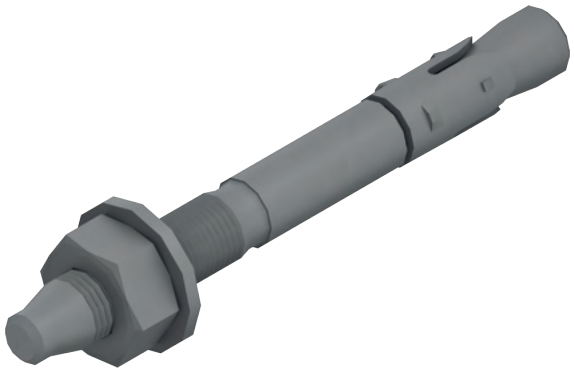
Your Fixing Systems Specialist

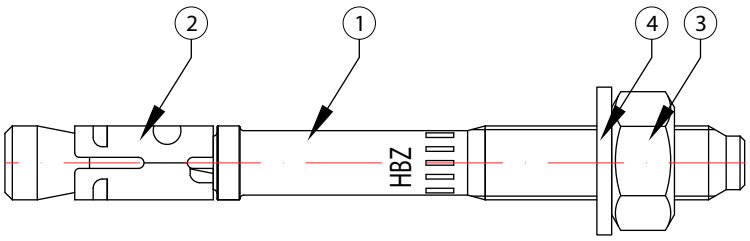
HAZ METAL

Anchor Bolts

We offer a comprehensive selection of anchors and accessories designed to meet the highest demands in terms of quality, load capacities, and safety. Alongside this, we ensure maximum flexibility, ease of handling, and cost efficiency.

Product Brochure - HAZ-BR-AB-EN/05.25





1. STUD
2. CLIPS
3. NUT
4. ROUND WASHER

Contents

HAZ
Group of Companies
Establishment
www.hazgrp.com

HAZ Metal Fixing Systems
is a member of HAZ Group of Companies

HAZ Metal is certified with integrated management systems by TUV SUD for ISO 9001:2008, ISO 14001:2004 & OHSAS 18001:2007

HAZ Metal Fixing Systems. All rights reserved, January 2025. Reproduction and distribution of the information contained in this catalogue is forbidden without prior written consent. HAZ Copyright.

Anchor Bolts - Introduction

Anchor Bolts

There are many types of expansion bolts available for use to fix anchors on to different types of walls. All the anchor bolts in our produce range our designed and manufactured by HAZ Metal. Expansion bolts are all tested to meet the pull out force and shear force performance criteria. Anchor Bolts are available in stianless steel and galvanized steel.

HB01
Sleeve Bolt

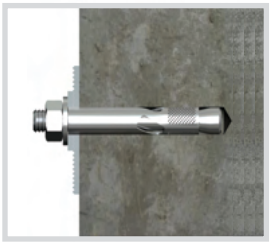
HB03
Through Bolt

HB05
Shell Bolt

HB06
Drop in Bolt

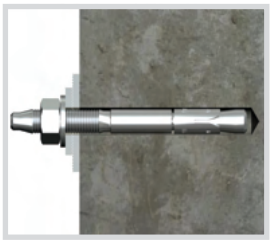
HB07
Chemical Anchor Bolt

HB08
Wall Plug



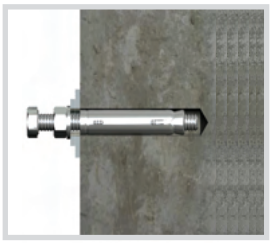
HB01 Sleeve Bolt

The HB01 Sleeve bolt is used for all types of fixings attached on to concrete walls or filled block work walls. The bolts are hammered into the drilled holes and the anchors are fixed by torquing the nut on the bolt. Good anchorage is achieved through the expansion of the sleeve through out the drilled hole.



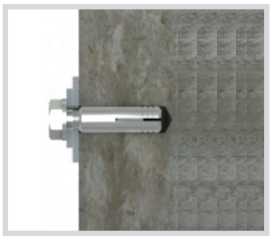
HB03 Through Bolt

The HB03 Through bolt is used for all types of fixings attached to concrete walls with a minimum C20/25 quality. The bolts are hammered into the drilled hole and fixing is done by torquing the nut. Final torque is achieved fast because the ring on the bolts is optimized to expand quickly. Safe fixture is made by the ring gripping firmly in the drilled hole.



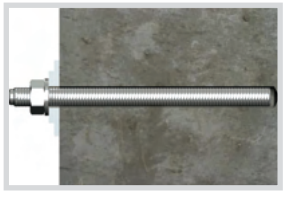
HB05 Shell Bolt

The HB05 shell bolt is used for fixings made on to concrete walls or filled and reinforced masonry walls. The shell is hammered into the concrete first until fully inserted. The torque is achieved using the hex bolt. As the torquing is made the shell is expanded firmly gripping the area around the drilled hole.



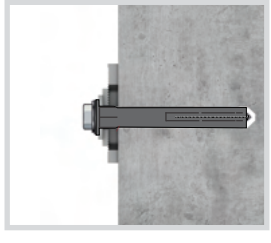
HB06 Drop in Bolt

The HB06 drop in bolt is used for fixing pipes, false ceilings etc. on to concrete walls. This bolt is installed in two stages. First the shell is hammered into the drilled hole with a hand tool, then the fixing is made with a hex bolt. Shells expands in the concrete hole as the pin opens the shell after setting process which firmly grips the area around the drill hole. Fixture is made by a hex bolt in to the shell which is anchored into the substrate.



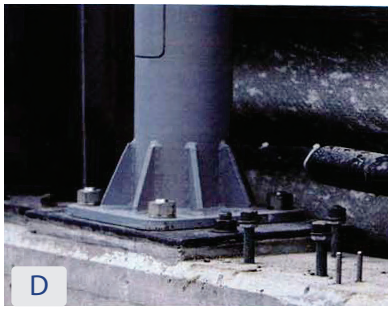
HB07 Chemical Bolt

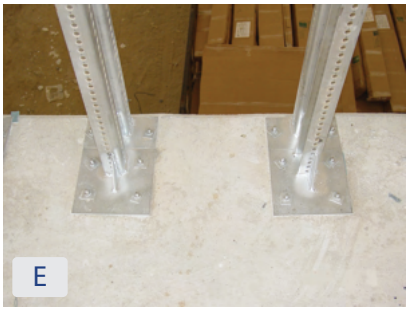
The HB07 chemical bolt is used for fixing steel construction elements on to hollow block work and hollow masonry walls as well as concrete walls. Chemical capsules or epoxy acrylate tubes is inserted or injected in to the drilled holes and the bolts are set in to the holes. Anchors are fastened after the adhesive has cured.



HB08 Wall Plug

The HB08 Wall Plug bolt is used for fixing anchors onto various type of walls. The bolts are set into the hole of the wall in combination with the plastic plug. The expansion of the pluf in the drilled wall as the screw sets in creates a rigid connection on to the wall. This type of anchor bolts are used to install brackts for light weight rainscreen applications.





Expansion bolts are used through out construction for many connections made on to load bearing structures.

Some examples are shown on this page with explanations below:

A: Fixing of anchors on to filled block work walls using HB05 shell bolts.

B: Fixing of natural stone on to concrete walls with HB03 through bolts..

C: Fixing of channels with channel supports and channel restraints on to concrete wall with HB03 through bolts.

D: Fixing of steel post on concrete base floor with HB07 chemical bolts.

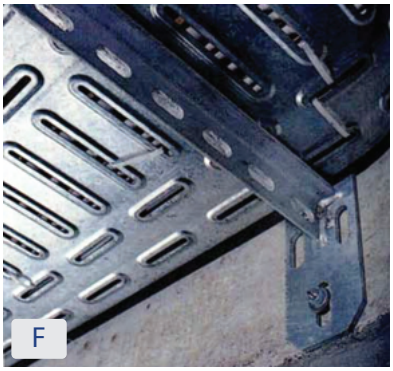
E: Fixing of steel substructure on to concrete floor using HB03 through bolts .

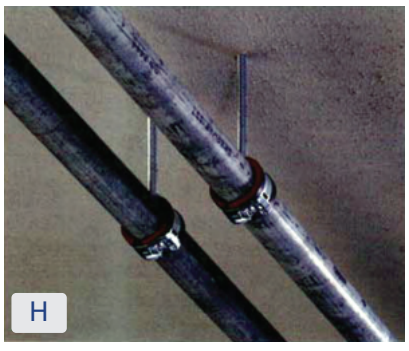
F: Fixing of brackets on to concrete beam using HB01 sleeve bolts.

G: Fixing of shelf racks on to concrete floor using HB03 through bolts.

H: Fixing of pipes on to concrete ceiling with HB06 drop in bolts.

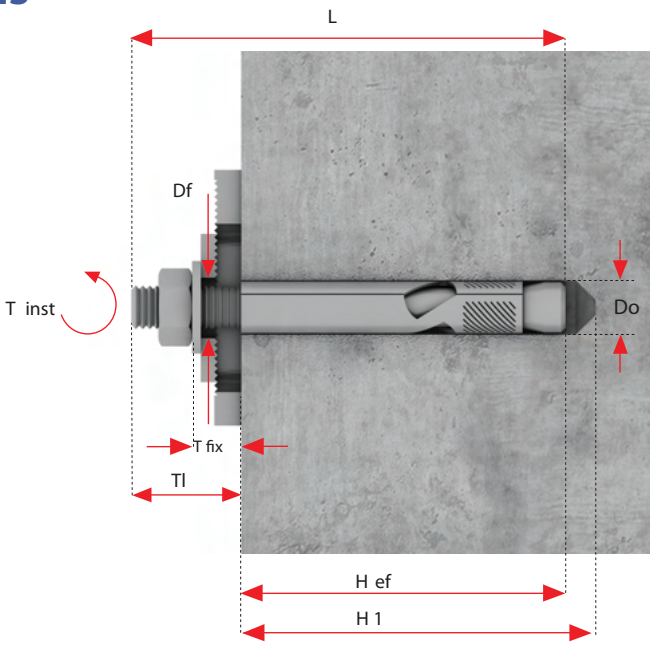
I: Fixing of ladder on to concrete wall HB01 sleeve bolts.





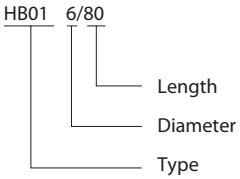
HB01 Sleeve Bolt - Technical Details

- Expansion bolt suitable to use in Concrete and Dense Block work
- Used for installating various fixtures on load bearing walls
- Available in M6-12 in Galvanized steel and stainless steel



Product Code	Technical Details									
	Bolt Size	Sleeve Size	Drill Hole Diameter	Drill Length	Min. Embedment	Max Fixture Thickness	Fixture Hole Diameter	Max. Torque	Bolt Length	Thread Length
	(mm)	(mm)	Do(mm)	H1(mm)	Hef(mm)	T fix (mm)	Df (mm)	T inst (mm)	L (mm)	Tl (mm)
HB01-6/80	M6x80	Ø 8x60	8	55	45	10	9	7	80	27
HB01-8/80	M8x80	Ø 10x60	10	55	45	10	11	15	80	27
HB01-10/80	M10x80	Ø 12x60	12	55	45	10	13	30	80	25
HB01-12/100	M12x100	Ø 16x78	16	75	65	10	17	45	100	30

Product Code Explanation:



Application:

- Concrete walls.
- Filled hollow block walls.
- Solid concrete dense block 7 N/mm^2

Available in:

Stainless Steel AISI 304 & AISI 316
and E.galvanized Mild Steel

Filled concrete blockwork base material values

Recommended Loads (kN)					
Load Direction	a degree	M6	M8	M10	M12
Pull Out (Nrec)	0	2.50	2.89	3.00	3.20
Shear (Vrec)	90	0.84	1.04	1.24	1.40

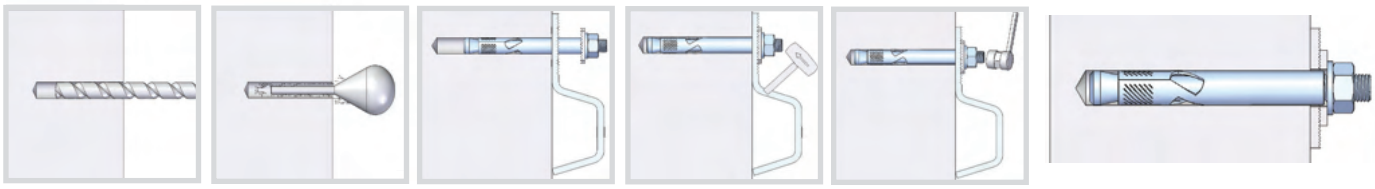
A safety factor of 3.5 is taken for mean ultimate failure loads.

C25/30 strength class concrete base material values (30 N/mm^2)

Recommended Loads (kN)					
Load Direction	a degree	M6	M8	M10	M12
Pull Out (Nrec)	0	4.29	6.85	7.72	8.00
Shear (Vrec)	90	5.43	9.89	15.60	16.10

A safety factor 3.5 was taken for mean ultimate failure loads.

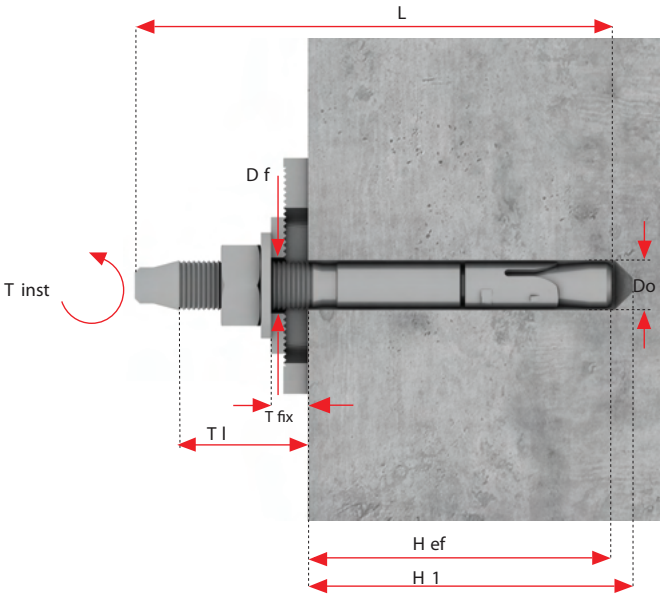
Fixing Instructions



Drilling | Cleaning | Placing Bolt | Hammering Bolt | Fastening

HB03 Through Bolt - Technical Details

- Expansion bolt suitable to use in Concrete with min. C20/25 strength
- Used for installating various fixtures on load bearing walls
- Available in M8-16 in Galvanized steel and stainless steel



Product Code	Technical Details								
	Bolt Size	Drill Hole Diameter	Drill Length	Min. Embedment	Max Fixture Thickness	Fixture Hole Diameter	Max. Torque	Bolt Length	Thread Length
	(mm)	Do(mm)	H1(mm)	Hef(mm)	T fix (mm)	Df (mm)	T inst (mm)	L (mm)	Tl (mm)
HB03-8/80	M8x80	8	65	47	23	9	13	80	30
HB03-8/100	M8x100	8	65	47	43	9	13	100	45
HB03-8/120	M8x120	8	65	47	63	9	13	120	65
HB03-10/90	M10x90	10	70	65	17	11	25	90	35
HB03-10/110	M10x110	10	70	65	37	11	25	110	45
HB03-10/130	M10x130	10	70	65	57	11	25	130	65
HB03-12/110	M12x110	12	95	80	15	13	40	110	35
HB03-12/135	M12x135	12	95	80	40	13	40	135	40
HB03-12/145	M12x145	12	95	80	50	13	40	145	40
HB03-16/125	M16x125	16	115	90	10	17	100	125	45
HB03-16/145	M16x145	16	115	90	30	17	100	145	45
HB03-16/165	M16x165	16	115	90	50	17	100	165	45

HB03 8/80

- Length
- Diameter
- Type

C20/25 strength class concrete based material values.

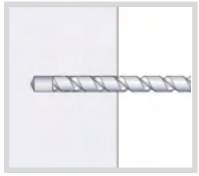
Recommended Loads (kN)					
Load Direction	a degree	M8	M10	M12	M16
Pull Out (Nrec)	0	4.11	6.47	9.64	15.62
Shear (Vrec)	90	6.50	9.70	12.40	18.20

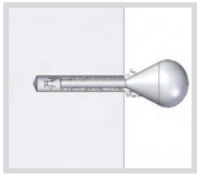
A safety factor of 3.5 is taken for mean ultimate failure loads.

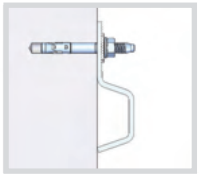
Application: For fastening fixtures to concrete walls strength class C20/25.

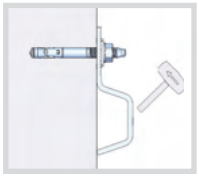
Available in: Stainless Steel AISI 304 & AISI 316 and E.galvanized Mild Steel

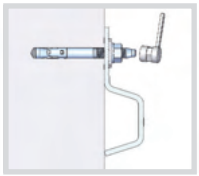
Fixing Instructions

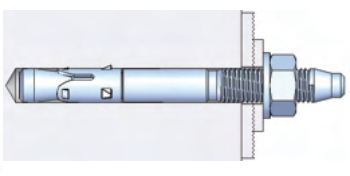

Drilling


Cleaning


Placing Bolt

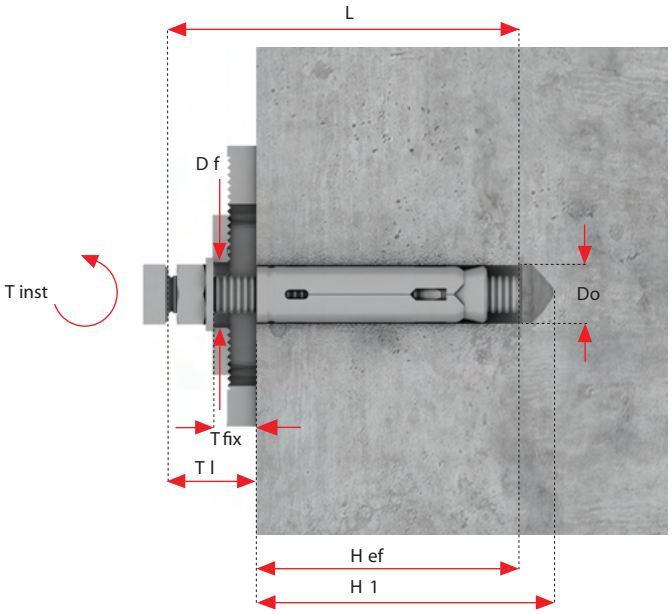

Hammering


Fastening



HB05 Shell Bolt - Technical Details

- Expansion bolt suitable to use in Concrete & CMU walls
- Used for installating various fixtures on load bearing walls
- Available in M6-10 in Galvanized steel and stainless steel



Product Code	Technical Details								
	Bolt Size	Shell Size	Drill Hole Diameter	Drill Length	Min. Embedment	Max Fixture Thickness	Fixture Hole Diameter	Max. Torque	Bolt Length
	(mm)	(mm)	Do(mm)	H1(mm)	Hef(mm)	T fix (mm)	D 1 (mm)	T inst (mm)	L (mm)
HB05-6/60	M6x60	Ø 10x39	10	65	40	10	7	7	60
HB05-6/80	M6x80	Ø 10x59	10	65	40	30	7	7	80
HB05-8/80	M8x80	Ø 12x44	12	80	45	21	9	15	80
HB05-8/100	M8x100	Ø 12x44	12	80	45	41	9	15	100
HB05-10/100	M10x100	Ø 15x50	15	90	55	30	11	25	100

Product Code

HB05 6/80

- 6/80 — Length
- 6/80 — Diameter
- HB05 — Type

Application on:

- Concrete walls.
- Filled hollow block walls.
- Solid concrete dense block 7 N/mm^2

Available in:

Stainless Steel AISI 304 & AISI 316
and E.galvanized Mild Steel

Filled concrete blockwork base material values.

Recommended Loads (kN)				
Load Direction	a degree	M6	M8	M10
Pull Out (Nrec)	0	3.50	4.10	5.20
Shear (Vrec)	90	3.50	6.70	11.00

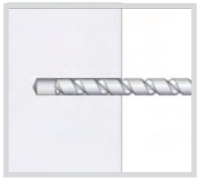
A safety factor of 3.5 is taken for mean failure loads.

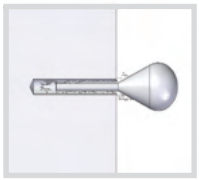
C20/25 strength concrete base material values.

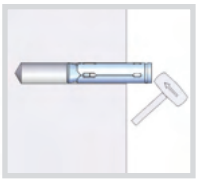
Recommended Loads (kN)				
Load Direction	a degree	M6	M8	M10
Pull Out (Nrec)	0	4.20	6.15	9.50
Shear (Vrec)	90	3.30	6.70	11.00

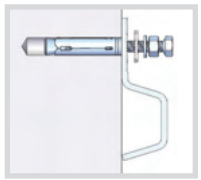
A safety factor of 3.5 is taken for mean failure loads.

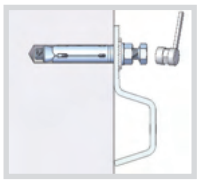
Fixing Instructions

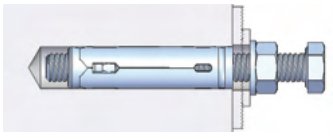

Drilling


Cleaning


Placing Bolt

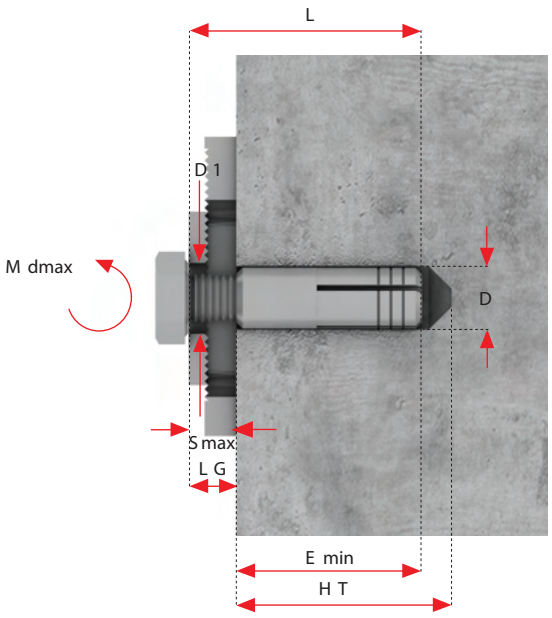

Hammering Bolt


Fastening



HB06 Dropin Bolt - Technical Details

- Expansion bolt suitable to use in Concrete
- Used for installating various fixtures on load bearing walls
- Available in M6-12 in Galvanized steel and stainless steel



Product Code	Technical Details								
	Bolt Size	Shell Size	Drill Hole Diameter	Drill Length	Min. Embedment	Max Fixture Thickness	Fixture Hole Diameter	Max. Torque	Screw in Depth Min / Max
	(mm)	(mm)	D (mm)	Ht (mm)	E min (mm)	S max (mm)	D 1 (mm)	Mdmax (mm)	Sd (mm)
HB06-6	M6x20	Ø 8x25	8	28	25	11	7	4	6/10
HB06-8	M8x25	Ø 10x30	10	33	30	13	9	8	11/17
HB06-10	M10x30	Ø 12x40	12	43	40	17	11	15	13/19
HB06-12	M12x35	Ø 14x50	14	53	50	18	13	35	15/21

Product Code

HB06-6

- Metric size
- Type

C25/30 strength class concrete base material values.

Allowable Loads (kN)					
Load Direction	a degree	M6	M8	M10	M12
Pull Out (Nrec)	0	2.00	3.20	4.35	6.00
Shear (Vrec)	90	1.78	3.30	3.90	6.80

A safety factor of 3.5 has been used against mean ultimate-failure loads

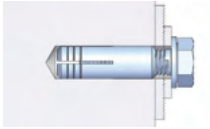
Application:

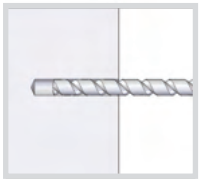
For fastening fixtures to concrete walls.

Available in:

Stainless Steel AISI 304 & AISI 316 and E.galvanized Mild Steel

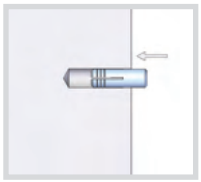
Setting Tool:



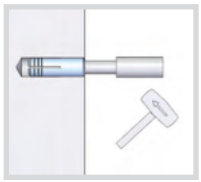


Drilling

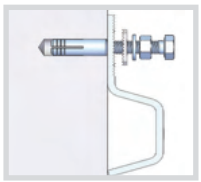
Cleaning



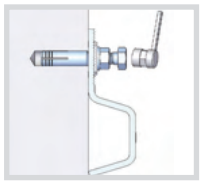
Placing Shell



Hammering Shell



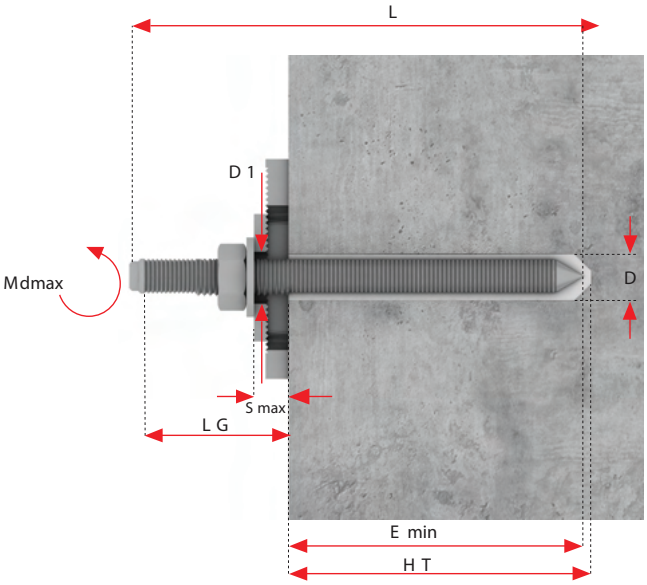
Placing Bolt



Fastening

HB07 Chemical bolt - Technical Details

- Chemical bolt suitable to use in Concrete with min. C20/25 strength
- Used for installating various fixtures on load bearing walls
- Available in M8-20 in Galvanized steel and stainless steel



Product Code	Technical Details								
	Bolt Size	Drill Hole Diameter	Drill Length	Min. Embedment	Max Fixture Thickness	Fixture Hole Diameter	Max. Torque	Bolt Length	Thread Length
	(mm)	Do(mm)	H1(mm)	Hef(mm)	T fix (mm)	Df (mm)	T inst (mm)	L (mm)	Tl (mm)
HB07-8/110	M8x110	10	82	80	14	9	7	110	23
HB07-10/130	M10x130	12	92	90	21	11	15	130	30
HB07-10/170	M10x170	12	92	90	59	11	15	170	70
HB07-12/160	M12x160	14	115	110	28	13	25	160	40
HB07-12/190	M12x190	14	115	110	60	13	25	190	70
HB07-16/190	M16x190	18	130	125	38	17	60	190	52,5
HB07-16/260	M16x260	18	130	125	108	17	60	260	135
HB07-20/240	M20x240	25	175	170	48	17	120	240	115
HB07-20/260	M20x260	25	175	170	70	24	120	260	135

Product Code

HB07 8/110

- Length
- Diameter
- Type

C20/25 strength class concrete base material values.

Allowable Loads (kN)						
Load Direction	a degree	M8	M10	M12	M16	M20
Pull Out (Nrec)	0	8,80	12,30	18,30	20,50	24,60
Shear (Vrec)	90	10,20	15,60	22,00	23,58	26,50

Application:

For fastening fixtures to concrete walls and filled block walls.

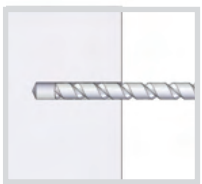
Available in:

Stainless Steel AISI 304 & AISI 316 and E.galvanized Mild Steel

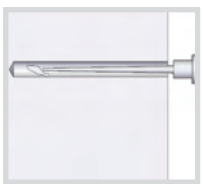
Injection gun

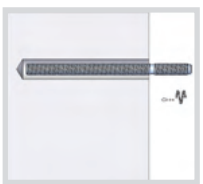
Vinlyster resin capsule

Fixing Instructions


Drilling


Cleaning


Epoxy Injection


Placing Bolt


Curing time

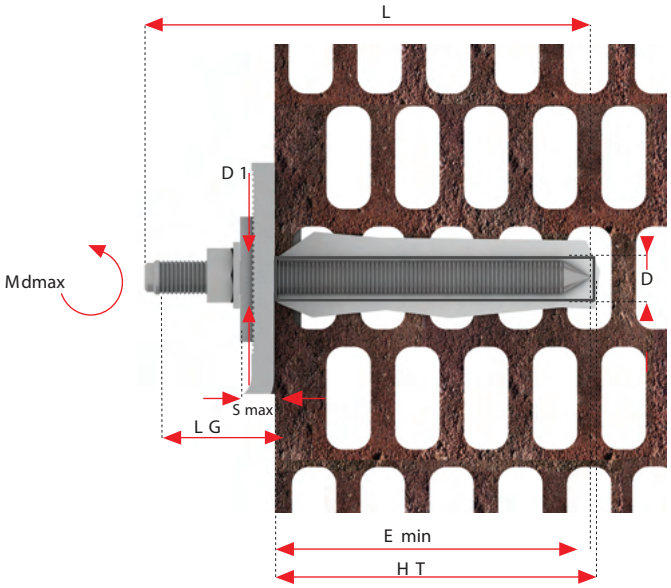

Fastening

Curing time & Temperatures

°C	cure
5	25'
10	15'
20	6'
30	4'
35	2'

HB07-2-Chemical bolt - Technical Details

- Chemical bolt suitable to use in hollow masonry & CMU units
- Used for installating various fixtures on load bearing walls
- Available in M8-12 in Galvanized steel and stainless steel



Product Code	Technical Details								
	Bolt Size	Drill Hole Diameter	Drill Length	Min. Embedment	Max Fixture Thickness	Fixture Hole Diameter	Max. Torque	Bolt Length	Thread Length
	(mm)	D (mm)	Ht (mm)	E min (mm)	S Max (mm)	D 1 (mm)	Mdmax (mm)	L (mm)	Tl (mm)
HB07-2-8/110	M8x110	10	82	80	14	9	7	110	25
HB07-2-10/130	M10x130	12	92	90	21	11	7	130	35
HB07-2-10/170	M10x170	12	92	90	59	11	15	170	75
HB07-2-12/160	M12x160	14	115	110	28	13	15	160	40
HB07-2-12/190	M12x190	14	15	110	60	13	25	190	70

Product Code

HB07-2 - 8/110

- Length
- Diameter
- Type

Hollow Masonry wall base material values.

Allowable Loads (kN)				
Load Direction	a degree	M8	M10	M12
Pull Out (Nrec)	0	0.4	0.4	0.4
Shear (Vrec)	90	1.1	1.1	1.1

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

Application:

For fastening fixtures to hollow block and masonry walls.

Available in:

Stainless Steel AIS 304 & AISI 316 and E.galvenized Mild Steel

Injection gun

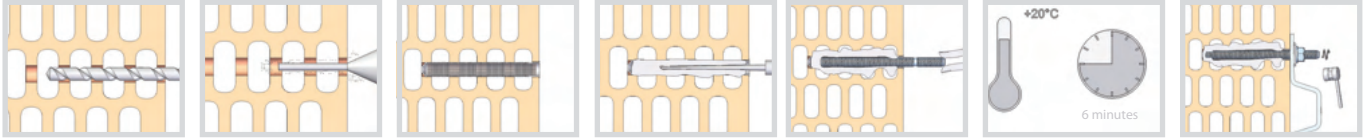
Epoxy acralyt capsule

Perforated sleeve

C°	cure
5°	25′
10°	15′
20°	6′
30°	4′
35°	2′

Curing Time & Temperatures

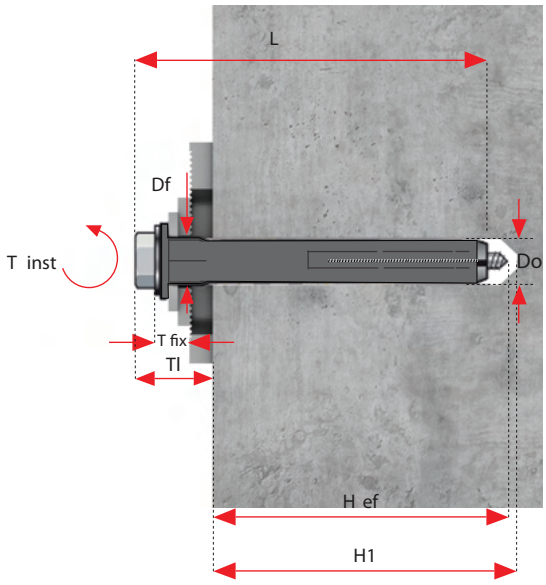
Fixing Instructions



Drilling | Cleaning & Placing Sleeve | Placing Perforated Sleeve | Chemical Injection | Placing Bolt | Curing time | Fastening

HB13 - Wall Plug

The HB08 Wall Plug bolt is used for fixing anchors onto various type of walls. The bolts are set into the hole of the wall in combination with the plastic plug. The expansion of the pluf in the drilled wall as the screw sets in creates a rigid connection on to the wall. This type of anchor bolts are used to install brackts for light weight rainscreen applications.



Product Code	Technical Details								
	Bolt Size	Drill Hole Diameter	Drill Length	Min. Embedment	Max Fixture Thickness	Fixture Hole Diameter	Max. Torque	Bolt Length	Thread Length
	(mm)	D (mm)	Ht (mm)	E min (mm)	S Max (mm)	D 1 (mm)	Mdmax (mm)	L (mm)	Tl (mm)
HB13-8/60	M8x60	Ø 6	60	50	0	Ø 9.5	150	60	40
HB13-8/100	M8x100	Ø 6	60	50	35-45	Ø 9.5	150	100	75
HB13-8/120	M8x120	Ø 6	60	50	55-65	Ø 9.5	150	120	90
HB13-8/150	M8x150	Ø 6	60	50	75-95	Ø 9.5	150	150	115
HB13-8/200	M8x200	Ø 6	60	50	125-145	Ø 9.5	150	200	165

Product Code

HB13 8 / 60

- Length
- Diameter
- Type

Application:

For fixing anchors onto various type of walls.

Available in:

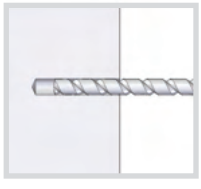
Stainless Steel AIS 304 & AISI 316 and E.galvenized Mild Steel

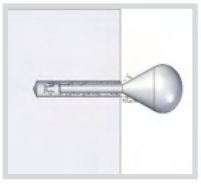
Various type of wall base material values.

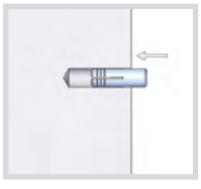
Allowable Loads (kN)		
Load Direction	a degree	M8
Pull Out (Nrec)	0	1.54
Shear (Vrec)	90	3.75

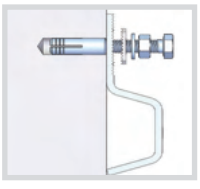
A safety factor of 3.5 is taken for mean ultimate failure loads.

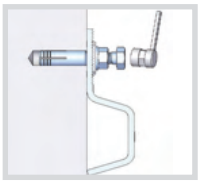
Fixing Instructions


Drilling


Cleaning

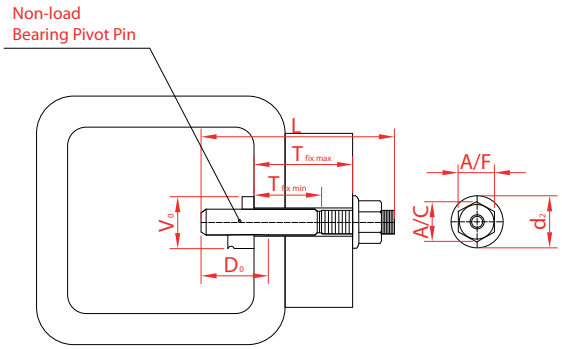

Placing Tube


Placing Bolt


Fastening

HBB - Blind Bolt

The BlindBolt is a blind fixing made from zinc flake-coated or stainless steel A4-70, designed for use in girder cavities or box sections. Its innovative design shortens installation time, and the variety of sizes allows for flexible selection based on fixture thickness.



$D_{0:}$ Depth Clearance

$V_{0:}$ Anchor Clearance

Product Code	Physical Features										
	Size	Length	Hole Diameter	Fixture Thickness Minimum	Fixture Thickness Maximum	Anchor Clearance	Depth Clearance	Minimum Hole Centres	Width Across Flats	Width Arcoss Corners	Washer Diameter
	(mm)	L (mm)	d_0 (mm)	$t_{fix,\ min}$ (mm)	$t_{fix,\ max}$ (mm)	V_0 (mm)	D_0 (mm)	p_{min} (mm)	A/F (mm)	A/C (mm)	d_2
HBB-8/50	M8x50	50	9	9	24	19	25	20	13	15	18
HBB-10/60	M10x60	60	11	10	30	23	30	20	16	17	22
HBB-10/95	M10x95	95	11	25	65	23	30	20	16	17	22
HBB-10/130	M10x130	130	11	55	100	23	30	20	16	17	22
HBB-12/70	M12x70	70	13	12	35	26	35	25	18	20.5	26
HBB-12/120	M12x120	120	13	30	85	26	35	25	18	20.5	26
HBB-12/180	M12x180	180	13	80	140	26	5	25	18	20.5	26

Product Code

HBB 16/100

- Length
- Diameter
- Type

Application:

- Box Sections
- Vertical Cylindrical Sections
- Hollow Profiles
- Simple Connections

Available in:

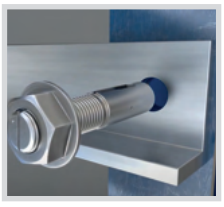
Stainless Steel AISI 316 and Hot Deep Galvanized Mild Steel

10mm thickness base material class.

Allowable Loads (kN)				
Load Direction	a degree	M8	M10	M12
Pull Out (Nrec)	0	6.9		
Shear (Vrec)	90	14.6	23.2	33.7

A safety factor of 1.25 has been used against mean ultimate failure loads

Fixing Instructions



Drilling

Cleaning

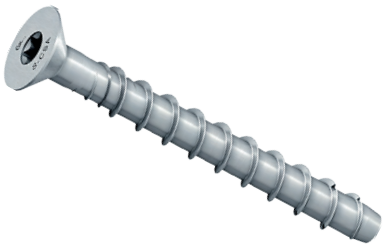
Placing

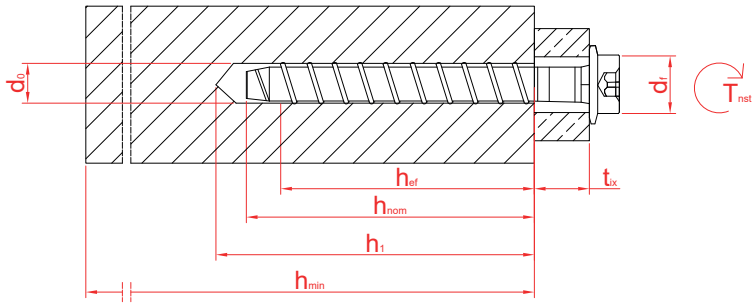
Placing

Torque

HSDS-4

The HSDS-4 concrete screws, offer quick and easy installation without the need for extra tools or steps. They support high loads even with minimal spacing and edge distances, and their removability makes them ideal for temporary fixings.





Product Code	Physical Features									
	Size	Length	Fixture Thickness	Embedment Depth	Nominal Diameter	Drill Hole Diameter	Eff. Anchorage Depth	Fixture Hole	Width Across Flats	Required Torque
	(mm)	L (mm)	t_{fix} (mm)	h_{nom} (mm)	h_1 (mm)	d_0 (mm)	h_{ef}	$d_f \leq$	SW	T_{inst}
HSDS-4-6-50	M6x50	60	5	55	65	6	27.6	7.7-9.0	11 or 13	14
HSDS-4-6-80	M6x80	80	25	55	65	6	27.6	7.7-9.0	11 or 13	14
HSDS-4-6-100	M6x100	100	45	55	65	6	27.6	7.7-9.0	11 or 13	14
HSDS-4-6-120	M6x120	120	65	55	65	6	27.6	7.7-9.0	11 or 13	14

Product Code

HSDS-4-8/110

- Length
- Diameter
- Type

Application:

Facade scaffolds, temporary fastening, contact surfaces, shelves, cable racks, hand rails.

Available in:

Zinc-plated steel

10mm thickness base material class.

Allowable Loads (kN)		
Load Direction	a degree	M6
Pull Out (Nrec)	0	2.1
Shear (Vrec)	90	4.5

A safety factor of 1.25 has been used against mean ultimate failure loads

Fixing Instructions

Drilling | Cleaning | Placing | Torque

Additional Bolts

Self Drill Screws

HSDS-1

Used for connecting profiled steel sheets to steel substructures between 1.5 mm and 4 mm thick.

Product Code	Physical Features	
	Length	Clamping Thickness
	(mm)	(mm)
HSDS-1-6-6.3x22	22	0 - 7
HSDS-1-6-6.3x25	25	0 - 10
HSDS-1-6-6.3x38	38	0 - 23

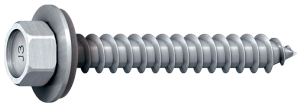
HSDS-2

• For fastening profiled steel sheets to steel substructures 4 mm to 10 mm thick
• For fastening profiled aluminum sheets or sandwich panels to steel substructures 4 mm to 10 mm thick

Product Code	Physical Features	
	Length	Clamping Thickness
	(mm)	(mm)
HSDS-2-12-5.5x40	40	0 - 11
HSDS-2-5.5x58	58	0 - 31
HSDS-2-5.5x118	118	65 - 91

• For fastening profiled aluminum sheets or sandwich panels to aluminum substructures 4 mm to 12 mm thick

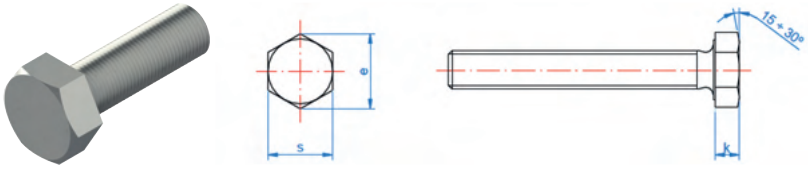
HSDS-3



Used in roofing or cladding sheets to steel sections, aluminium sections and timber.

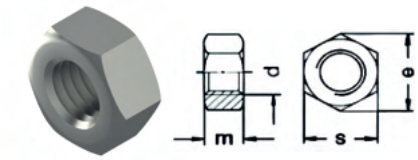
Product Code	Physical Features	
	Length	Clamping Thickness
	(mm)	(mm)
HSDS-3-6.5x75	75	0 - 25
HSDS-3-6.5x90	90	12 - 40
HSDS-3-6.5x115	115	37 - 65

DIN933



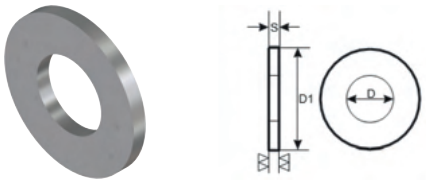
Product Code	Physical Features			
	Head Thickness	Distance Between Faces	Distance Between Apexes	Torque Wrench
	k (mm)	s (mm)	e (mm)	
DIN933-6	4	10	10.89	10
DIN933-8	5.3	13	14.20	13
DIN933-10	6.4	17	18.72	17
DIN933-12	7.5	19	20.88	19
DIN933-16	10	24	26.17	24

DIN934



Product Code	Physical Features				
	Diameter	Thread Pitch	m	s	e
		(mm)	(mm)	(mm)	(mm)
DIN934-6	M6	1	4.7-5	9.78-10	11.05
DIN934-8	M8	1.25	6.14-6.5	12.73-13	14.38
DIN934-10	M10	1.5	7.64-8	16.73-17	18.9
DIN934 -12	M12	1.75	9.64-10	18.67-19	21.1

DIN125



Product Code	Physical Features				
	Nominal Diameter	Inner Diameter	Outer Diameter	Thickness	Weight
		D (mm)	D1 (mm)	S (mm)	kg / 1000 pcs
DIN125-6	M6	6.4	12.5	1.6	1.14
DIN125-8	M8	8.4	17	1.6	2.14
DIN125-10	M10	10.5	21	2	4.08
DIN125-12	M12	13	24	2.5	6.27

HAZ Metal San. ve Tic. A.Ş.
Güzelçay Mah. Şehit Er Ali Çıracı Cad.
No: 10 İskenderun
Türkiye
Telefon: 0 326 626 20 45
info@hazmetal.com
www.hazmetal.com

HAZ Metal Deutschland GmbH
Alfred-Zippe-Straße 1
D-97877 Wertheim
Germany
Telefon: +49 (0) 93 42 - 93 59 - 0
info@haz.eu
www.haz.eu

HAZ Metal Fixing Systems UK LTD.
154 Great North Road Hatfield
Hertfordshire AL9 5JN
Tel: +44 1707 260 180
info@hazmetal.co.uk
www.hazmetal.co.uk

Version: 01.25