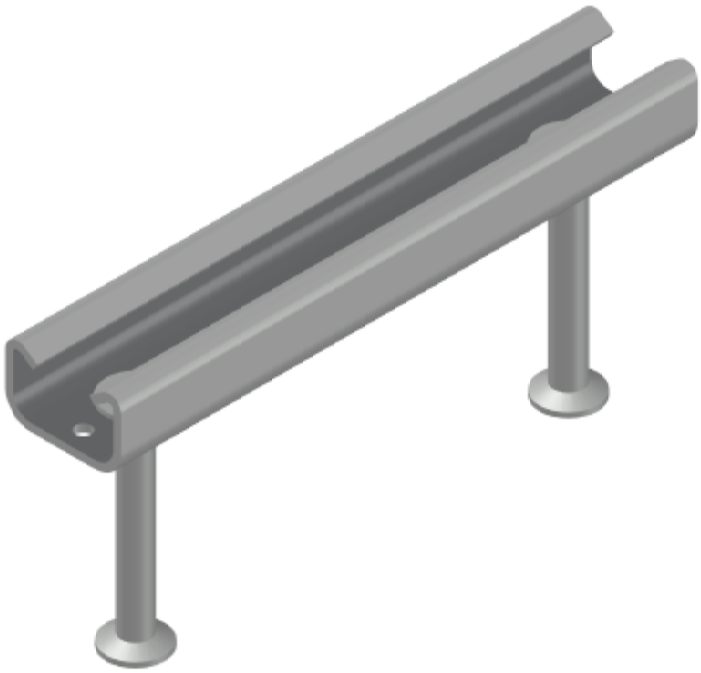
Your Fixing Systems Specialist

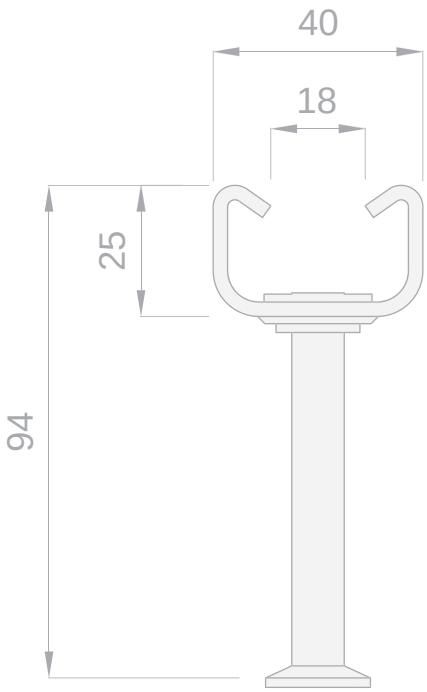
HAZ METAL

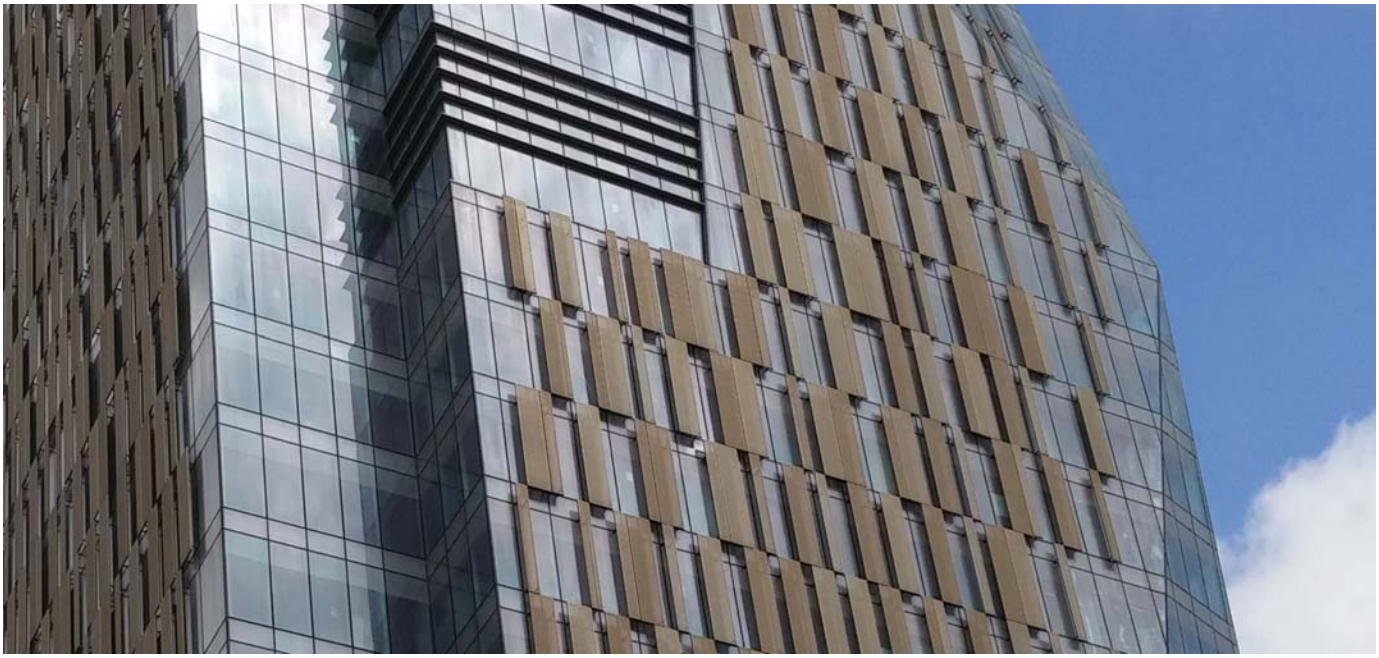
Anchor Channel Systems

HAZ anchor channels offer reliable and versatile solutions for the easy and efficient installation to concrete substrates. Ideal for façade and infrastructure construction projects, they ensure strong, adjustable, and long-lasting connections for demanding applications.

Product Brochure - HAZ-BR-CI-EN/01.25







HAZ
Group of Companies
Establishment
www.hazgrp.com

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

Contents

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

Anchor Channels - Overview

HMPR-CE Anchor Channels are rolled channels with swaged studs that are used for connections made to concrete structures. This system allows easy and safe fixations to structures such as concrete slabs, beams and columns.

HTB T head bolts and HMLN lock nuts to allow secure and easy connections on to anchor channels. The use of this system is applicable in a wide range of construction works.

Features of HMPR-CE cast in channels are as follows:

• HMPR-CE Anchor Channels are designed in accordance with the design rules according to CEN / TS 1992-4-3.

• HMPR-CE Anchor Channels allow users working with low edge distances.

• Load resistances can be improved by using higher concrete strenght class on loading.

• Shear and tensile resistance in concrete can be improved with additional reinforcement.

HMPR-CE Anchor Channels are manufactured by HAZ Metal A.S. in Turkey with engineering and product development provided from its siter company in Germany, HAZ Deutschland GmbH. Since 2004 HAZ Metal has built an effective product development system to increase the integrity of its products and production.

HMPR-CE channels have been tested in IFBT Leipzig in accordance to the EOTA guidelines and have received good results. The HMPR-CE cast in channels have been awarded an ETA certificate.

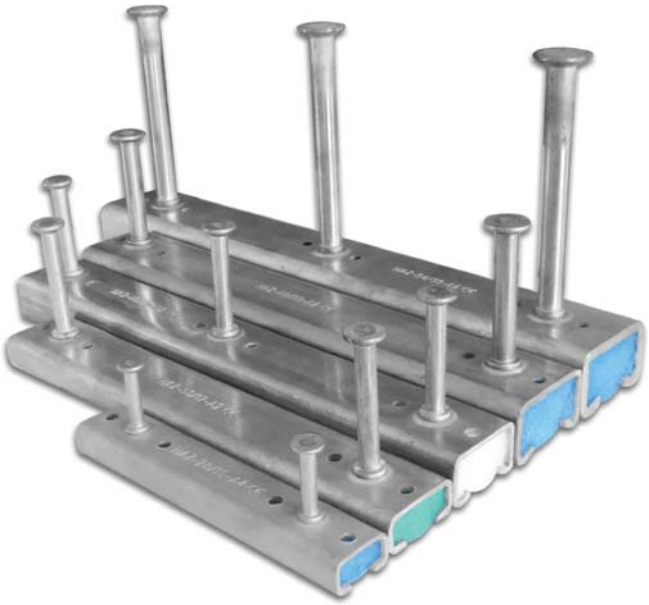
HMPR-CE anchor channels can be used safely and efficiently with the following features:

• Quality production with strict control according to European requirements

• Management and Service quality certified by ISO 9001:2008

• Euro code compatible design and product dimensioning using
product selection software

• Customized design in providing solutions to meet special product requirements



CE European Technical Approval

Anchor Channels are CE marked.

ETA European Organisation for Technical Assessment

ETA European Technical Assessment ETA-17/0549 & ETA-20/0698

MFPA Advisory opinion No: **GS 3.2/12-286-2**

High Fire Resistance

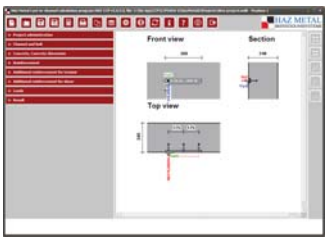
ISO 14001 TÜV SUD ISO 9001 OHSAS 18001 TÜRKAK Quality Management Systems TS EN ISO/IEC 17021 AB-0007-YS

ISO 9001:2008 certified

Dimensioning Software

The new HAZ CCP (Anchor Channel Calculation Program) for calculating HAZ Anchor channels with rules of European Technical Approval (ETA) is a convenient and very powerful tool for designers.

With this program, designers will be able to select channels in a few seconds according with various parameters such as concrete grade, small edge distances, additional reinforcements, loads types & load directions.



HAZ Channel Calculation Software

• HMPR Cold rolled cast in channels

• HMPR-S Toothed, cold rolled cast in channels

• HMPR-H Hot rolled cast in channels

Advantages

- No drilling on site
- Quick and easy fixing
- Fixing without damaging concrete
- Adjustable and flexible
- Safe near edges on concrete
- High load capacity
- Fixing without electrical tools
- Safe and secure fixing
- No dust particles falling onto facade
- No electricity needed
- Easy connections with T head bolts and lock nuts
- Compensation of tolerances of the structure
- Fixtures are removable and new fixing can be made

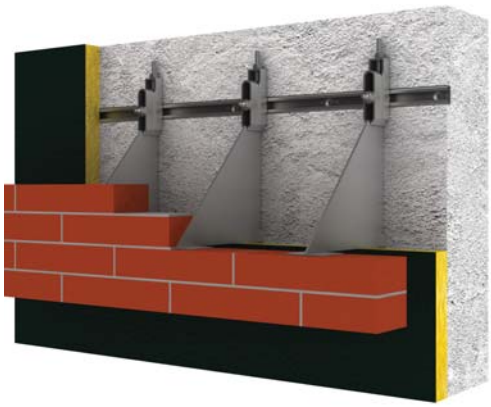
Planning

Careful planning needs to be done prior to concrete casting. Anchor channel types should be determined according to the load capacities, edge distances, area of applications etc. Anchor channel positioning should be incorporated in to the shop drawings of the form works in order to provide clear instructions for installation on site.

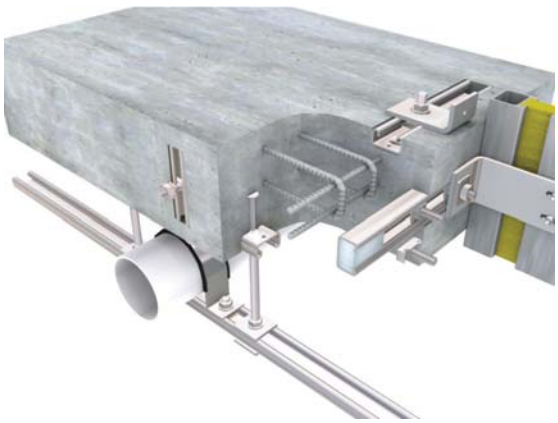
Applications

Anchor channels are widely used for the installation of curtain walls. Unitised panels with materials such as glass and natural stone already incorporated are preassembled in to the curtain wall panels. These panels are erected on to the facades and are quickly and easily fixed on to anchor channels using T head bolts and special brackets.

Brick walls are installed using special support brackets that are fixed on to anchor channels using T head bolts. A continuous anchor channel embedded into the concrete wall provides high adjustability and enables quick installation of the masonry brackets. Anchor channels cover the load capacity requirements for the masonry facade installation.

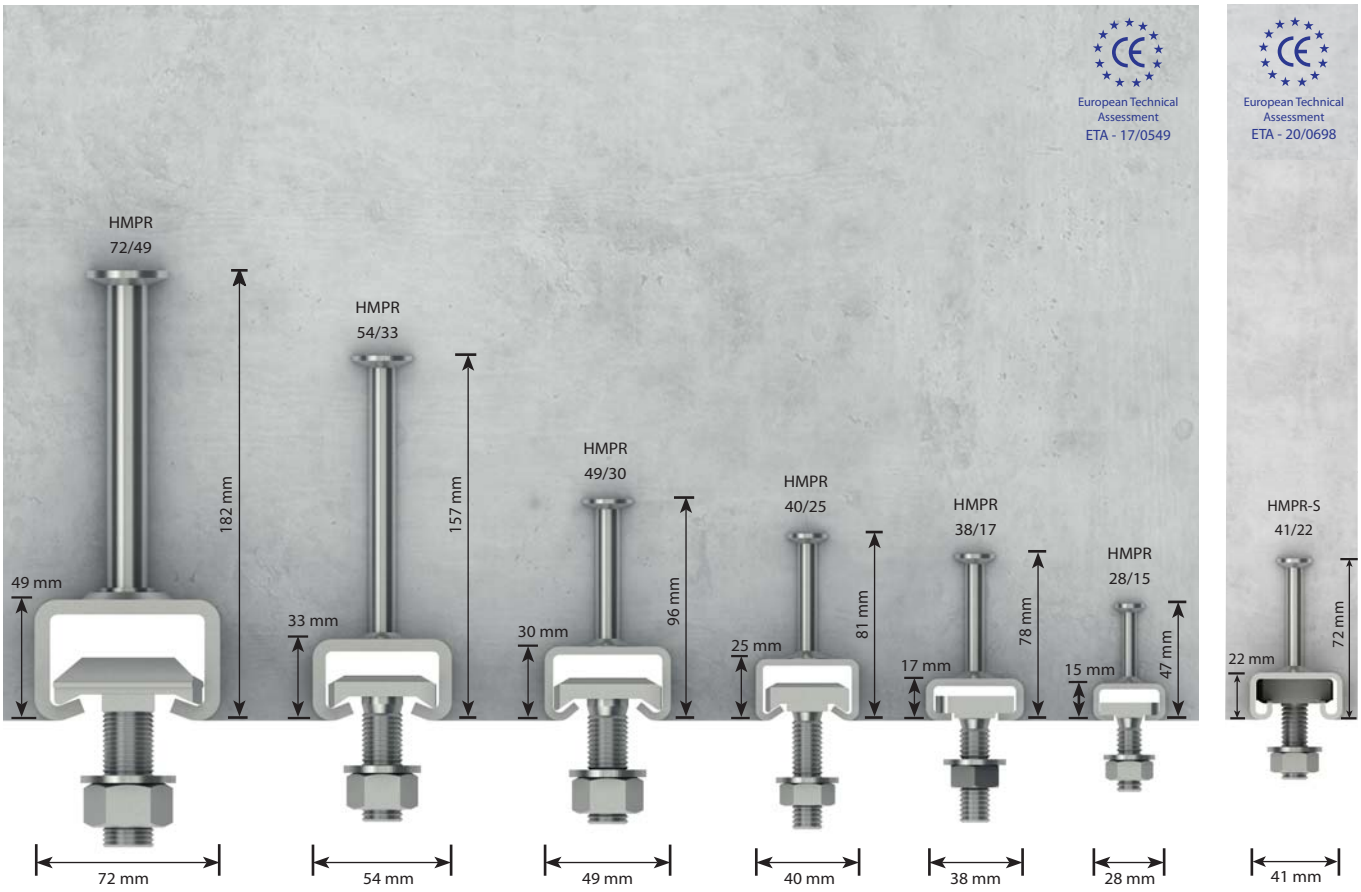


Anchor channels are used for a variety of construction applications which require attachments made on to concrete structures. Pipe and duct installation and the installation of electrical wiring are the most common applications that are made using anchor channels.



The prefabricated concrete industry is among the fastest growing fields within the construction industry. The use of Anchor channels enhance the fast and economical solutions that are offered using prefabricated concrete panels. Speed and security are the benefits of using Anchor channels.

HMPR - Cold rolled anchor channels

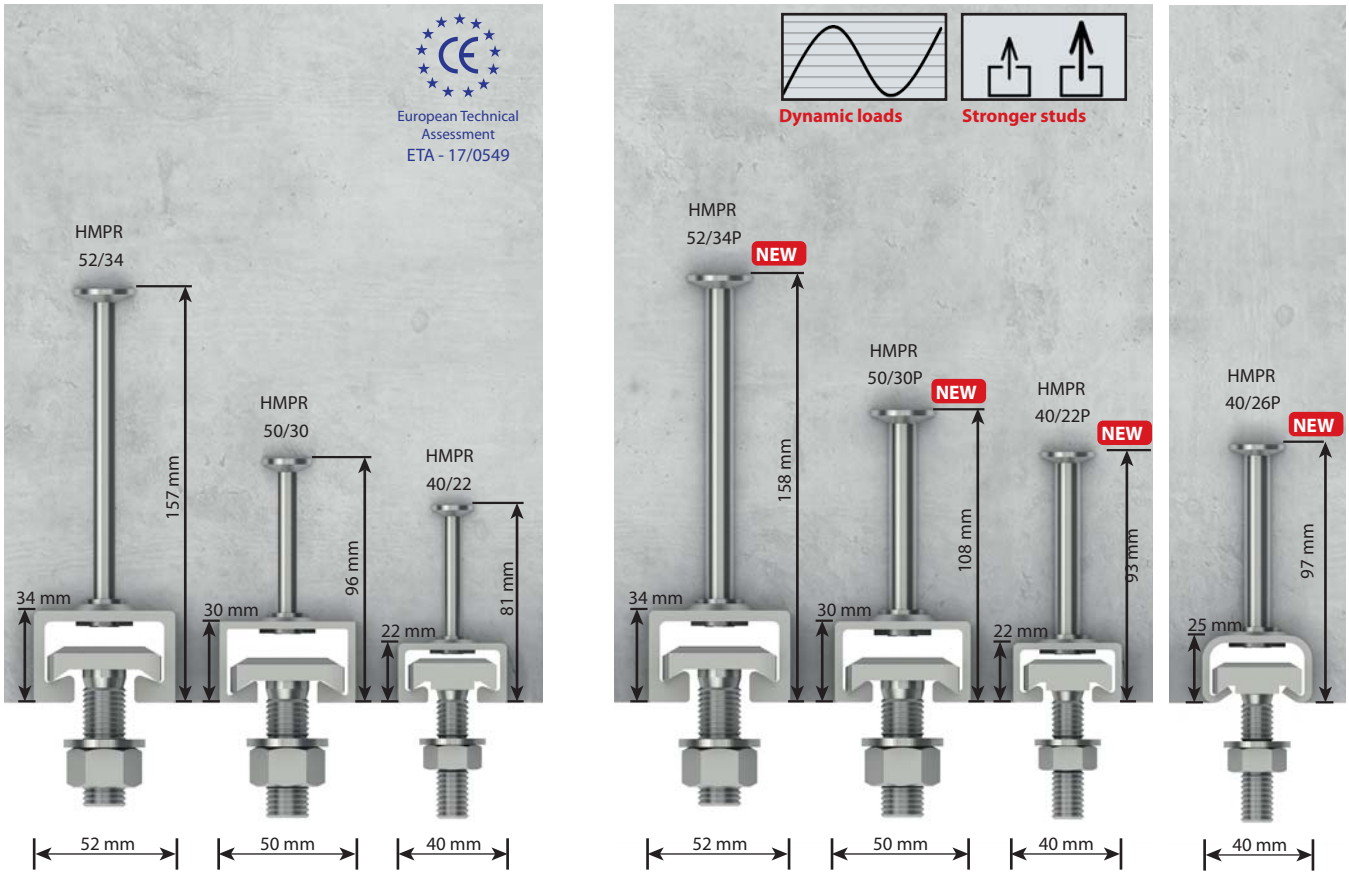


HMPR Cold rolled channels are suitable to withstand static loads. HMPR-S toothed channels are suitable to resist longitudinal loads when used with toothed t head bolts. The range available can cover resistance loads ($N_{Rd} = V_{Rd}$) between 7,2 kN and 50,5 kN. Channels are available in stainless steel 1.4301 & 1.4401 and hot dip galvanised mild steel 1.0038 & 1.0976 (S235 JR & S355 MC).

Anchor Channel Product Code	HMPR-CE 72/49	HMPR-CE 54/33	HMPR-CE 49/30	HMPR-CE 40/25	HMPR-CE 38/17	HMPR-CE 28/15	HMPR-S-CE 41/22
Channel Section	72/49	54/33	49/30	40/25	38/17	28/15	41/22
Load Capacity (kN) $N_{Rd} = V_{Rd}$ Steel / Stainless steel	45 / 50.5	41.67 / 36.6	17.2 / 25	12.2 / 15	10.5 / 12.2	7.2 / 8.3	7.27 / 11.77
Channel Flexure (Nm) Steel / Stainless steel $M_{Rd,s,flex}$	9868 / 6408	2832 / 2696	1646 / 1600	1179 / 911.3	517.4 / 566.1	303.5 / 302.6	420 / 299.13

Comptable T Head Bolt Product Code	HAZ-HS HTB-72			HAZ-HS HTB-50			HAZ-HS HTB-50			HAZ-HS HTB-40			HAZ-HS HTB-38			HAZ-HS HTB-28		HAZ-HS HTB-S-41	
Metric Size	M20	M24	M30	M12	M16	M20	M12	M16	M20	M10	M12	M16	M10	M12	M16	M8	M10	M12	M12	M16
T.Bolt min spacing (mm) S_{slb}	100	120	150	60	80	100	60	80	100	50	60	80	50	60	80	40	50	60	60	80

HMPR - Anchor channels for dynamic Loads



HMPR Hot rolled channels are suitable to with stand dynamic loads as well as static loads. HMPR-P Hot rolled "powered" channels are a new version product with stronger and longer pressed studs that are tested and certified for use under dynamic loading. These channels are available in hot dip galvanized mild steel finish 1.0038 (S235JR). A new and patented cold rolled channel type HMPR 40/26P that certified for dynamic loads is also available to offer an economic option. The HMPR 40/26P channel is available in stainless steel as well as Hot dip galvanized mild steel finish 1.0038 (S235JR).

P type channels are tested and certified against dynamic loads ETA - 17/0549

Anchor Channel Product Code	HMPR-CE 52/34	HMPR-CE 50/30	HMPR-CE 40/22	HMPR-CE 52/34P	HMPR-CE 50/30P	HMPR-CE 40/22P	HMPR-CE 40/26P
Channel Section (mm)	52/34	50/30	40/22	52/34P	50/30P	40/22P	40/26P
Load Capacity (kN) $N_{Rd} = V_{Rd}$ Steel / Stainless steel	29.77	17.67	12.61	28.66	22.33	13.22	12.66 / 14.77
Channel Flexure (Nm) Steel / Stainless steel $M_{Rd,s,flex}$	2440	2704	1261	2440	2704	1261	1260 / 911

Comptable T Head Bolt Product Code	HAZ-HS HTB-50			HAZ-HS HTB-50			HAZ-HS HTB-40			HAZ-HS HTB-50			HAZ-HS HTB-50			HAZ-HS HTB-40			HAZ-HS HTB-40		
Metric size	M12	M16	M20	M12	M16	M20	M10	M12	M16	M12	M16	M20	M12	M16	M20	M10	M12	M16	M10	M12	M16
T.Bolt min spacing (mm) S_{slb}	60	80	100	60	80	100	50	60	80	60	80	100	60	80	100	50	60	80	50	60	80

HMPR-CE Technical Details

Standard Channel Lengths

The list of the standard product range is showed on the table in accordance with European Technical Approval requirements. Other lengths and anchor numbers can be supplied depending on request.

Product Length Range of HAZ HMPR-CE Anchor Channels - Length / Number of Anchors

Cold Rolled Channels							Hot Rolled Channels		
HMPR 72/49	HMPR-CE 54/33	HMPR-CE 49/30	HMPR-CE 40/25	HMPR-S 41/22	HMPR-CE 38/17	HMPR-CE 28/15	HMPR-H 52/34	HMPR-H 50/30	HMPR-H 40/22
170/2	170/2	150/2	150/2	150/2	100/2	100/2	170/2	150/2	150/2
200/2	200/2	200/2	200/2	200/2	150/2	150/2	200/2	200/2	200/2
250/2	250/2	250/2	250/2	250/2	200/2	200/2	250/2	250/2	250/2
300/2	300/2	300/2	300/2	300/2	250/2	250/2	300/2	300/2	300/2
350/2	350/3	350/3	350/3	350/3	300/3	300/3	350/3	350/3	350/3
450/3	400/3	400/3	400/3	400/3	350/3	350/3	400/3	400/3	400/3
650/3	550/3	550/3	550/3	550/3	450/3	450/3	550/3	550/3	550/3
970/4	820/4	800/4	800/4	800/4	550/4	550/4	820/4	800/4	800/4
	1070/5	1050/5	1050/5	1050/5	850/5	850/5	1070/5	1050/5	1050/5
	3070/13	3050/13	3050/13	3050/13	1050/6	1050/6	3070/13	3050/13	3050/13
	6070/25	6050/25	6050/25	6050/25	3050/16	3050/16	6070/25	6050/25	6050/25
					6050/31	6050/31			
130 ≤ Ss ≤ 400		100 ≤ Ss ≤ 250			50 ≤ Ss ≤ 200		100 ≤ Ss ≤ 250		

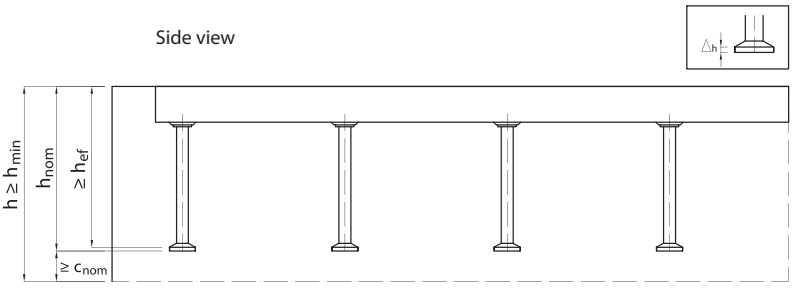
Ss = Anchor spacing

Anchor stud spacings

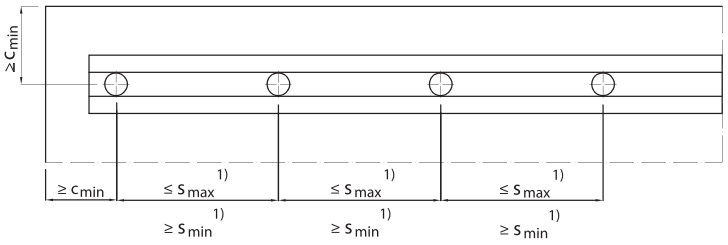
In order to meet the resistance loads, anchor stud spacings should be positioned according to the tables below.

Anchor Channel	Anchor Spacing		End Spacing (x)	Min Channel Length (mm l)
	smin (mm)	smax (mm)	Round Anchor (mm)	Round Anchor (mm)
28/15 38/17	50	200	25	100
40/25 40/22 49/30	100	250	25	150
50/30 54/33 52/34	100	270	35	170
72/49	130	400	35	200

Side view



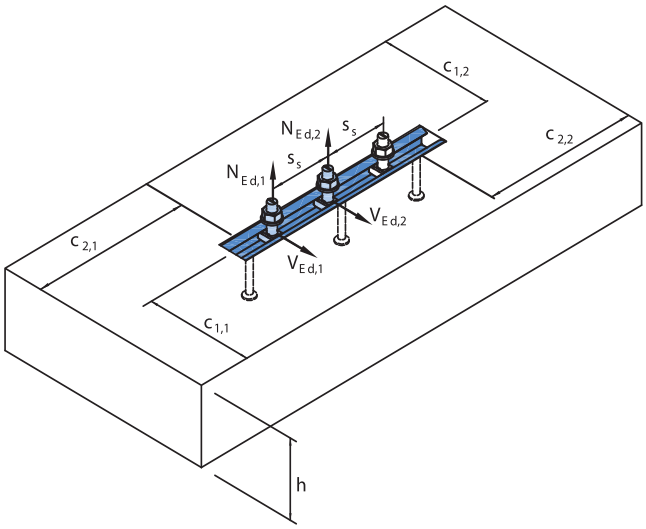
Plan view



Standard Channel Lengths

Depending on the type of the channels, anchors studs must be positoned at a minimum distance from the component edges.

The minimum spacings of the T head bolts must be adhered to according to the table below.



Anchor Channel			28/15			38/17			40/25 & 40/22			49/30 & 50/30			54/33 & 52/34			72/49		
Special screws	M		8	10	12	10	12	16	10	12	16	12	16	20	12	16	20	20	24	30
Min. spacing of screws	Ss ,min		40	50	60	50	60	80	50	60	80	60	80	100	60	80	100	100	120	150
Min. anchorage dept	min h ef	[mm]		45			76			79			94			155			179	
Min. edge distance	C min			40			50			50			75			100			150	
Min. member thickness	hmin									hef + D h + C nom										

Material Types

Materials and intended use				
	Dry conditions	Internal conditions with usual humidity	Medium corrosion exposure	High corrosion exposure
Specification	Material types required for use in structures subject to dry internal conditions with the exception of usual humidity (e.g. accomodations, offices, schools, hospitals etc.)	Material types required for use in structures subject to internal conditions with usual humidity (e.g. kitchen, bath and laundry in residential buildings)	Material types required for use in structures subject to external atmospheric exposure (including industrial and marine environment) or in permanently damp internal conditions.	Material types required for use in structures subject to exposure in particular aggressive conditions (e.g. immersion of sea water, chloride atmosphere) or atmosphere with chemical polution (e.g. in desulphurization plants)
Channel material grade	Steel 1.0038;1.0044 EN 10025 hot-dip-galv ≥ 50 um	Steel 1.0038;1.0044 EN 10025 hot-dip-galv ≥ 50 um	Stainless steel 1.4401/1.4404/1.4571 1.4362, EN 10088	Stainless steel 1.4462/1.4529/1.4547 EN 10088
Anchor material grade	Steel 1.0038;1.0214,1.0401 1.1132,1.5525 EN 10263 hot-dip-galv ≥ 50 um	Steel 1.0038;1.0214,1.0401 1.1132,1.5525 EN 10263 hot-dip-galv ≥ 50 um	Stainless steel 1.4401/1.4404/1.4571 1.4362, EN 10088	Stainless steel 1.4462/1.4529/1.4547 EN 10088
T head bolt material grade	Steel strength grade 8.8/4.6 EN ISO 898-1 e-galv ≥ 5 um	Steel strength grade 8.8/4.6 EN ISO 898-1 hot-dip-galv ≥ 50 um	Stainless steel 1.4401/1.4404/1.4571 1.4362, EN 3506-1	Stainless steel 1.4462/1.4529/1.4547 EN 3506-1
Washer material grade	Steel EN 10025 e-galv ≥ 5 um	Steel EN 10025 hot-dip-galv ≥ 50 um	Stainless steel 1.4401/1.4404/1.4571 EN 10088	Stainless steel 1.4462/1.4529/1.4547 EN 10088
Nut material grade	Steel strength grade 8.8 EN 20898-2 e-galv ≥ 5 um	Steel strength grade 8.8 EN 20898-2 hot-dip-galv ≥ 50 um	Stainless steel 1.4401/1.4404/1.4571 EN ISO 3506-2	Stainless steel 1.4462/1.4529/1.4547 EN ISO 3506-2

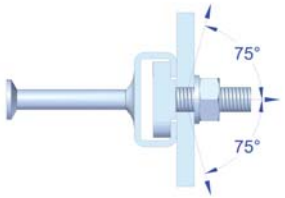
1) Stainless steel grade 1.4462/1.4529/1.4547 available on request
2) Steel acc. to EN 10025, 1.0038 not or anchor channels 28/15 and 38/17
3) Electroplated acc. to EN ISO 4042
4) Hot-dip galvanized on the basis of EN ISO 1461, and coating thickness ≥ 50 µm

HMPR Anchor Channels - Installation Information

Load Direction

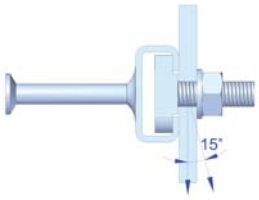
Tensile loading

The loading acts within 150 degrees area towards the face of the channel. Any load acting withing this area should be checked with the allowable tensile loads for each channel to choose the appropriate channel.



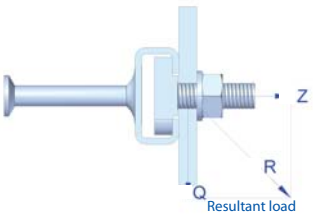
Shear loading

The loading acts within 15 degree angle towards the lower or upper face of the channel. Any load acting within this area should be checked with the allowable shear loads for each channel to choose the appropriate channel



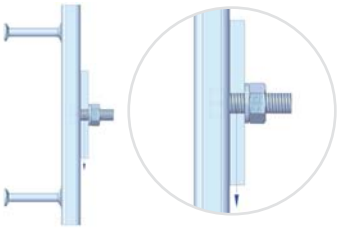
Resultant loading

The resultant loading is a combination of both tensile and shear loads. Correct calculation must be made in order to determine the acting load and choose the appropriate channel

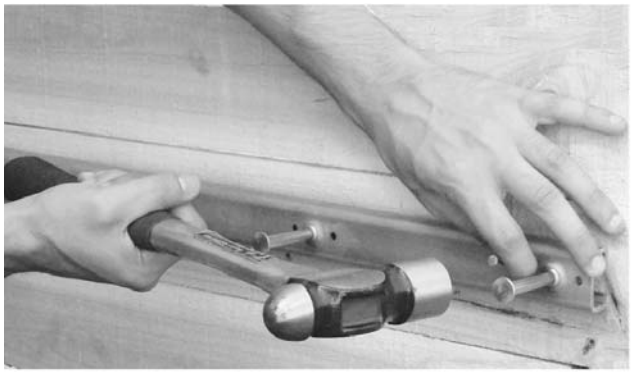


Longitudinal loading

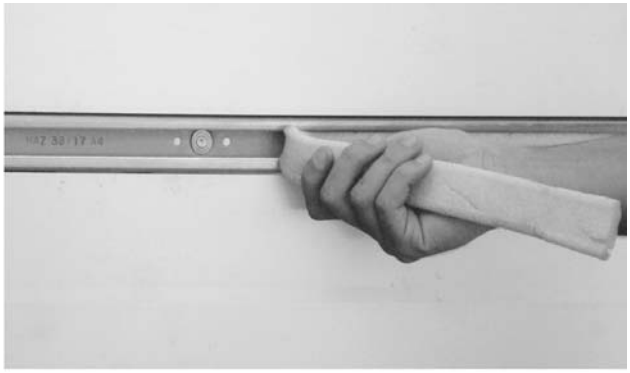
The loading acts along the length of the channel. Each channel has a limited longitudinal load capacity. For strong longitudinal loading a toothed channel must be used



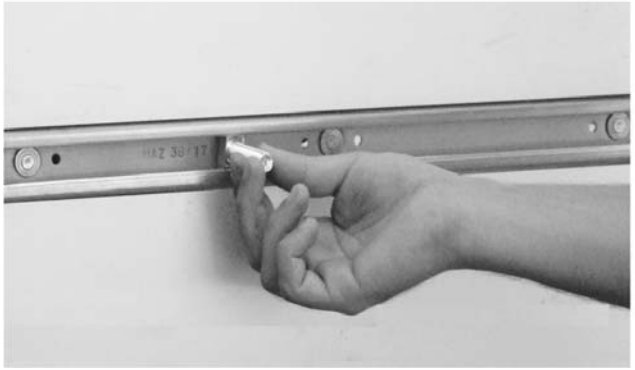
Installation Instruction



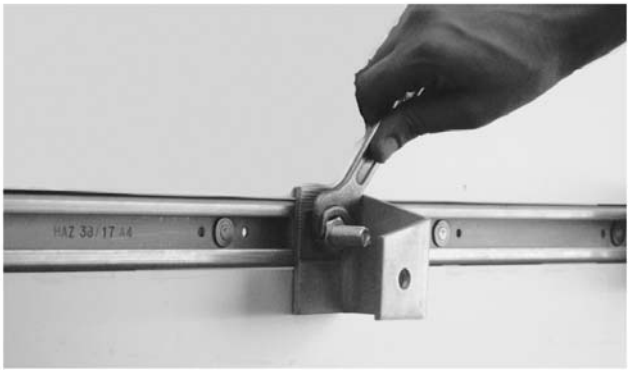
1.) Anchor channels are fixed to form work after careful planning and positioning. Concrete is then cast in to the form work.



2.) After the concrete is cured, the filler inside the channel, set for the purpose of preventing concrete filling the channel's slot, is removed as shown.



3.) Connections to the cast in channels are made with T bolts and lock nuts. T bolts are inserted in to the channels horizontally and then turned right through 90 degrees. This locks them vertically in the channel.



4.) Fixtures are fastened with the T bolts and nuts as shown above. Correct loading and torque values need to be applied in accordance with the allowable loads of the channels and bolts.

HMPR Special Type of Anchor Channels

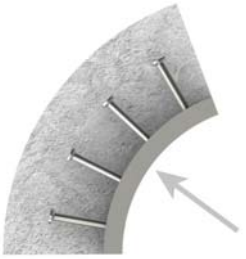
Channels With Bespoke Fabricated Elements

Special anchor channel manufacturing can be made according to the requirements of the project. Local testing as well as in house testing can me made to safe check the load capacities of the special anchor channels.

Curved Anchor Channels

Channels can be easily curved to an internal or external radius (lips inward or lips outward). Curves on elevation, such as brick arch details, which require special care, can be accommodated with these types of channels.

Inside Channel slot



Ri : Radius of inner channel

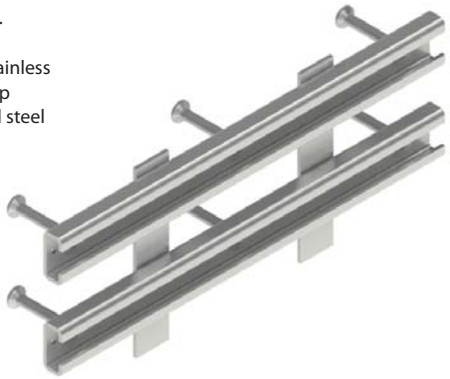
Outside channel slot

Ra : Radius of outer channel

Channel Pair - Special Fabricated Unit

Where double or multiple fixings are required at known centres, channels can be welded to spacer straps, as shown below. The straps keep the channels parallel and accurately spaced along their length.

- Spacers are made either by steel strips or reinforced steel.
- Available in stainless steel and hot dip galvanized mild steel



Corner Fabricated Unit

Channels can be easily fabricated to suit corners, see below. (Smaller channels may be folded; larger channels are welded.)

- Standard leg dimensions are 125 mm by 250 mm. Other sizes can be produced upon request.
- Available in stainless steel and hot dip galvanized mild steel.

Channels With Strap Strip

If a narrow beam has a central reinforcement bar, anchors can be made to pass each side of the bar. This might occur where fixings for mechanical services are required in waffle slabs.

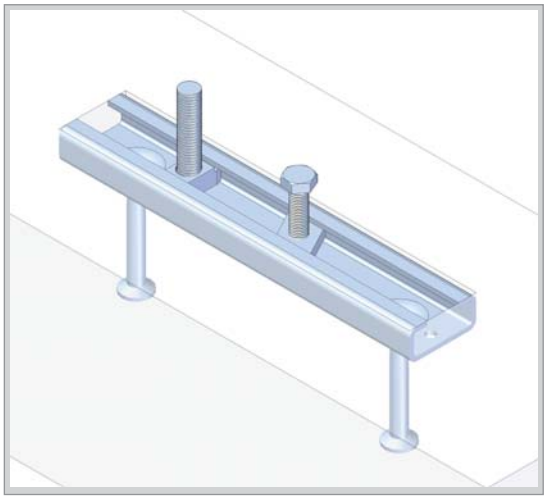
Channels With Wing Strip

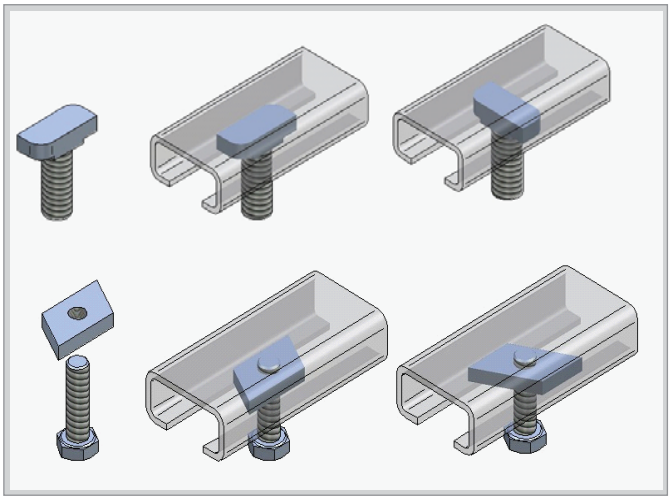
Wing anchors are available for low profile details, e.g. where a channel is located in the concrete casing of a steel beam. The channel load capacity is reduced.

HTB T Bolts & HMLN Lock Nuts - Introduction

HTB T bolts & HMLN lock nuts for attachment in to cast in channels are specially designed for a perfect fit into the section of the channels. Insertion is made and after a 90 degree turn clockwise the fixing is made. 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 filler or concrete left overs should be left 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

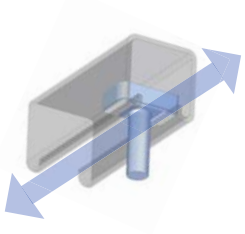
8.) When the connection has been made recommended torque must be used in order to fasten the T bolts

HTB T Bolts & HMLN Lock Nuts - Technical Details

Metric Size	Grade	Loading Table for T Head Bolts (kN)												Max Torque Loads (Nm)			
		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
	Loads	Tensile & Shear	Bending Moment	Longitudi-nal Load	Tensile & Shear	Bending Moment	Longitudi-nal Load	Tensile & Shear	Bending Moment	Longitudi-nal Load	Tensile & Shear	Bending Moment	Longitudi-nal 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	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
Load	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

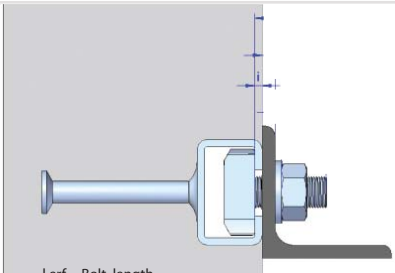
Metric Size	Longitudinal Loading On Toothed Channel				
	Grade	Mild Steel		Stainless Steel	
	Loads	Longitudinal Load	Max Torque (Nm)	Tensile & Shear	Longitudinal Load
M8	all.F	4.0	28.0	4.0	16.0
M10	all.F	5.0	55.0	5.0	31.5
M12	all.F	5.0	75.0	5.0	55.0
M16	all.F	7.5	125.0	5.0	125.0



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

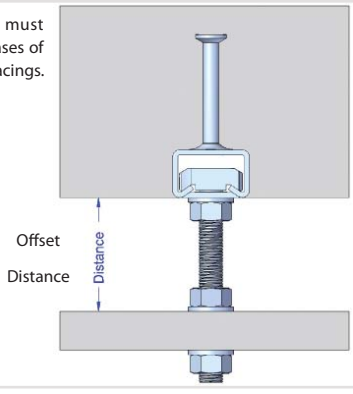
(L erf =tfix + i + s + v)

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

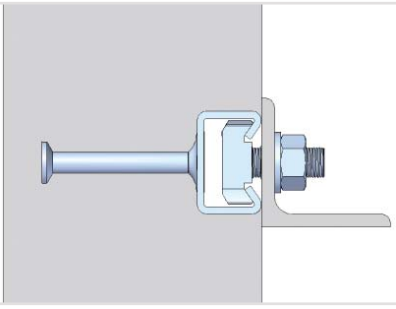


l erf = Bolt length
i = channel thickness
t fix = Fixture thickness
s = washer thickness
V = minimum thread length

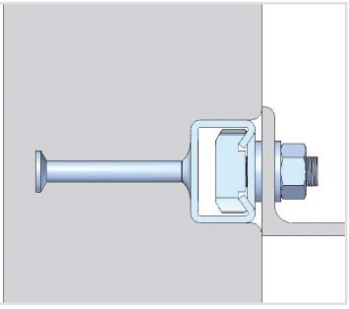
• Square washers must always be used in cases of installations with spacings.



• 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.



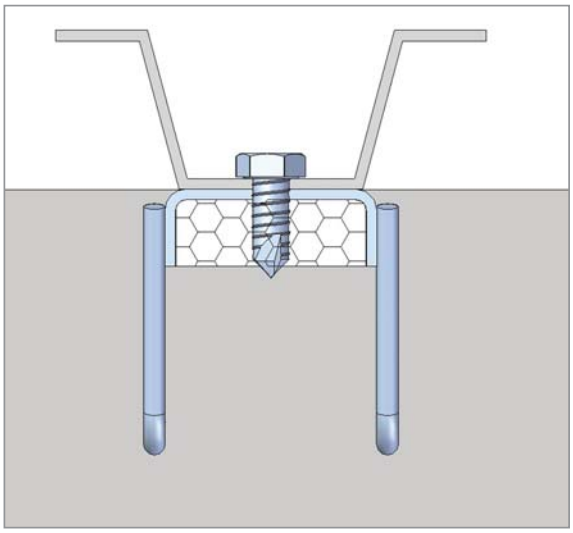
HAZ-TU Anchor Channnels for Profiled Metal Sheeting - Introduction

HAZ-TU Anchor channels for profiled metal sheeting installation on reinforced concrete beams and columns are available in 3 and 6 mm thicknesses and 60/22 sections.

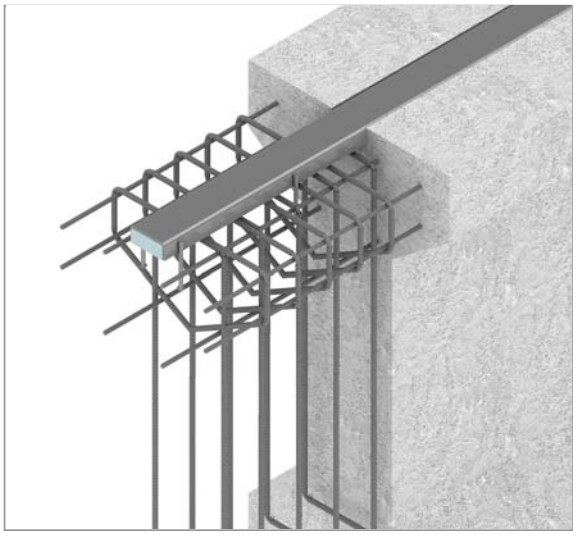
Fixing is done with self drilling screws or shot fired nails. Channels allow fast and economical installation as this system eliminates the difficult and time consuming anchor fixing into concrete.

Channels are inserted onto the surface of the concrete component flush to the surface and in the correct alignment. The end joints between channels should be minimum 20 mm. Fixing to the channels is made with either self drilling screws 6.3x22 or shot fired nails 4.5x24.

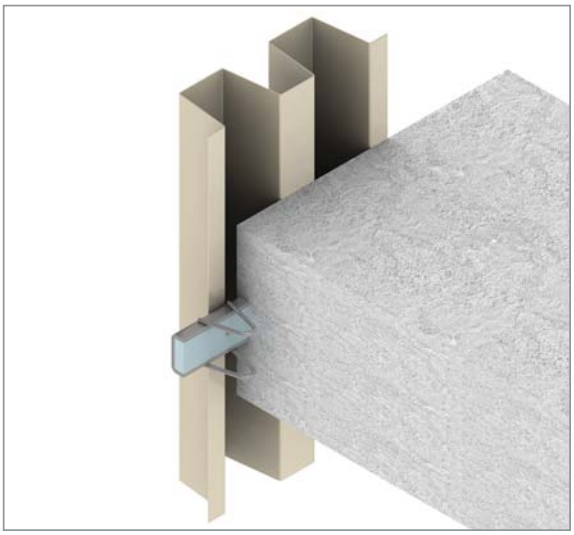
Channels are available in two standard types in 3 metre length with foam filling. Available materials are stainless steel grade 1.4301 (AISI 304) & 1.4401 (AISI 316) and hot dip galvanized mild steel.



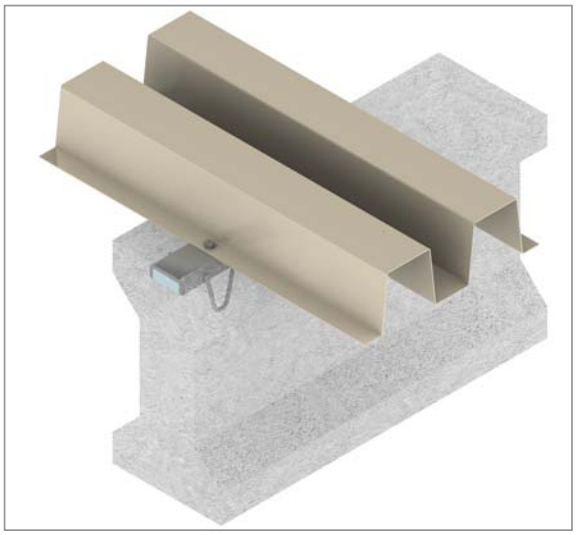
• Fixing metal profiled sheets on to HAZ-TU anchor channels using self tabbing screws



• HAZ-TU anchor channels are casted in to concrete components



• Cladding material attached at the EDGE of the component



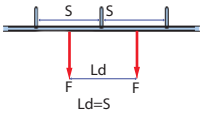
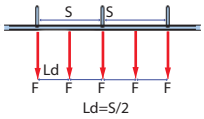
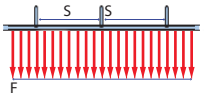
• Cladding material attached at the TOP of the component

HAZ-TU Anchor Channels - Technical Details

HAZ-TU-C

HAZ-TU-B

HAZ-TU-A

Technical Details								Tensile - Max Design Load Bearing Capacity F: kN_{ED}		
Product Code	Length	Channel Thickness	Section	Execution	No Of Studs	Stud Spacing	Stud Edge Distance			
								Single Loads	Pair Loads	Evenly distibuted load
HAZ-TU 60/22/3-C2	3000	3	60/22	A	16	450	75	4.6	3.5	15.5
HAZ-TU 60/22/3-C3	3000	3	60/22	A	40	150	75	7.0	3.5	46.6
HAZ-TU 60/22/6-C2	3000	6	60/22	B	16	450	75	7.0	3.5	15.5
HAZ-TU 60/22/6-C2	3000	6	60/22	B	40	150	75	7.0	3.5	46.6
HAZ-TU 60/22/3-B2	3000	3	60/22	A	16	450	75	4.6	3.5	15.5
HAZ-TU 60/22/3-B3	3000	3	60/22	A	40	150	75	7.0	3.5	46.6
HAZ-TU 60/22/6-B2	3000	6	60/22	B	16	450	75	7.0	3.5	15.5
HAZ-TU 60/22/6-B2	3000	6	60/22	B	40	150	75	7.0	3.5	46.6
HAZ-TU 60/22/3-A2	3000	3	60/22	A	8	450	75	4.6	3.5	15.5
HAZ-TU 60/22/3-A3	3000	3	60/22	A	20	150	75	7.0	3.5	46.6
HAZ-TU 60/22/6-A2	3000	6	60/22	B	8	450	75	7.0	3.5	15.5
HAZ-TU 60/22/6-A2	3000	6	60/22	B	20	150	75	7.0	3.5	46.6

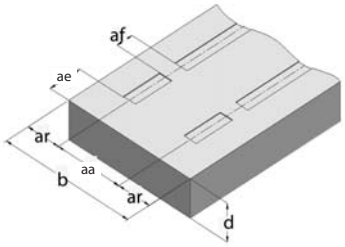
- Values are for concrete strength class C20/25
- Self drilled screws must be capable to support the indicated loads
- Set screws should be positioned in the central third of the channels width and no closer than 25 mm to channels end

Product Code

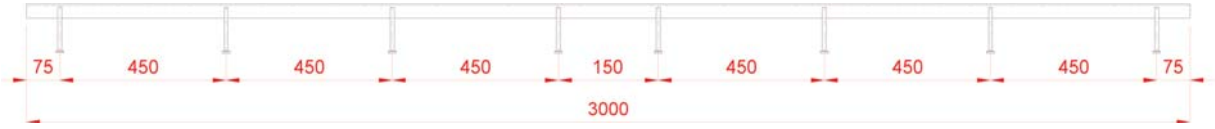
HAZ-TU-60/22/3-C2-3000

- Length
- Execution
- Size
- Type

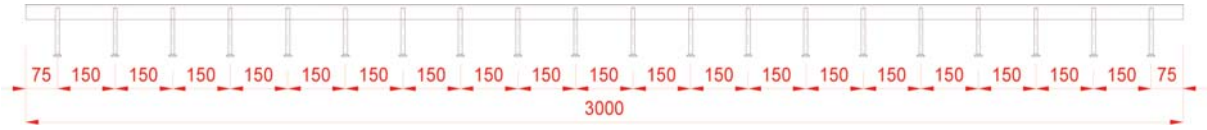
	Edge Distances (mm)					
	a	ar	ae	af	d	b
Type HAZ-TU C	200	120	20	20	240	68
Type HAZ-TU B	200	100	20	20	200	75
Type HAZ-TU A	200	100	20	20	200	100



Execution 2 : Can be cut into two pieces at the centre. Edge spacing must be minimum 75 mm.



Execution 3 : Can be cut into multiple pieces at the centre of two studs. Minimum edge space must be 75 mm.



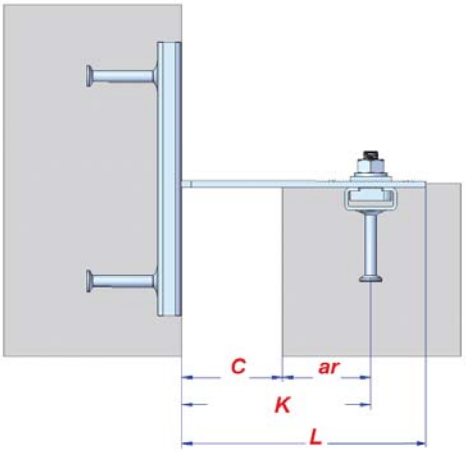
HWT Wall Ties - Introduction & Product Details

The HWT Wall ties provide secure and easy connections between concrete components. Serrated ties and washers enable safe transmittal of tensile loads.

Wall ties are used with cast in channels and T head bolts to achieve three dimensional adjustability for restraining attachments of prefabricated concrete components.

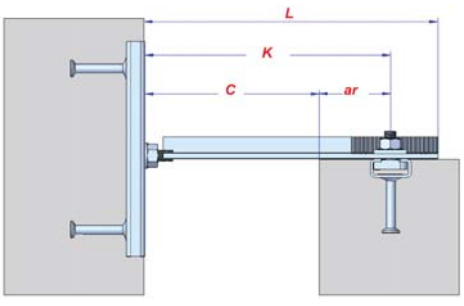
Wall ties are available in stainless steel 1.4301 & 1.4401 and hot dip galvanized W 1.0038 grade steel.

HWT - Wall Tie



Product Code	Projection -+ 20 (K mm)	Cavity -+ 20 (C mm)	Length (L mm)	Tensile Load all.F (kN)	Edge Distance (ar mm)	Slotted Hole (mm)
HWT - 28 -50	50	0	90	3.5	50	11x55
HWT - 28 -75	75	25	115	3.5	50	11x55
HWT - 28 -100	100	50	140	3.5	50	11x55
HWT - 28 -125	125	75	165	3.5	50	11x55
HWT - 28 -150	150	100	190	3.5	50	11x55
HWT - 28 -175	175	125	215	3.5	50	11x55
HWT - 28 -200	200	150	240	3.5	50	11x55
•To be used with HMPR-28/15 channels and HTB-28/15-M10x40 T Bolts.						
HWT - 38 - 75	75	0	115	7.0	75	13x55
HWT - 38 - 100	100	25	140	7.0	75	13x55
HWT - 38 - 125	125	50	165	7.0	75	13x55
HWT - 38 - 150	150	75	190	7.0	75	13x55
HWT - 38 - 175	175	100	215	7.0	75	13x55
HWT - 38 - 200	200	125	240	7.0	75	13x55
•To be used with HMPR-38/17 channels and HTB-38/17-M12x50 T Bolts.						

HWT-U Wall Tie



Product Code	Projection -+ 20 (K mm)	Cavity -+ 20 (C mm)	Length (L mm)	Tensile Load all. F(kN)	Edge Distance (ar mm)	Slotted Hole (mm)
HWT-U-38-200	200	125	245	7.0	75	13x60
HWT-U-38-225	225	150	270	7.0	75	13x60
HWT-U-38-250	250	175	295	7.0	75	13x60
•To be used with HMPR-38/17 channels and HTB-38 M12x50 T Bolts						
HWT-U-49-200	200	50	245	12.0	150	17x60
HWT-U-49-225	225	75	270	12.0	150	17x60
HWT-U-49-250	250	100	295	12.0	150	17x60
HWT-U-49-275	275	125	320	12.0	150	17x60
HWT-U-49-300	300	150	345	12.0	150	17x60
•To be used with HMPR-49/30 channels and HTB-49 M16x60 T Bolts.						

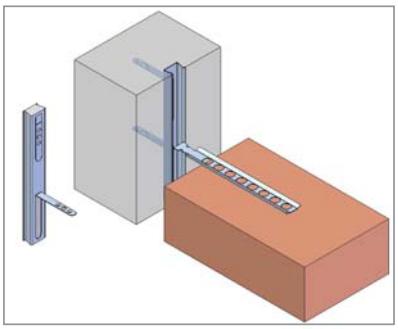
MAS-25/15 Brick tie channels are cold rolled pre-galvanized channels that have punched lugs on the back of the channels. This channel provides the same loading performance as the 28/15 and is an economic option for use in restraining brick walls on to concrete.

Lugs are punched out every 250 mm and the channels are supplied with a strip filler.

HWT-M Wall ties for masonry are used for the safe and easy connections of masonry blocks to the wall through connections made to cast in channels or surface fixed framing channels.

HWT-M type wall ties are designed for restraint attachments of both masonry wall facades and masonry walls to load bearing concrete walls. The sliding capability of the ties along the length of the channels decreases the risk of the masonry cracking due to structure movements.

MAS-25/15 Brick Tie Channel



• Lugs are prepunched on the back of the channel at 250 mm centres. The lugs are easily bent out on site prior to the casting of concrete.

HWT-M Wall Tie

HWT-MS - Wall Tie

Product Code	Length (mm)	Thickness (mm)	Width (mm)	Channel Type	Tensile Load (Kn)	Shear Load (Kn)
HWT-MS 28 -125	125	1.25	25	28/15	2.5	1.4
HWT-MS 28 -185	185	1.25	25	28/15	2.5	1.4
HWT-MS 28 -245	245	1.25	25	28/15	2.5	1.4

HWT-MV - Wall Tie

Product Code	Length (mm)	Thickness (mm)	Width (mm)	Channel Type	Tensile Load (Kn)	Shear Load (Kn)
HWT-MV 28 - 85	85	2	26	28/15	3.2	2.7
HWT-MV 28 -120	120	2	26	28/15	3.2	2.7
HWT-MV 28 -180	180	2	26	28/15	3.2	2.7
HWT-MV 38 - 85	85	2	30	38/17	3.2	2.7
HWT-MV 38 -120	120	2	30	38/17	3.2	2.7
HWT-MV 38 -180	180	2	30	38/17	3.2	2.7

HWT-ML - Wall Tie

Product Code	Length (mm)	Thickness (mm)	Width (mm)	Channel Type	Tensile Load (Kn)	Shear Load (Kn)
HWT-ML 28 - 85	85	3	25	28/15	3.2	2.7
HWT-ML 28 -120	120	3	25	28/15	3.2	2.7
HWT-ML 28 -180	180	3	25	28/15	3.2	2.7
HWT-ML 38 - 85	85	3	30	38/17	3.2	2.7
HWT-ML 38 - 120	120	3	30	38/17	3.2	2.7
HWT-ML 38 - 180	180	3	30	38/17	3.2	2.7

HWT-MT - Wall Tie

Product Code	Length (mm)	Thickness (mm)	Width (mm)	Channel Type	Tensile Load (Kn)	Shear Load (Kn)
HWT-MT 28 - 85	85	3	25	18/15	3.2	2.7
HWT-MT 28 -120	120	3	25	18/15	3.2	2.7
HWT-MT 28 -180	180	3	25	18/15	3.2	2.7
HWT-MT 38 - 85	85	3	30	38/17	3.2	2.7
HWT-MT 38 -120	120	3	30	38/17	3.2	2.7
HWT-MT 38 -180	180	3	30	38/17	3.2	2.7

Anchor Channel Systems Summary

HAZ Metal Product range offers a wide range of products for fixing applications.

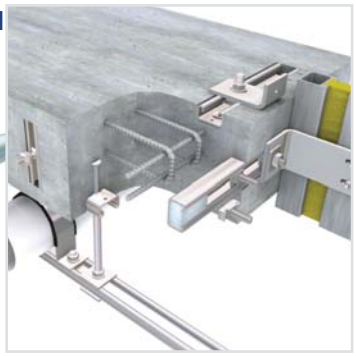
HAZ Design department designs and propose the most suitable HMPR anchor channel for the project requirement. Bespoke system solutions for special applications can also be designed upon request.

This catalog includes the standardized products for the anchor channel systems. Additional types and sizes of products are available to offer.

More details can be found about Anchor Channels in our technical product catalogue which can be downloaded from www.hazmetal.com.

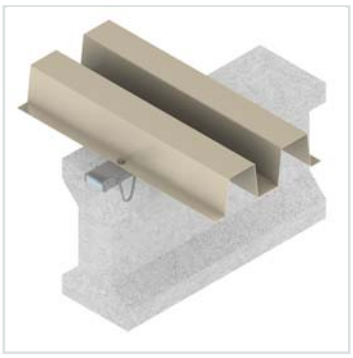
Anchor Channel Technical catalogue is downloadable from www.hazmetal.com

HMPR Anchor channel



- Easy & secure fixing to concrete structures
- Load capacity of up to 44.4 kN
- Fixing is made with suitable T head bolts
- Loads are verified by ETA approvals

HTU Anchor channel



- Fast fixing of profiled metal sheets
- Fixing is made with self tabbing screws
- Load capacity of 5 kN at every 250 mm
- Loads verified with national approvals

HMPR-SP Anchor channel

- For fixing curtain wall panels
- Used for fixing on thin wall slabs
- Installation on top of slab
- Three dimensional adjustability

HWT Wall tie

- Used for restraining purposes
- Easy connections of prefabricated units with anchor channels
- Sizes available for up to 150 mm cavity with 7 kN tensile load
- Tensile loads of up to 12.0 kN

Infinity Tower, Brisbane

Adnoc HQ, Abu Dhabi

Renaissance Tower, Istanbul

The Ruby Tower, Mumbai

Victoria Road, Woking

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