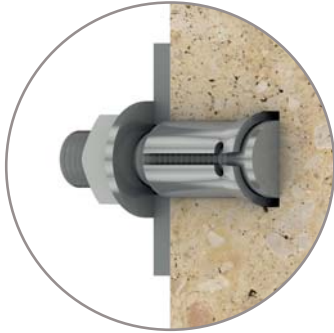


## HB11 HAZ Super Undercut Bolt - Introduction

The HB11 HAZ Undercut bolt was developed to meet the special requirements in stone installation where attachments from the rear surface of stone panels are required without exerting stresses on the stone. The HB11 undercut bolt are fixed mechanically in to undercut holes that are drilled with special drilling machines and drill bits. Stone thicknesses from 20 mm to 50 mm are applicable.



Drilling Hole



Checking Hole



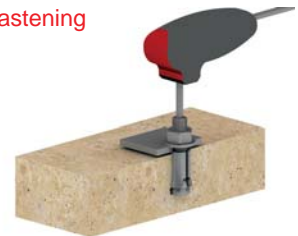
Placing Bolt



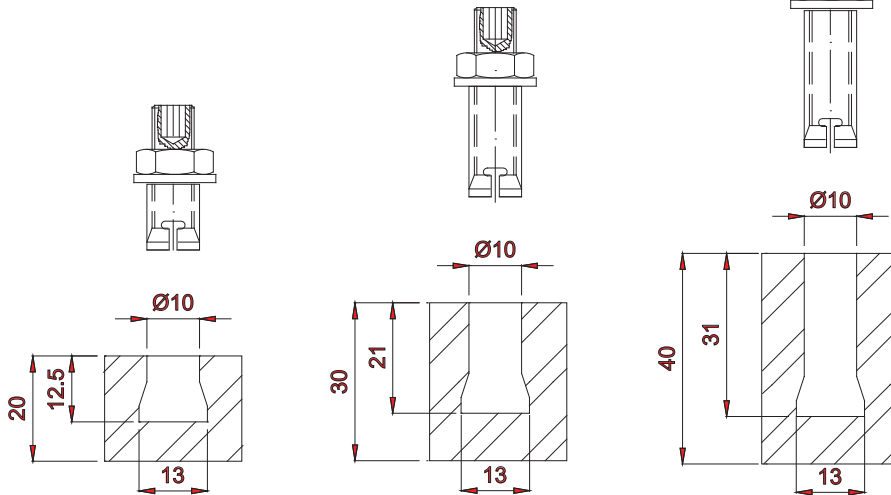
Placing Pipe



Fastening



Final

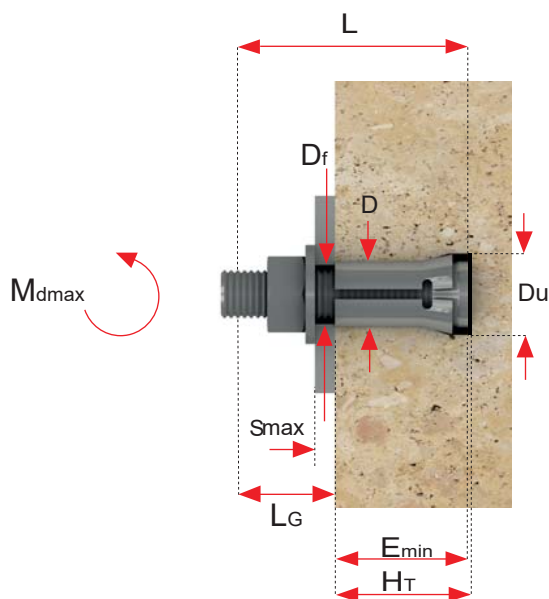


Drilling rear surface of panels using special drilling machine with drilling wet system and non core drill bits.

Minimal tolerances in hole size to be achieved in order for proper and secure attachment.



## HB11 Undercut Bolt - Technical Details



| Product Code | Technical Details |                 |                     |              |                |                        |                       |             |             |               |
|--------------|-------------------|-----------------|---------------------|--------------|----------------|------------------------|-----------------------|-------------|-------------|---------------|
|              | Bolt Size         | Stone Thickness | Drill Hole Diameter | Drill Length | Min. Embedment | Max. Fixture Thickness | Fixture Hole Diameter | Max. Torque | Bolt Length | Thread Length |
|              | (mm)              | St (mm)         | D/Du (mm)           | Ht (mm)      | Emin (mm)      | Smax (mm)              | Df (mm)               | Mdmmax (Nm) | (mm)        | (mm)          |
| HB 11-20     | M6x27             | 20              | 8/ 11               | 12.50        | 11.50          | 5                      | 9                     | 5           | 24          | 14.5          |
| HB 11-30     | M8x37             | 30              | 10 / 13             | 21.00        | 20.00          | 5                      | 9                     | 12          | 34          | 14.5          |
| HB 11-40     | M8x47             | 40              | 10 / 13             | 31.00        | 30.00          | 5                      | 9                     | 12          | 39          | 14.5          |

### Product Code

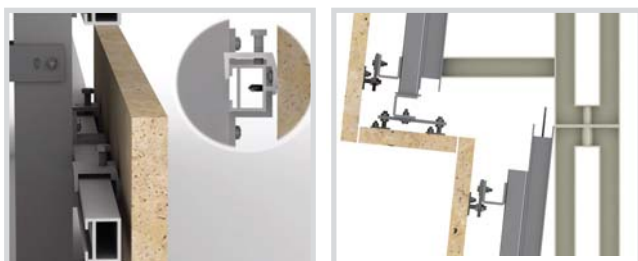
HB11 - 20

Panel Thickness  
Type

### Hard Granite Based Values

| Allowable load (kN) |          |               |               |               |
|---------------------|----------|---------------|---------------|---------------|
| Load direction      | a degree | M6(20mm tck.) | M8(30mm tck.) | M8(40mm tck.) |
| pull out            | 0        | 1.20          | 2.50          | 2.80          |
| shear               | 90       | 1.80          | 2.80          | 3.00          |

### Application Examples:



### Marble Based Values

| Allowable load (kN) |          |               |               |               |
|---------------------|----------|---------------|---------------|---------------|
| Load direction      | a degree | M6(20mm tck.) | M8(30mm tck.) | M8(40mm tck.) |
| pull out            | 0        | 1.10          | 2.20          | 2.50          |
| shear               | 90       | 1.40          | 2.50          | 2.70          |

A safety factor of 3.5 is taken for mean ultimate failure loads.

- Facade applications
- connections to curtain wall unitized panels
- corner stone fixing and reveal fixing

### Fixing Instructions

