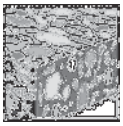
HAM Hard sleeve anchor

	Anchor version	Benefits
	HAM with steel strength 8.8 screw HAM	- secure fastenings in various base materials - cone attached to sleeve to ensure pre-setting - wings to prevent spinning in the borehole - plastic cap in cone to prevent dust entrance - blue-chromate zinc coating - 8.8 steel strength of screw


Concrete


Solid brick

Basic loading data (for a single anchor)

All data in this section applies to
- Correct setting (See setting instruction)
- No edge distance and spacing influence
- Concrete as specified in the table
- *Steel* failure
  Minimum base material thickness
- Concrete C 20/25, $f_{ck,cube}$ = 25 N/mm²

Recommended Loads in uncracked concrete C20/25

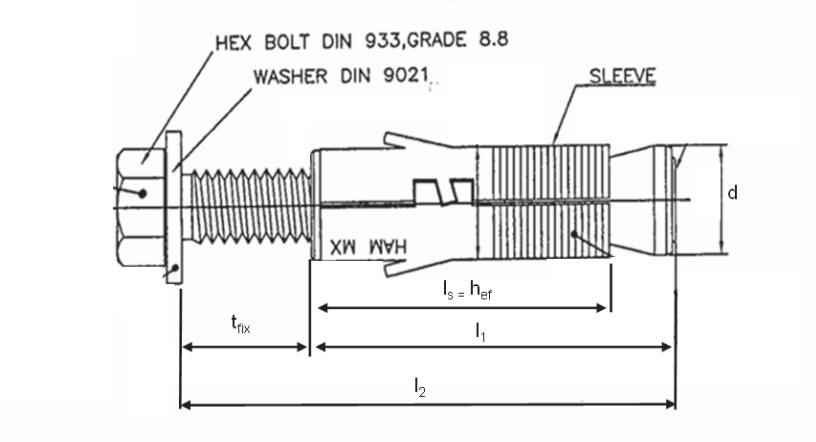
Thread Diameter	d	[mm]	M6x50	M8x60	M10x80	M12x90
Tension	N_{rec}	[kN]	4,0	4,8	5,8	8,7
Shear	V_{rec}	[kN]	4,6	8,4	13,3	19,3

Recommended Loads in solid brick

Thread Diameter	d	[mm]	M6x50	M8x60	M10x80	M12x90
Tension	N_{rec}	[kN]	For solid brick, load values need to be determined on the building site			
Shear	V_{rec}	[kN]				

Materials

Part		Material
HAM Anchor	Sleeve	Carbon steel
	Hex head Bolt	Carbon steel DIN 933, Strength 8.8
	Washer	Carbon steel, DIN 9021



Anchor dimensions

Anchor version	Anchor	h_{ef} [mm]	d [mm]	l_s [mm]	l_1 [mm]	l_2 [mm]	t_{fix} [mm]
HAM	M6 x 50	30	12	30	40	50	10
	M8 x 60	35	14	35	50	60	10
	M10 x 80	43	16	43	60	80	20
	M12 x 90	55	19	55	70	90	20

Setting

Installation equipment

Anchor size		M6x50	M8x60	M10x80	M12x90
Rotary hammer		TE 2 – TE 16			
Drill bit	TE-C3X	12	14	16	20
Other tools		hammer, torque wrench, blow out pump			

For detailed information on installation see instruction for use given with the package of the product.

Setting details for HAM with 8.8 screw

Thread Diameter	d	[mm]	M6x50	M8x60	M10x80	M12x90
Nominal diameter of drill bit	d_o	[mm]	12	14	16	20
Cutting diameter of drill bit	$d_{cut} \leq$	[mm]	12,5	14,5	16,5	20,55
Depth of drill hole	$h_1 \geq$	[mm]	65	80	90	110
Width across nut flats	SW	[mm]	10	13	17	19
Diameter of clearance hole in the fixture	$d_f \leq$	[mm]	7	9	12	14
Max. torque moment concrete	T_{inst}	[Nm]	10	25	45	75
Max. torque moment masonry	T_{inst}	[Nm]	5	10	20	30