50                     | TR890GH          |
| M10 x 60    | 25                 | 12                         | -                          | 50                     | TR1060GH         |
| M10 x 75    | 40                 | 12                         | 5                          | 50                     | TR1075GH         |
| M10 x 90    | 55                 | 12                         | 20                         | 50                     | TR1090GH         |
| M10 x 100   | 55                 | 12                         | 30                         | 50                     | TR10100GH        |
| M10 x 120   | 60                 | 12                         | 50                         | 50                     | TR10120GH        |
| M12 x 80    | 35                 | 14                         | -                          | 30                     | TR1280GH         |
| M12 x 100   | 50                 | 14                         | 5                          | 30                     | TR12100GH        |
| M12 x 110   | 50                 | 14                         | 15                         | 30                     | TR12110GH        |
| M12 x 120   | 75                 | 14                         | 25                         | 30                     | TR12120GH        |
| M12 x 140   | 85                 | 14                         | 45                         | 30                     | TR12140GH        |
| M12 x 180   | 85                 | 14                         | 85                         | 25                     | TR12180GH        |
| M16 x 100   | 45                 | 18                         | -                          | 15                     | TR16100GH        |
| M16 x 125   | 60                 | 18                         | 15                         | 15                     | TR16125GH        |
| M16 x 140   | 60                 | 18                         | 30                         | 15                     | TR16140GH        |
| M16 x 150   | 75                 | 18                         | 40                         | 15                     | TR16150GH        |
| M16 x 175   | 75                 | 18                         | 65                         | 10                     | TR16175GH        |
| M20 x 120   | 60                 | 22                         | -                          | 10                     | TR20120GH        |
| M20 x 160   | 75                 | 22                         | 25                         | 10                     | TR20160GH        |



## TR STUD ANCHOR - STAINLESS STEEL CLASS 304 (A2) (TR-S)

| ANCHOR SIZE | THREAD LENGTH (mm) | FIXTURE HOLE DIAMETER (mm) | MAX FIXTURE THICKNESS (mm) | PACKING CONTENT (PCs.) | PRODUCT PART NO. |
|-------------|--------------------|----------------------------|----------------------------|------------------------|------------------|
| M6 x 60     | 30                 | 7                          | 5                          | 100                    | TR660S           |
| M6 x 80     | 50                 | 7                          | 25                         | 100                    | TR680S           |
| M8 x 65     | 30                 | 9                          | -                          | 50                     | TR865S           |
| M8 x 75     | 40                 | 9                          | 5                          | 50                     | TR875S           |
| M8 x 90     | 45                 | 9                          | 20                         | 50                     | TR890S           |
| M8 x 115    | 80                 | 9                          | 45                         | 50                     | TR8115S          |
| M10 x 60    | 25                 | 12                         | -                          | 50                     | TR1060S          |
| M10 x 70    | 30                 | 12                         | -                          | 50                     | TR1070S          |
| M10 x 90    | 50                 | 12                         | 10                         | 50                     | TR1090S          |
| M10 x 100   | 60                 | 12                         | 20                         | 50                     | TR10100S         |
| M10 x 120   | 80                 | 12                         | 40                         | 50                     | TR10120S         |
| M12 x 75    | 30                 | 14                         | -                          | 30                     | TR1275S          |
| M12 x 100   | 50                 | 14                         | 10                         | 30                     | TR12100S         |
| M12 x 120   | 70                 | 14                         | 30                         | 30                     | TR12120S         |
| M12 x 140   | 85                 | 14                         | 50                         | 30                     | TR12140S         |
| M12 x 180** | 125                | 14                         | 90                         | 25                     | TR12180S         |
| M16 x 90    | 40                 | 18                         | -                          | 15                     | TR1690S          |
| M16 x 125   | 60                 | 18                         | 5                          | 15                     | TR16125S         |
| M16 x 145   | 75                 | 18                         | 25                         | 10                     | TR16145S         |
| M16 x 170   | 105                | 18                         | 50                         | 10                     | TR16170S         |
| M20 x 120   | 50                 | 22                         | -                          | 10                     | TR20120S         |
| M20 x 170   | 100                | 22                         | 25                         | 10                     | TR20170S         |
| M20 x 220   | 130                | 22                         | 75                         | 10                     | TR20220S         |



\* Maximum Fixture Thickness is based on the Standard Embedment Depth.

\*\* Stock available on indent basis.

## ► INSTALLATION PERIMETER & LOADING DATA

### TR STUD ANCHOR - STEEL CLASS 5.8 ZINC GALVANISED (TR) & HOT DIPPED GALVANISED (TR-GH)

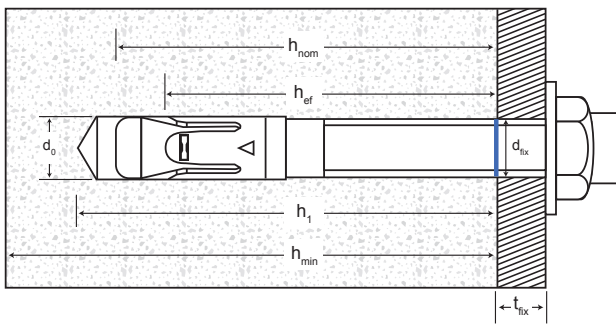
| ANCHOR SIZE | HOLE DIAMETER (mm) | MINIMUM HOLE DEPTH (mm) | MINIMUM CONCRETE THICKNESS (mm) | TIGHTENING TORQUE (Nm) | RECOMMENDED SPACING & EDGE DISTANCE TO FULL LOAD (mm) |       | ABSOLUTE MINIMUM SPACING & EDGE DISTANCE (mm) |       | RECOMMENDED LOAD <sup>1</sup> (kN) |       |
|-------------|--------------------|-------------------------|---------------------------------|------------------------|---|-------|---|-------|------------------------------------|-------|
|             |                    |                         |                                 |                        | TENSION   | SHEAR | TENSION                                       | SHEAR | TENSION                            | SHEAR |
| M6          | 6                  | 50                      | 75                              | 8                      | 120   | 60    | 40  | 40    | 2.4                                | 2.9   |
| M8          | 8                  | 55                      | 85                              | 15                     | 135   | 70    | 45  | 45    | 5.8                                | 5.0   |
| M10         | 10                 | 70                      | 100                             | 35                     | 150   | 75    | 50  | 50    | 7.5                                | 8.0   |
| M12         | 12                 | 95                      | 120                             | 45                     | 210   | 105   | 70  | 70    | 11.6                               | 11.6  |
| M16         | 16                 | 110                     | 150                             | 90                     | 255   | 130   | 85  | 85    | 17.6                               | 21.5  |
| M20         | 20                 | 135                     | 190                             | 160                    | 300   | 150   | 100   | 100   | 24.1                               | 33.6  |

### TR STUD ANCHOR - STAINLESS STEEL CLASS 304 (A2) (TR-S)

| ANCHOR SIZE | HOLE DIAMETER (mm) | MINIMUM HOLE DEPTH (mm) | MINIMUM CONCRETE THICKNESS (mm) | TIGHTENING TORQUE (Nm) | RECOMMENDED SPACING & EDGE DISTANCE TO FULL LOAD (mm) |       | ABSOLUTE MINIMUM SPACING & EDGE DISTANCE (mm) |       | RECOMMENDED LOAD <sup>1</sup> (kN) |       |
|-------------|--------------------|-------------------------|---------------------------------|------------------------|---|-------|---|-------|------------------------------------|-------|
|             |                    |                         |                                 |                        | TENSION   | SHEAR | TENSION                                       | SHEAR | TENSION                            | SHEAR |
| M6          | 6                  | 55                      | 75                              | 7                      | 120   | 60    | 40  | 40    | 4.3                                | 3.0   |
| M8          | 8                  | 70                      | 90                              | 20                     | 150   | 75    | 50  | 50    | 5.7                                | 5.5   |
| M10         | 10                 | 80                      | 100                             | 35                     | 165   | 85    | 55  | 55    | 6.4                                | 8.7   |
| M12         | 12                 | 90                      | 115                             | 60                     | 195   | 100   | 65  | 65    | 9.9                                | 12.6  |
| M16         | 16                 | 120                     | 160                             | 120                    | 255   | 130   | 85  | 85    | 13.9                               | 23.6  |
| M20         | 20                 | 145                     | 190                             | 240                    | 300   | 150   | 100   | 100   | 19.9                               | 36.8  |

<sup>1</sup> Loading based on standard embedment depth and non-cracked concrete,  $f_{ck,cube} = 25 \text{ N/mm}^2$  (C20/25)

▶ **SETTING DIAGRAM**



▶ **INSTALLATION PROCEDURE**

