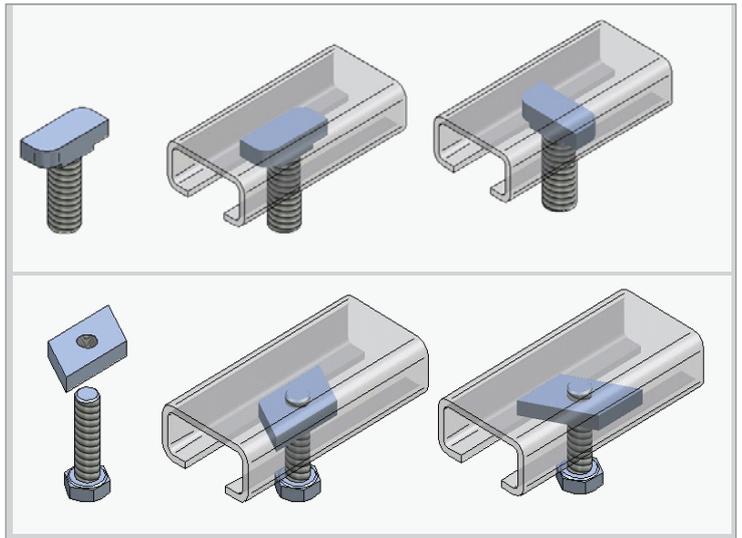
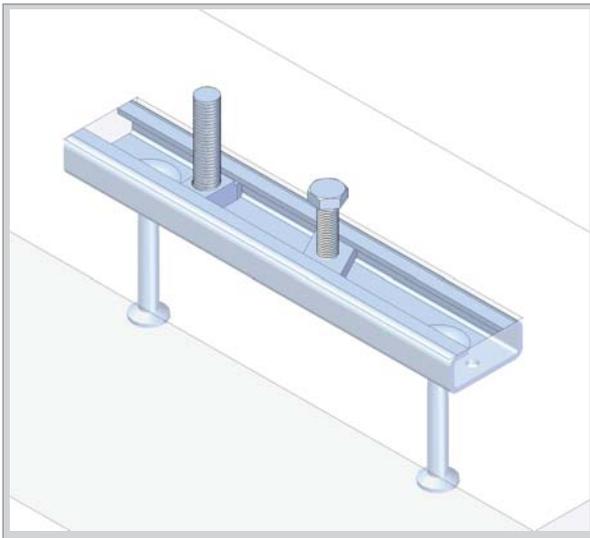


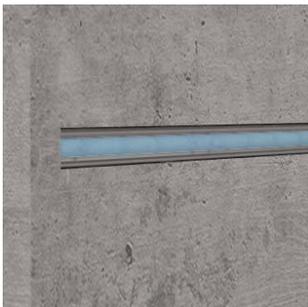
T Bolts & Lock Nuts - Introduction

HTB T bolts & **HMLN** lock nuts are used for attachments in to cast in channels which are designed for a perfect fit into the section of the channels. Insertion is made and after a 90 degree turn clockwise the connection is enabled. Correct torque values must be applied in order to achieve secure connections.

T bolts and lock nuts are available in stainless steel 1.4401 and hot dip galvanised steel strength class 4.6 & 8.8.



Fixing Instructions



1.) After pouring of cement, the concrete wall should be left to dry



2.) After concrete has dried out, the filler in the channel should be taken out using a suitable tool



3.) The filler can be pulled out along the length of the channel simply by hand



4.) No left overs should be within the channel slot. Any residue should be scrapped out



5.) Suitable T head bolts should be inserted into place by placing the narrow side of the head in the slot



6.) Locking in place will be done when turning 90 degrees. Notch on the shank must be set vertically



7.) T head bolts can be adjusted along the length of the channel to be in the desired position



8.) When the connection has been made recommended torque must be used in order to

T Bolts & Lock Nuts - Technical Details

Head Bolt Metric Size	Loading Table for T Head Bolts (kN)													Max Torque Loads (Nm)			
	Grade	4.6 Class Steel			8.8 Class Steel			Stainless Steel 1.4401 / A4-50			Stainless Steel 1.4401 / A4-70			4.6 Class Steel	8.8 Class Steel	1.4401 / A4-50	1.4401 / A4-70
		Tensile & Shear Loads	Bending Moment	Longitudinal Load	Tensile & Shear	Bending Moment	Longitudinal Load	Tensile & Shear	Bending Moment	Longitudinal Load	Tensile & Shear	Bending Moment	Longitudinal Load				
M6	all.F	2.2	2.0	0.10	-	-	-	2.2	1.8	0.1	3.0	3.8	0.1	3	-	3	4
	F Rd	3.1	2.8	0.14	-	-	-	3.1	2.5	0.1	4.2	5.3	0.2				
M8	all.F	4.0	5.0	0.20	-	-	-	4.0	4.4	0.2	5.5	9.4	0.3	8	-	8	10
	F Rd	5.6	7.0	0.28	-	-	-	5.6	6.2	0.3	7.7	13.2	0.4				
M10	all.F	6.4	10.0	0.30	13.3	24.9	1.1	6.4	8.7	0.3	8.7	18.7	0.4	15	48	15	20
	F Rd	9.0	14.0	0.42	18.6	34.9	1.5	9.0	12.2	0.4	12.2	26.2	0.6				
M12	all.F	9.3	17.5	0.50	19.4	43.7	1.6	9.3	15.3	0.5	12.6	32.8	0.7	25	70	25	35
	F Rd	13.0	24.5	0.70	27.2	61.2	2.2	13.0	21.4	0.7	17.6	45.9	1.0				
M16	all.F	17.3	44.4	0.90	36.1	110.0	3.0	17.3	38.8	0.9	23.6	83.3	1.2	60	200	60	80
	F Rd	24.2	62.2	1.26	50.5	154.0	4.2	24.2	54.3	1.3	33.0	116.6	1.7				
M20	all.F	27.0	86.5	1.40	56.4	216.4	4.7	27.0	75.7	1.4	36.8	162.3	1.9	120	400	120	160
	F Rd	37.8	121.1	1.96	79.0	303.0	6.6	37.8	106.0	2.0	51.5	227.2	2.6				
M24	all.F	38.8	149.9	2.00	81.2	-	-	38.8	130.9	2.0	-	-	-	200	680	200	-
	F Rd	54.3	209.9	2.80	113.7	-	-	54.3	183.3	2.8	-	-	-				
M30	all.F	61.7	299.9	3.20	129.0	-	-	61.7	262.4	3.2	-	-	-	400	1.400	400	-
	F Rd	86.4	419.9	4.48	180.6	-	-	86.4	367.4	4.5	-	-	-				

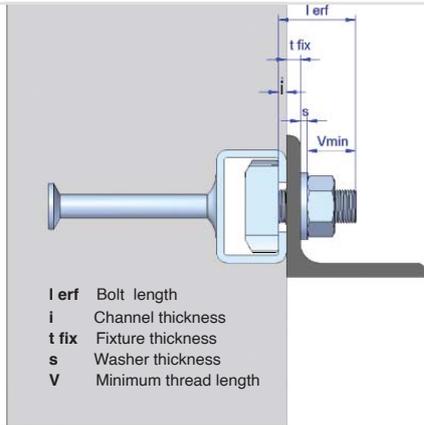
Loading Table For Locknuts (kN)																				
Lock Nut Type	HMLN-28			HMLN-38			HMLN-41				HMLN-40			HMLN-50		HMLN-72				
	M6	M8	M10	M8	M10	M12	M6	M8	M10	M12	M8	M10	M12	M10	M12	M16	M12	M16	M20	
Safe Load	all.F	1.9	2.8	3.0	4.0	4.1	5.7	4.0	4.0	6.4	9.3	4.0	6.4	9.3	6.4	9.3	9.3	9.3	17.3	22.0
	F Rd	2.7	3.9	4.2	5.6	5.7	8.0	5.6	5.6	9.0	13.0	5.6	9.0	13.0	9.0	13.0	13.0	13.0	24.2	30.8

The length of the T bolt must be determined using the formula below

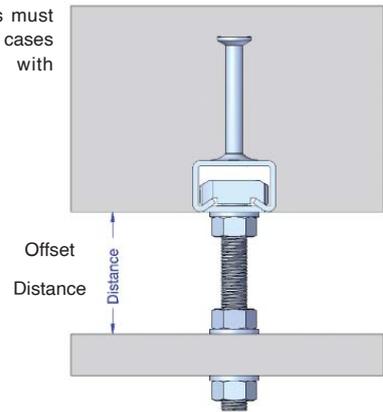
$$(L_{erf} = t_{fix} + i + s + v)$$

Dimensions V min

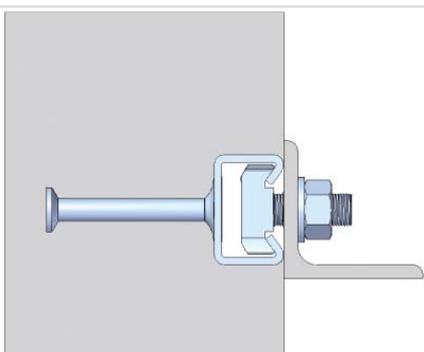
Metric	Vmin (mm)
M6	11.0
M8	12.5
M10	14.5
M12	17.0
M16	20.5
M20	26.0
M24	29.0
M27	31.5
M30	33.5



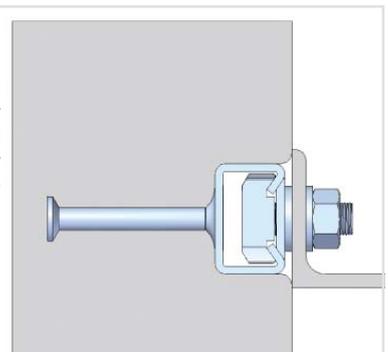
Square washers must always be used in cases of installations with spacings.



Installations must always be made flush to the surface. Contact must be established between the fixture and the cast in channel.



In cases of non flush surfaces, a square washer and a shim must be used to enable secure transfer of loads on to the channels.



T Head Bolts - Product Details

Product Code	Technical Details							Product Drawing
	Bolt Size mm	Metric M (mm)	Length L (mm)	Head Thick. a (mm)	Head Width b (mm)	Head Length c (mm)	Suitable for Channels	
HTB-28-8/30	M8x30	8	30	4.0	10.50	23.0	HMPR-28/15	
HTB-28-8/50	M8x50	8	50					
HTB-28-10/40	M10x40	10	40					
HTB-28-10/60	M10x60	10	60					
HTB-38-10/40	M10x40	10	40	7.0	13.00	30.5	HMPR-38/17	
HTB-38-10/50	M10x50	10	50					
HTB-38-10/70	M10x70	10	70					
HTB-38-12/50	M12x50	12	50					
HTB-38-12/60	M12x60	12	60					
HTB-38-12/80	M12x80	12	80					
HTB-38-16/60	M16x60	16	60					
HTB-38-16/80	M16x80	16	80					
HTB-38-16/100	M16x100	16	100					

• HTB T bolts are stamped with HAZ or HS trademark

Product Code	Technical Details							Product Drawing
	Bolt Size mm	Metric M (mm)	Length L (mm)	Head thick. a (mm)	Head Width b (mm)	Head Length c (mm)	Suitable for Channels	
HTB-40-10/50	M10x50	10	50	12.0	14.00	34.0	HMPR-40/25, HMPR-H-40/22	
HTB-40-10/70	M10x70	10	70					
HTB-40-12/50	M12x50	12	50					
HTB-40-12/60	M12x60	12	60					
HTB-40-12/80	M12x80	12	80					
HTB-40-16/60	M16x60	16	60					
HTB-40-16/80	M16x80	16	80					
HTB-40-16/100	M16x100	16	100					
HTB-50-12/50	M12x50	12	50	13.0	17.50	42.0	HMPR-49/30, HMPR-54/33, HMPR-H-50/30, HMPR-H-52/34	
HTB-50-12/60	M12x60	12	60					
HTB-50-12/80	M12x80	12	80					
HTB-50-16/60	M16x60	16	60					
HTB-50-16/80	M16x80	16	80					
HTB-50-16/100	M16x100	16	100					
HTB-50-20/80	M20x80	20	80					
HTB-50-20/100	M20x100	20	100					
HTB-72-20/60	M20x60	20	60	17.0	22.00	58.0	HMPR-72/49	
HTB-72-20/80	M20x80	20	80					
HTB-72-20/100	M20x100	20	100					
HTB-72-24/80	M24x80	24	80					
HTB-72-24/100	M24x100	24	100					

• HTB T bolts are stamped with HAZ or HS trademark

Product Code	Technical Details							Product Drawing
	Bolt Size mm	Metric M (mm)	Length L (mm)	Head Thick. a (mm)	Head Width b (mm)	Head Length c (mm)	Suitable for Channels	
HTB-41-12/50	M12x50	12	50	10.0	20.00	34.0	HMPR-S-41/22	
HTB-41-16/60	M16x60	16	60					

• HTB T bolts are stamped with HAZ or HS trademark

Product Code

HTB - 28 - 8 / 30

Metric / Length
 Channel type
 Type

Material:

A4 Stainless steel 1.4401,
 HDG 4.6 hot dip galvanized steel strenght class 4.6
 HDG 8.8 hot dip galvanized steel strenght class 8.8

Lock Nuts - Product Details

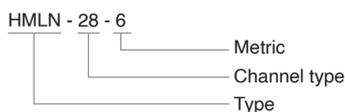
Product Code	Technical Details					Product Drawing
	Metric Size M (mm)	Head Thick. a (mm)	Head Width b (mm)	Head Length c (mm)	Suitable for Channels	
HMLN-28-6	6	4.0	13.00	24.5	HMPR-28/15	
HMLN-28-8	8					
HMLN-28-10	10					
HMLN-38-10	10	6.0	17.50	31.5	HMPR-38/17	
HMLN-38-12	12					
HMLN-38-16	16					

Product Code	Technical Details					Product Drawing
	Metric Size M (mm)	Head Thick. a (mm)	Head Width b (mm)	Head Length c (mm)	Suitable for Channels	
HMLN-40-10	10	10.8	17.00	34.5	HMPR-40/25, HMPR-H-40/22	
HMLN-40-12	12					
HMLN-40-16	16					
HMLN-50-10	10	11.7	21.0	43.5	HMPR-49/30, HMPR-54/33, HMPR-H-50/30, HMPR-H-52/34	
HMLN-50-12	12					
HMLN-50-16	16					
HMLN-72-12	12	22.0	31.00	62.0	HMPR-72/49	
HMLN-72-16	16					
HMLN-72-20	20					

Product code	Technical details					Product drawing
	Bolt size mm	Head thick. a (mm)	Head Width b (mm)	Head Length c (mm)	Suitable for channels	
HMLN-41-6	6	6.0	20.00	34.0	HMPR-S-41/22	
HMLN-41-8	8	8.0				
HMLN-41-10	10	10.0				
HMLN-41-12	12	12.0				

Product Code	Technical Details					Product Drawing
	Bolt Size mm	Head Thick. a (mm)	Head Width b (mm)	Head Length c (mm)	Suitable for Channels	
HMLN-S-41-6	6	6.0	20.00	34.0	HMPR-S-41/22	
HMLN-S-41-8	8	8.0				
HMLN-S-41-10	10	10.0				
HMLN-S-41-12	12	12.0				

Product Code



- **Material:**
- A4 Stainless steel W 1.4401,
- HDG hot dip galvanized steel