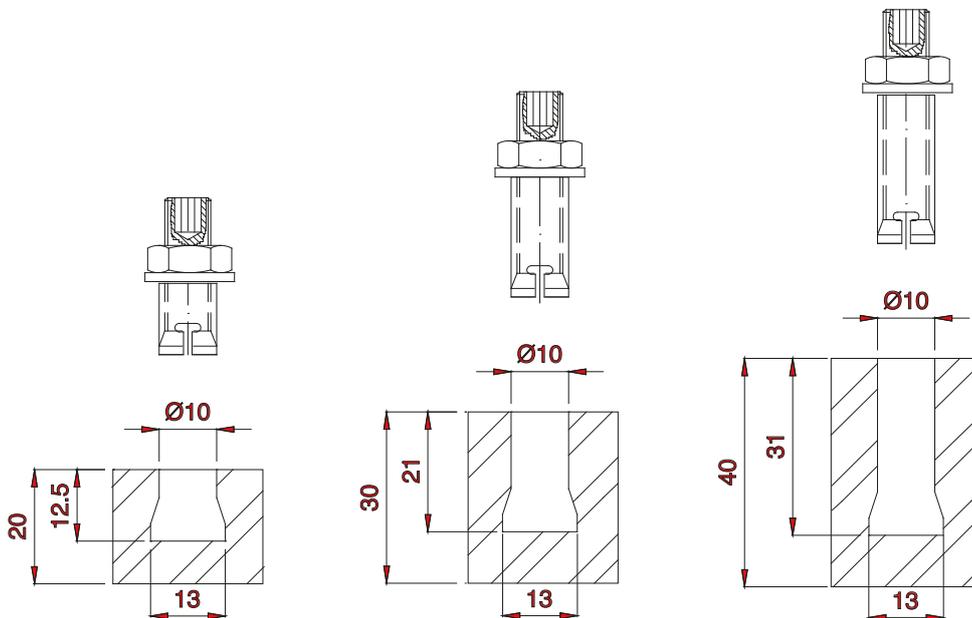
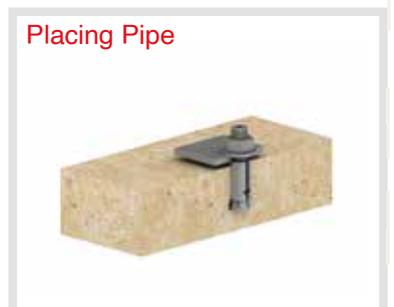
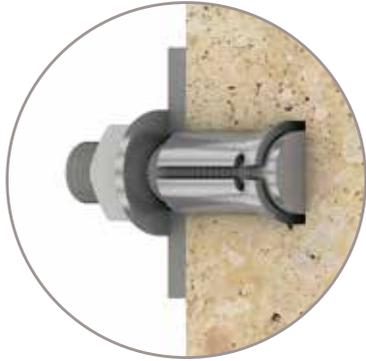


# HB11 Undercut Bolt - Introduction

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.

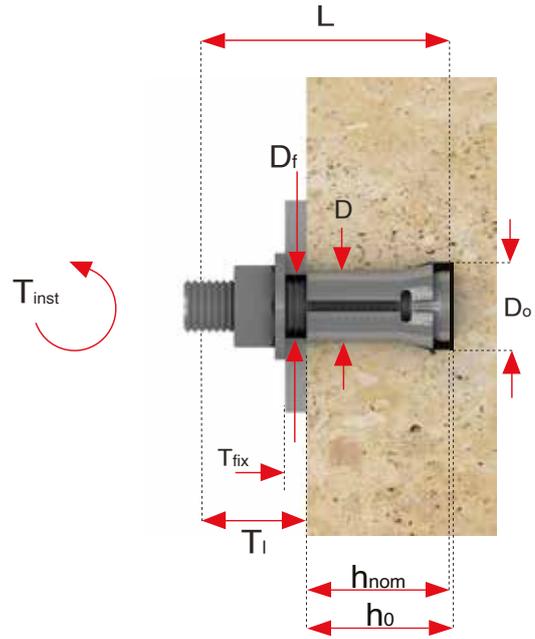


Drilling rear surface of panels using special drilling machine with drilling wet system and non core drill bits.

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

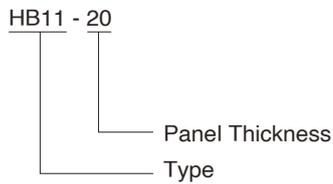


# HB11 Undercut Bolt - Technical Details



Product Code	Technical Details									
	Bolt Size	Bolt Length	Thread Length	Drill Length	Minimum Embedment	Max. Fixture Thickness	Fixture Hole Diameter	Maximum Torque	Stone Thickness	Drill Hole Diameter
	(mm)	(mm)	(mm)	h <sub>o</sub> (mm)	h <sub>nom</sub> (mm)	T <sub>fix</sub> (mm)	d <sub>f</sub> (mm)	T <sub>inst</sub> (Nm)	St (mm)	d <sub>o</sub> (mm)
HB11-20	M6x30	30	23.5	12.50	12.50	5	7	5	20	8/11
HB11-30	M8x40	40	33	21	21	5	9	12	30	10/13
HB11-40	M8x50	50	43	31	31	5	9	12	40	10/13

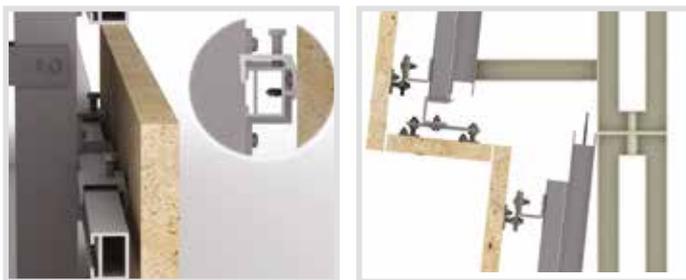
## Product Code



## Hard Granite Based Values

Allowable Loads (kN)				
Load direction	a degree	M6 (20mm Tck.)	M8 (30mm Tck.)	M8 (40mm Tck.)
Pull out	0	1.20	3.00	4.00
Shear	90	1.80	3.50	4.50

## Application Examples:



- Facade applications
- Connections to curtain wall unitized panels
- Corner stone fixing and reveal fixing

## Marble Based Values

Allowable Loads (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.

## Fixing Instructions

