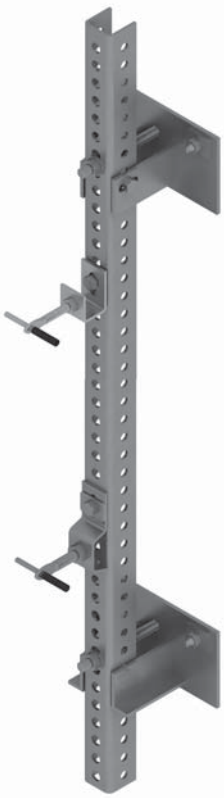
Your Fixing Systems Specialist

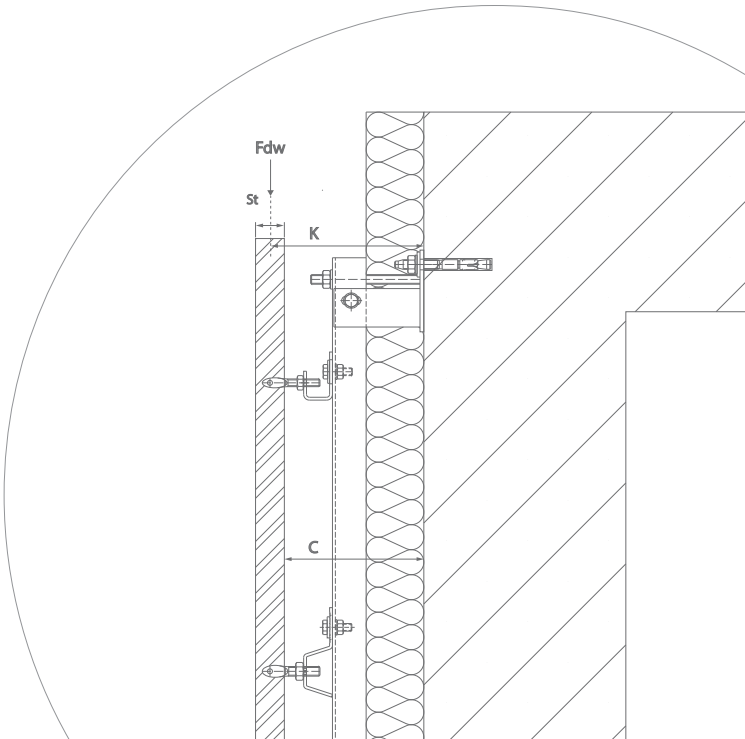
HAZ METAL

Sub Channel Systems

A comprehensive range of sub-channel systems designed to provide reliable and complete solutions for modern facade cladding applications. Highly adjustable and robust fixing systems for fast and safe installation of rainscreen facades.

Product Brochure - HAZ-BR-SB-EN/1.25





Contents

HAZ
Group of Companies
Establishment
www.hazgrp.com

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

Sub Channel Systems / Steel - Overview

HMP Sub channel systems are used for stone cladding on to non-load bearing walls or on to structures with high projection sizes.

By using specially designed channel supports and restraints, channels are spanned between floor levels, creating a secondary structure to which cladding installation is enabled by fixing brackets to the channels.

• Channels are fixed on to channel supports that are fastened to load bearing beams, spanning between floor levels overlaying in front of the thermal insulation.

• Stone fixing is done with anchors that are fixed on to channels either with set screws or lock nut sets.

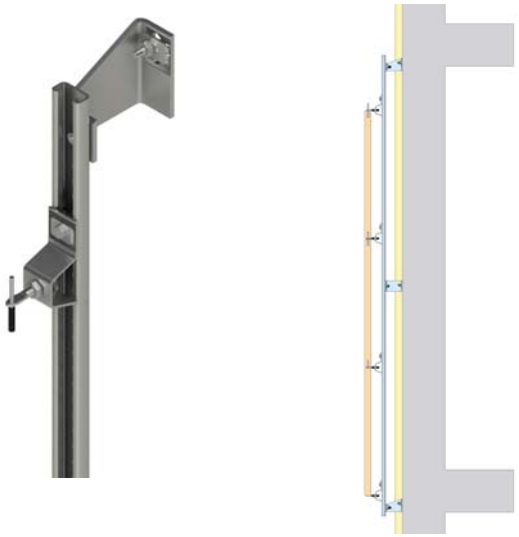
• High load bearing capacity to fit projection sizes up to 360 mm.

• Greater projection sizes are achieved with special design.

• Fully adjustable and allows quick and easy installation.

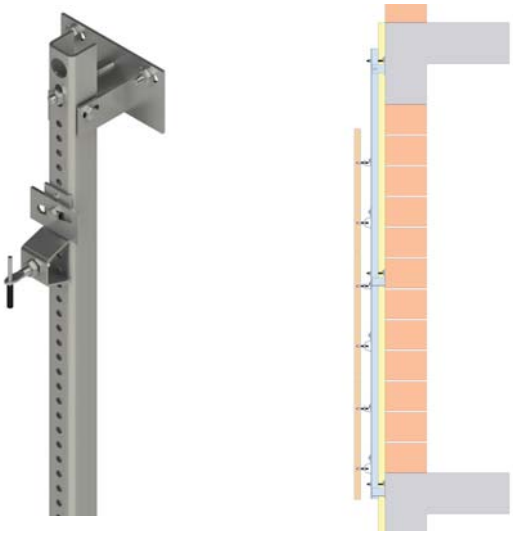
• Lower drilling points increases production rate and reduces cold bridging.

HMPC-HC1 Sub Channel Fixing System

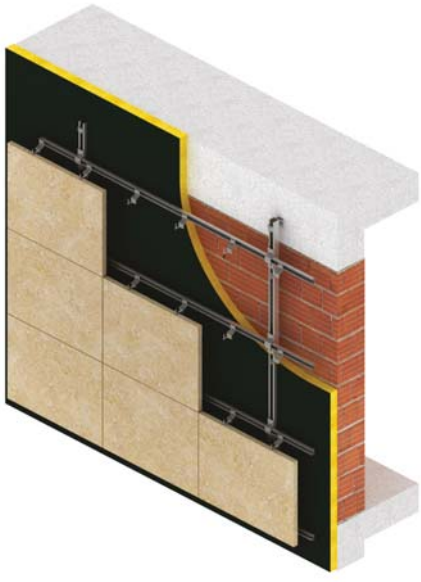


Sub Channel Fixing System with Vertically spanned channels

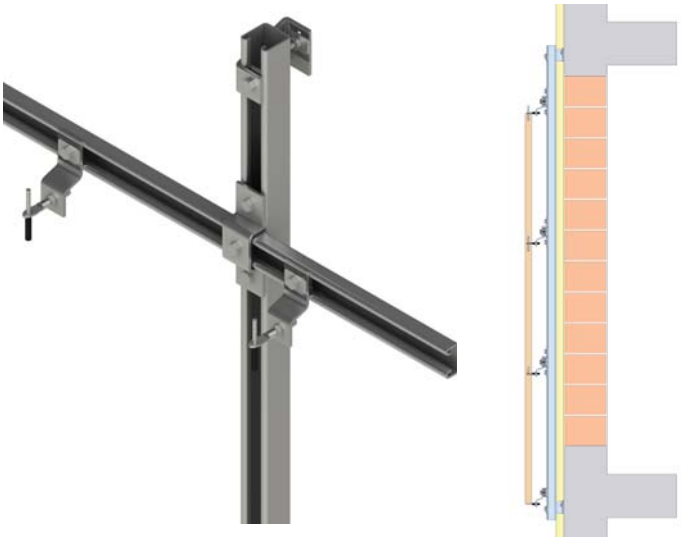
HMPA-HC2 Sub Channel Fixing System



Sub Channel Fixing System with Vertically & Horizontally spanned channels



HMPC-HC1/H Sub Channel Fixing System



Cold rolled steel channels are available in galvanized mild steel and stainless steel with drilled holes to accommodate fastening of fixtures using hex bolt or luck nut sets. Various types of sub channel systems can be formulated with the combination of different channel supports and restraints. System components are available in stainless steel AISI 304 & AISI 316 and hot dip galvanized mild steel grade S235JR.

Sub Channel System

HMPA-HC2

HMPA-HC3

HMPC-HC1

HMPC-HC1/H

Cold-rolled Steel Channels

HMPA U Channel

HMPL L Channel

HMPB C Channel

HMPC C Channel

HMPS Toothed channel

Channel Supports

HCSP1

HCSP2

HCSP3

HCSP4

HCSP5

ATS-S

Channel restraints

HCRS1

HCRS2

HCRS3

HCRS4

HCRS5

ATS-R

Adjustable Anchors

HZ02 Z Anchor

HRS1 Restraint Anchor

HZ00 Z Anchor

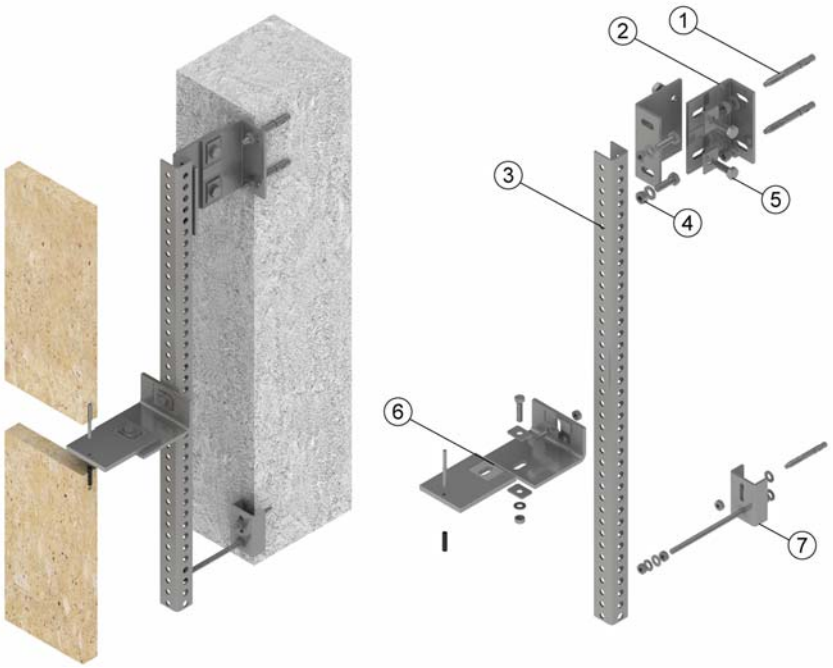
HZ01 Z Anchor

HCC-J Connection

HMP Sub channel system - Installation method

HMPA-HC5 Sub channel system

Sub channel system with HMPA U channel assembled on HCSP05 channel supports and HCRS5 channel restraints. Stone installation can be made with either Z Anchors or HA L anchors. Fully adjustable with high load capacity.

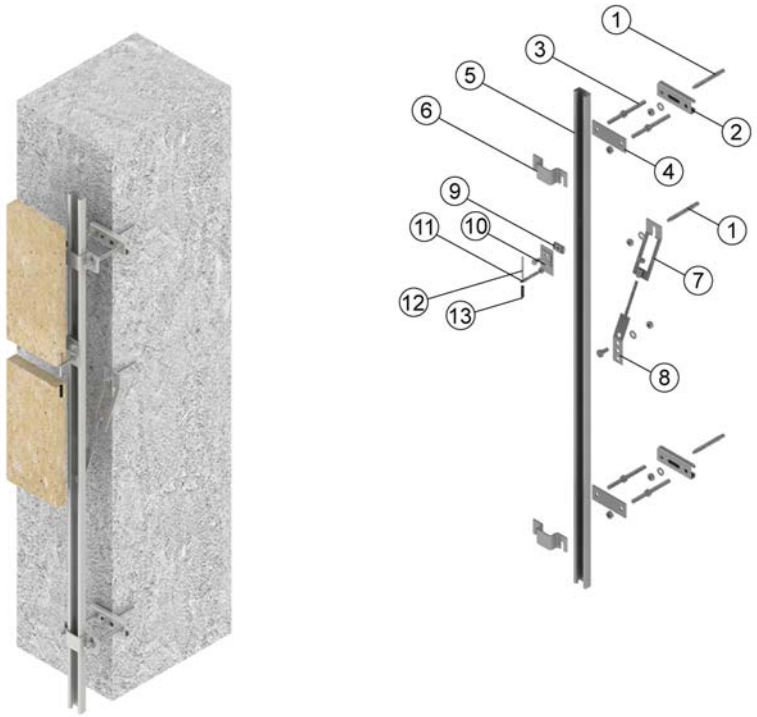


Set Elements

1- Through bolt
2- Channel support
3- Channel
4- Nut
5- Hex bolt
6- L Anchor
7- Channel Restraint

ATS Sub channel fixing system

Sub channel system with HMPS toothed channel assembled on ATS-S channel supports and ATS-R channel restraints. Stone installation can be made with either Z Anchors or HA L anchors. Easy adjustability on the vertical axis allows quick installation of the brackets on to channels using lock nuts.

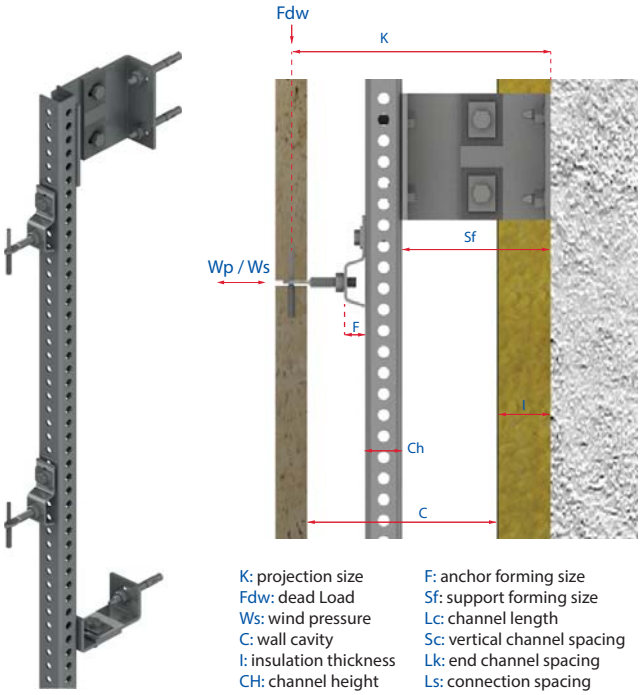


Set Elements

1-Through bolt
2-Channel bar
3-Threaded rod
4-Plate
5-C Channel
6-Omega anchor
7-HASP 1 Anchor
8-HASP 2 Anchor
9-Lock nut
10- Z Anchor
11-Adjustable arm
12-Flanged pin
13-Plastic tube

HMPA-HC5 Sub channel system

- Indirect fixing on to non-load bearing walls
- Projection sizes of up to 300 mm with load capacity of 5 kN
- Fewer drilling points enable fast installation
- Installation at vertical and horizontal joints
- Easy to use & adjustability in three directions
- Ability to absorb building movements.



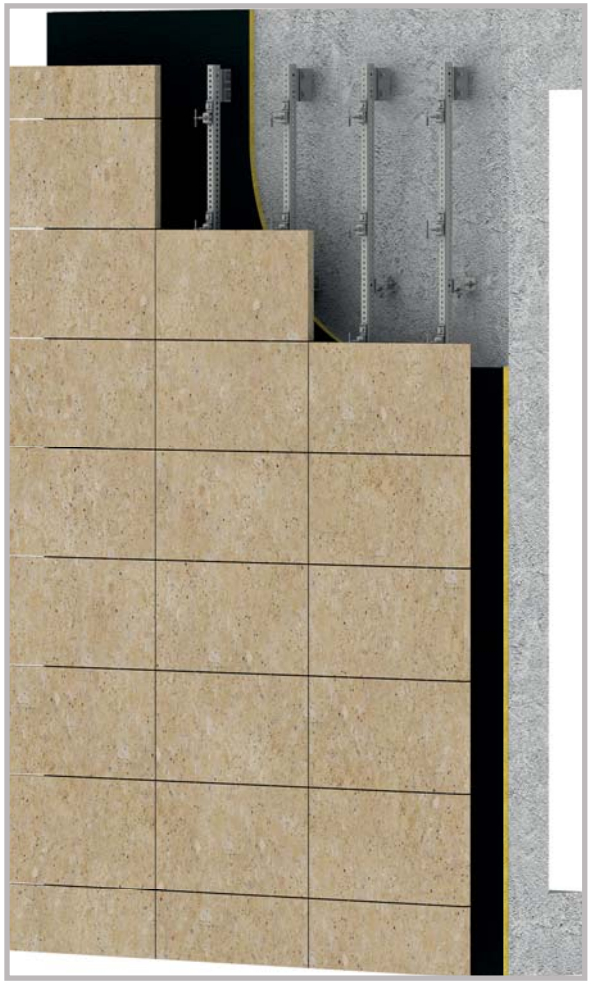
K: projection size
Fdw: dead Load
Ws: wind pressure
C: wall cavity
I: insulation thickness
CH: channel height
F: anchor forming size
Sf: support forming size
Lc: channel length
Sc: vertical channel spacing
Lk: end channel spacing
Ls: connection spacing

HMPA U Channel

HCSP2 Channel support

HCRS5 Channel restraint

HZ02 Z Anchor



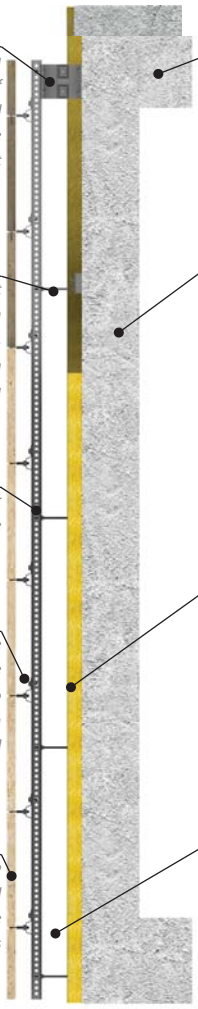
Channel support
Channel supports are load bearing brackets that bear the full weight of the cladding fixed on the sub channel systems. The load is transferred to the concrete beam and the attachment is made with anchor bolts.

Channel restraint
Channel restraints are brackets that restrain the sub channel system against wind pressure and suction. The brackets are tied to the wall with suitable anchor bolts, strengthening the channels against buckling.

Channel
Channels are spanned from floor slab to slab can be supplied in the same length as the floor height.

Z Anchors
Z Anchors are brackets that are used to install stone slabs on to the channels. The brackets are fixed to the channels with hex bolts. Each bracket is designed to carry the load of the individual stone panel.

Stone panel
Stone panels are fixed on to sub channel system. Proper study and calculation is made to check the suitability of stone and dimensions for facade installation purposes.



Load bearing beams
Load bearing beams are usually constructed out of high strength concrete.Sometimes steel is used. The Sub Channel system is loaded on this part of the substrate.

Building wall
The walls can be constructed out of concrete, brick, block work. Different attachment types are used for different type of walls, therefore careful analysis must be made to use the most secure type of connections to the wall for restraining the sub channel system.

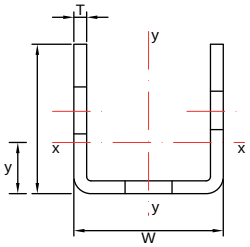
Insulation
A layer of thermal insulation is covered on the wall, with suitable dowels. Sound insulation, fire proof barriers and EPDM may also be laid behind and or infront of the thermal insulation, provinding full protection to the building.

Wall cavity
This is the empty space between the cladding and the insulation. Adequate space is required to accomodate the sub channel fixing system, allowing room for the channel and brackets to fit into.

HMP Steel channel product details

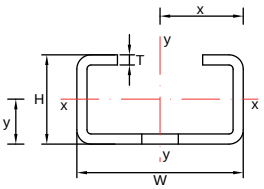
HMPA U Profil

Product code	Thickness T (mm)	Section W/H (mm)	Ixx (cm4)	Sx (cm3)	x (mm)	Iyy (cm4)	Sy (cm3)	Y (mm)
HMPA-3-35/35	3	35/35	3.73	1.68	17.50	6.00	3.43	12.14
HMPA-3-40/40	3	40/40	4.55	1.74	20.00	6.92	3.46	13.93
HMPA-4-40/40	4	40/40	5.67	2.19	20.00	8.60	4.30	14.10
HMPA-4-50/50	4	50/50	12.33	3.81	25.00	18.97	7.60	17.65
HMPA-5-50/50	4	50/50	14.68	4.57	25.00	22.40	8.97	17.87



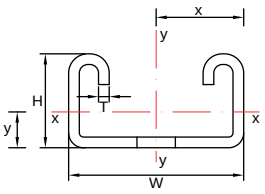
HMPB C Profil

Product code	Thickness T (mm)	Section W/H (mm)	Ixx (cm4)	Sx (cm3)	x (mm)	Iyy (cm4)	Sy (cm3)	Y (mm)
HMPB-2.5-41/21	2.5	41/21	1.32	1.19	20.50	5.71	2.79	9.85
HMPB-3-41/21	3	41/21	1.48	1.33	20.50	6.55	3.19	9.86



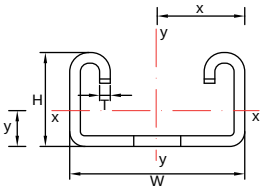
HMPC C Profil

Product code	Thickness T (mm)	Section W/H (mm)	Ixx (cm4)	Sx (cm3)	x (mm)	Iyy (cm4)	Sy (cm3)	Y (mm)
HMPC-2.5-41/22	2.5	41/21	2.83	1.24	17.50	4.27	2.44	12.14
HMPC-2.5-41/41	2.5	41/41	4.55	1.74	20.00	6.92	3.46	13.93
HMPC-3-41/22	3	41/21	5.67	2.19	20.00	8.60	4.30	14.10
HMPC-3-41/41	3	41/41	12.33	3.81	25.00	18.97	7.60	17.65



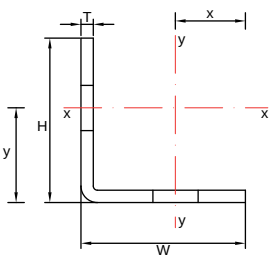
HMPS Toothed C Channel

Product code	Thickness T (mm)	Section W/H (mm)	Ixx (cm4)	Sx (cm3)	x (mm)	Iyy (cm4)	Sy (cm3)	Y (mm)
HMPS-2.5-41/22	2.5	41/21	1.25	0.99	20.50	5.60	2.72	8.16
HMPS-2.5-41/41	2.5	41/41	7.92	3.62	20.50	9.40	4.58	19.02
HMPS-3-41/22	3	41/21	1.69	1.43	20.50	6.94	3.40	9.16
HMPS-3-41/41	3	41/41	9.40	4.20	20.50	11.30	5.50	18.80



HMPL L Channel

Product code	Thickness T (mm)	Section W/H (mm)	Ixx (cm4)	Sx (cm3)	x (mm)	Iyy (cm4)	Sy (cm3)	Y (mm)
HMPL-3-40/40	3.00	40/40	2.88	1.02	28.16	2.88	1.02	11.84
HMPL-3-50/50	3.00	50/50	6.04	1.69	35.72	6.04	1.69	14.28
HMPL-4-40/40	4.00	40/40	3.72	1.34	27.79	3.72	1.34	12.21
HMPL-4-50/50	4.00	50/50	7.85	2.22	35.40	7.85	2.22	14.60
HMPL-5-50/50	5.00	50/50	9.57	2.73	35.03	9.57	2.73	14.97

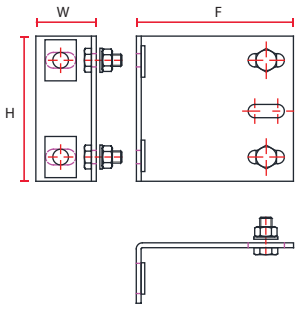


- Material : Stainless Steel 1.4301 (A2) & 1.4401 (A4) & Hot Dip Galvanized Steel
- Channels can be provided up to 6 metres length.
- Drilled hole dimensions may vary according to project requirements.

HMP Steel channel supports & restraints product details

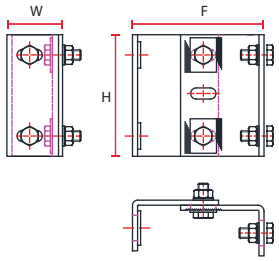
HCSP3 Channel Support

Product code	Width W (mm)	Height H (mm)	Form size F (mm)	Hex screw	Exp. Bolt	Max Load (N)	Max wind load (N)
HCSP3-55	50	120	55	M10x25	M10x90	5000	2800
HCSP3-70	50	120	70	M10x25	M10x90	5000	2800
HCSP3-85	50	120	85	M10x25	M10x90	4500	2800
HCSP3-105	50	120	105	M10x25	M10x90	3500	2800
HCSP3-125	50	120	125	M10x25	M10x90	3000	2800
HCSP3-145	50	120	145	M10x25	M10x90	2500	2800
HCSP3-165	50	120	165	M10x25	M10x90	2500	2800
HCSP3-185	50	120	190	M10x25	M10x90	2500	2800
HCSP3-205	60	120	210	M10x25	M10x90	2500	2800
HCSP3-225	60	120	230	M10x25	M10x90	2500	2800



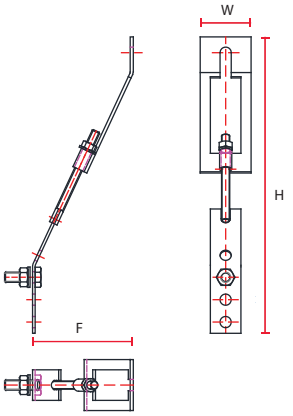
HCSP5 Channel Support

Product code	Width W (mm)	Height H (mm)	Form size F (mm)	Hex screw	Exp. Bolt	Max Load (N)	Max wind load (N)
HCSP5-130	50	120	130	M10x25	M10x90	3600	2600
HCSP5-150	50	120	150	M10x25	M10x90	3600	2600
HCSP5-170	50	120	170	M10x25	M10x90	3600	2600
HCSP6-190	50	120	190	M10x25	M10x90	3600	2600
HCSP5-210	60	120	210	M10x25	M10x90	3500	2600
HCSP5-230	60	120	230	M10x25	M10x90	3500	2600
HCSP5-250	60	120	250	M10x25	M10x90	3000	2600
HCSP5-270	60	120	270	M10x25	M10x90	2800	2600
HCSP5-290	60	120	290	M10x25	M10x90	2500	2600
HCSP3-310	60	120	310	M10x25	M10x90	2500	2600



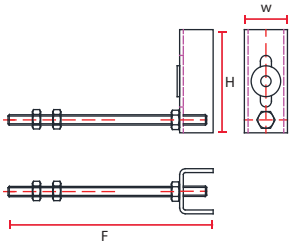
ATS-S Channel Support

Product code	Width W (mm)	Height H (mm)	Form size F (mm)	Hex screw	Exp. Bolt	Max Load (N)	Max wind load (N)
ATS-100	50	290	100	M12x40	M12x110	5000	3000
ATS-140	50	375	140	M12x40	M12x110	5000	3000
ATS-180	50	460	180	M12x40	M12x110	5000	3000
ATS-220	50	550	220	M12x40	M12x110	5000	3000
ATS-260	50	635	260	M12x40	M12x110	5000	3000
ATS-300	50	710	300	M12x40	M12x110	5000	3000



HCRS Channel Restraint

Product code	Width W (mm)	Height H (mm)	Form size F (mm)	Thread Metric (mm)	Exp. Bolt	Max wind load (N)
HCRS-80	50	80	80	M8	M8x100	3000
HCRS-100	50	80	100	M8	M8x100	3000
HCRS-120	50	80	120	M8	M8x100	3000
HCRS-140	50	80	140	M8	M8x100	3000
HCRS-160	50	80	160	M8	M8x100	3000
HCRS-180	50	80	180	M8	M8x100	3000
HCRS-210	50	80	210	M8	M8x100	3000
HCRS-240	50	80	240	M8	M8x100	3000
HCRS-270	50	80	270	M8	M8x100	3000
HCRS-300	50	120	300	M8	M8x100	3000



- Material : Stainless Steel 1.4301 (A2) & 1.4401 (A4) & Hot Dip Galvanized Steel
- Table above is prepared according to Eurocode standards
- Loads stated are working resistance loads
- Expansion bolts are provided separately
- More sizes available upon request

Sub channel systems / aluminium - overview

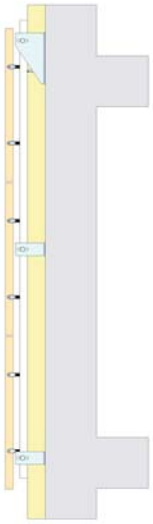
HMP-ALU Sub channel systems are preferred due to its light weight and easiness of cutting and drilling. These systems are used for the installation of cladding panels such as, natural stone panels , ceramic panels and fibre cement panels.

There are three methods of connection to the panel. the first one is with the pin system where pins are inserted to the predrilled pin holes on the edge of the stone panels. The second is the kerf system where slot openings on edge of stone accommodate the kerf anchors. The third system is the undercut system where undercut bolts are attached on the back of the stone.

Three dimensional adjustability is enabled and fast installation is possible due to the light weight of aluminium and the ease of cutting and drilling on site.

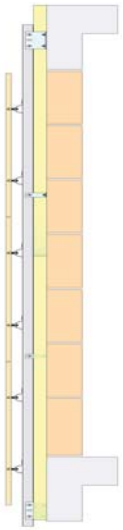
- Fixing to sub channel structure which is attached to load bearing beams
- Light weight and easy to install
- Possibility of cutting and drilling aluminium channels provides flexibility
- Fully adjustable and allows fast installation with the use of self drilling screws

HMP-ALU-U Sub Channel Fixing System

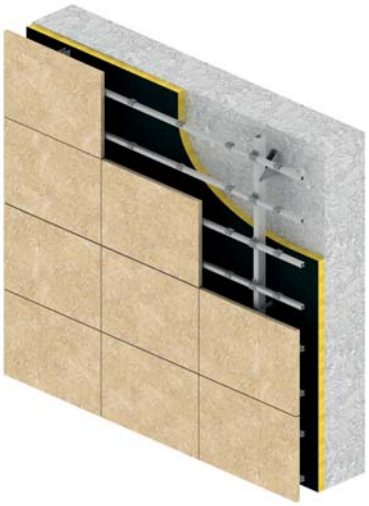


Sub Channel Fixing System with Vertically spanned channels

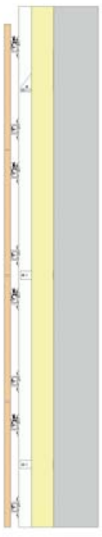
HMP-ALU-SP Sub Channel Fixing System



Sub Channel Fixing System with Vertically & Horizontally spanned channels



HMP-ALU-AG Sub Channel Fixing System



Channels are available in extruded aluminium. Various types of sub channel systems can be formulated to accommodate the requirements of the project. Aluminium channels are used for installing natural stone, fibre cement, ceramic panels and other light weight cladding materials. Available in aluminium grade EN AW 6063 T66 both in mill finish and anodised finish.

Sub Channel System

HMP-ALU-U

HMP-ALU-SP

HMP-ALU-P

HMP-ALU-AG

Extruded aluminium Channels

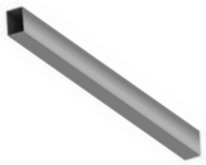
HMP-ALU-U

HMP-ALU-BV

HMP-ALU-RV

HMP-ALU-T

HMP-ALU-BH



HMP-ALU-P

Supports & Restraints

HCSP3-AL

HCSP6-AL

HCSP3-AL

HCRS4-AL

HCR6-AL

HCRS3-AL

Adjustable Anchors

BABody anchor

HZ02-SPX Z anchor

HZ00-SPX anchor

HA03-SPXL anchor

Aluminium brackets

HM-AG Agraf bracket

HM-P Agraf bracket

HM-K Agraf bracket

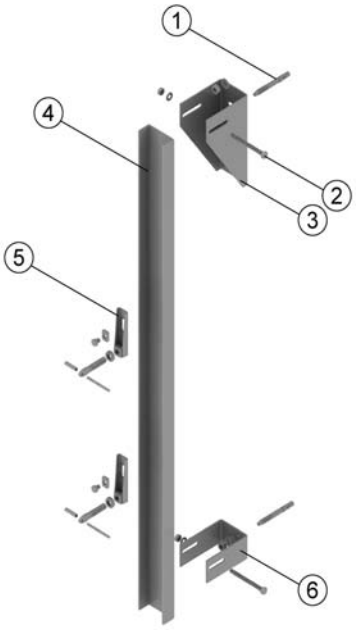
HCC-ALU Connection

HCC-ALU Connection

HMP-ALU Sub channel system- Installation method

HMP-ALU-U Sub channel fixing system

Sub channel system with HMP-ALU-U aluminium channel assembled on HCSP4-ALU channel supports and HCRS4-ALU channel restraints. Stone installation can be made with either Z Anchors or Body anchors. Brackets are fixed on the channel with self tabbing screws, allowing quick and easy installation.

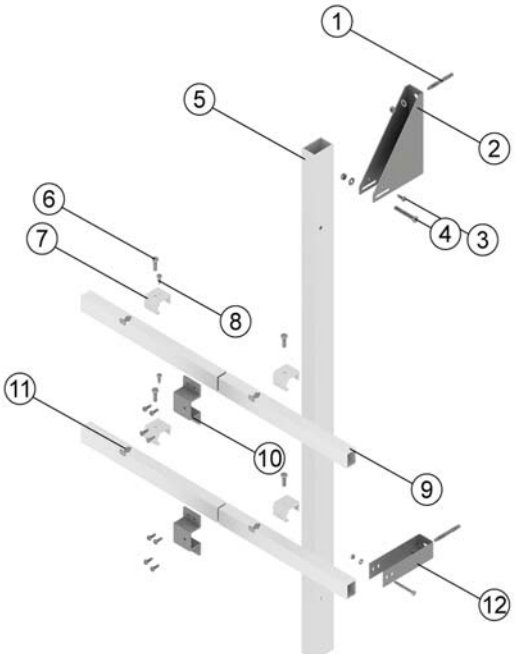


Set Elements

1-Through bolt
2-Hex bolt
3-Channel support
4-Channel
5-Body anchor
6-Channel Restraint

HMP-ALU-AG Sub channel system

Sub channel system with Aluminium box channels forming a vertical and horizontal grid. Vertical channels are fixed on HCSP4-ALU Channel supports and the horizontal channels are set on the vertical channels with channel connection elements. Stone fixing is made on to horizontal channels using the hang on method through the agraffe brackets that are fixed on the stone with undercut bolts.

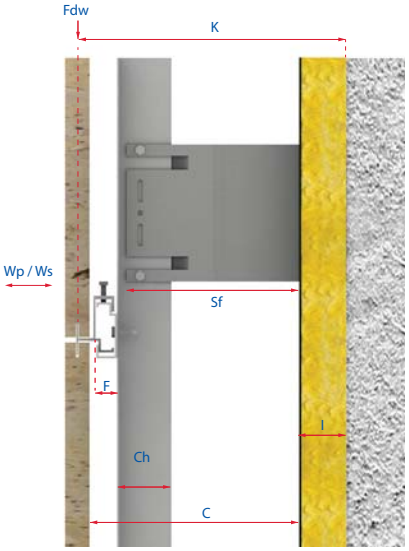


Set Elements

1-Through bolt
2-Channel support
3-Self drilling screw
4-Hex bolt
5-Vertical channel
6-Leveling bolt
7-Bracket
8-Self drilling screw
9-Horizontal channel
10-Channel connection
11-Undercut bolt
12-Channel Restraint

HMP-ALU-P Sub channel system

- Indirect fixing on to non-load bearing walls
- Projection sizes of up to 300 mm with load capacity of 5 kN
- Lower drilling points enable fast installation
- Installation at vertical and horizontal joints
- Easy to use & adjustability in three directions
- Ability to absorb building movements.



K: projection size
Fdw: dead Load
Ws: wind pressure
C: wall cavity
I: insulation thickness
CH: channel height

F: anchor forming size
Sf: support forming size
Lc: channel length
Sc: vertical channel spacing
Lk: end channel spacing
Ls: connection spacing

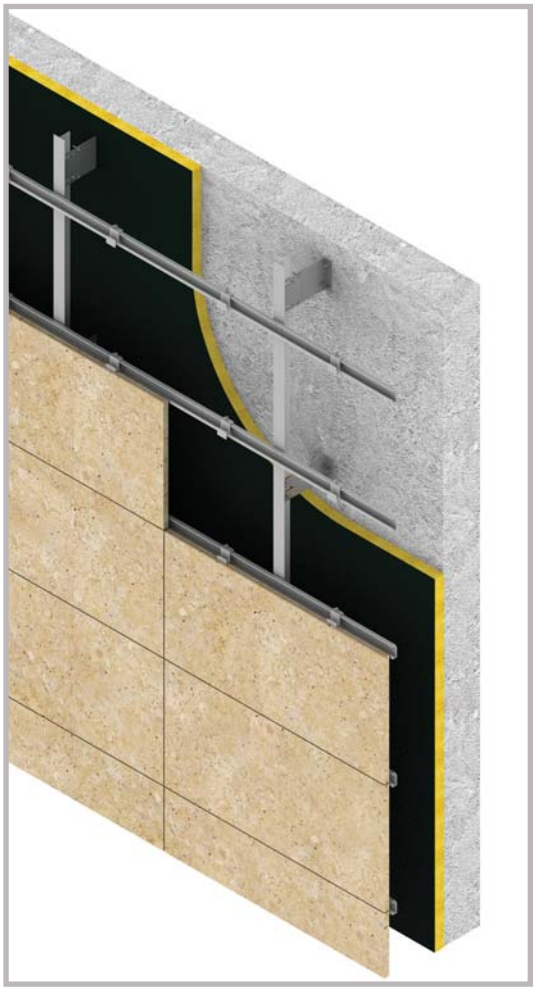
HMP-ALU-T T Channel

HMP-ALU-P Agraffe channel

HCSP3-ALU Channel restraint

HCRS4-ALU Channel restraint

HM-AG-K Agraffe bracket



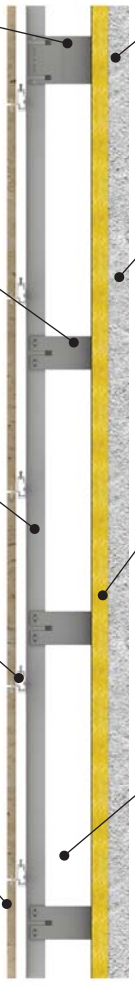
Channel support
Channel supports are load bearing brackets that bear the full weight of the cladding fixed on the sub channel systems. The load is transferred to the concrete beam and the attachment is made with anchor bolts.

Channel restraint
Channel restraints are brackets that restrain the sub channel system against wind pressure and suction. The brackets are tied to the wall with suitable anchor bolts, strengthening the channels against buckling.

Channel
Channels are spanned from floor slab to slab can be supplied in the same length as the floor height.

Agraffe Kerf Brackets
Agraffe kerf brackets that are used to install stone slabs on to the channels. The brackets are fixed to the channels with hex self drilling screws. Each bracket is designed to carry the load of the individual stone panel.

Stone panel
Stone panels are fixed on to sub channel system. Proper study and calculation is made to check the suitability of stone and dimensions for facade installation purposes.



Load bearing beams
Load bearing beams are usually constructed out of high strength concrete. Sometimes steel is used. The Sub Channel system is loaded on this part of the substrate.

Building wall
The walls can be constructed out of concrete, brick, block work. Different attachment types are used for different type of walls, therefore careful analysis must be made to use the most secure type of connections to the wall for restraining the sub channel system.

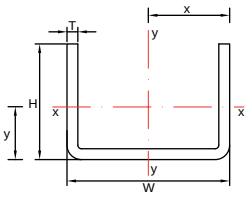
Insulation
A layer of thermal insulation is covered on the wall, with suitable dowels. Sound insulation, fire proof barriers and EPDM may also be laid behind and or in front of the thermal insulation, providing full protection to the building.

Wall cavity
This is the empty space between the cladding and the insulation. Adequate space is required to accommodate the sub channel fixing system, allowing room for the channel and brackets to fit into.

HMP-ALU channels product details

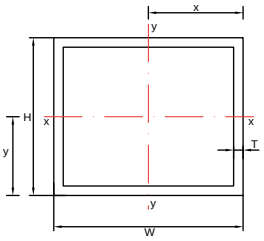
HMP-ALU-U
U Channel

Product code	Thickness T (mm)	Section W/H (mm)	Ixx (cm4)	Sx (cm3)	x (mm)	Iyy (cm4)	Sy (cm3)	Y (mm)
HMP-ALU-U-45/32	3	45/32	4.08	3.46	22.50	10.76	4.78	11.78
HMP-ALU-U-50/37	4	50/37	7.86	5.69	25.00	19.44	7.77	13.80
HMP-ALU-U-60/42	5	60/42	14.07	9.16	30.00	39.33	13.11	15.36



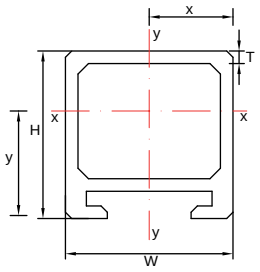
HMP-ALU-BV
Box Channel

Product code	Thickness T (mm)	Section W/H (mm)	Ixx (cm4)	Sx (cm3)	x (mm)	Iyy (cm4)	Sy (cm3)	Y (mm)
HML-ALU-BV-60/50	3	60/50	24.17	9.66	25.00	32.26	10.75	30.00
HML-ALU-BV-80/50	4	80/50	38.88	15.55	25.00	82.70	20.67	40.00
HML-ALU-BV-100/50	4	100/50	47.37	18.95	25.00	144.13	28.83	50.00
HML-ALU-BV-120/50	5	120/50	66.33	26.53	25.00	276.33	46.05	60.00



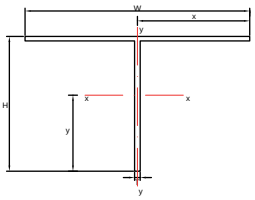
HMP-ALU-RL
Slot Channel

Product code	Thickness T (mm)	Section W/H (mm)	Ixx (cm4)	Sx (cm3)	x (mm)	Iyy (cm4)	Sy (cm3)	Y (mm)
HMP-ALU-RL-30	3	40/30	4.44	2.89	20.00	8.78	4.39	15.33
HMP-ALU-RL-40	3	40/40	9.50	4.76	20.00	10.84	5.42	19.92
HMP-ALU-RL-80	3	40/80	27.08	9.22	20.00	14.95	7.47	29.36



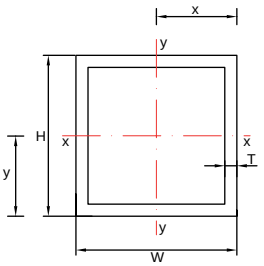
HMP-ALU-T
T Channel

Product code	Thickness T (mm)	Section H/W (mm)	Ixx (cm4)	Sx (cm3)	x (mm)	Iyy (cm4)	Sy (cm3)	Y (mm)
HMP-ALU-T-50/80	2.5	50/80	6.90	1.75	40.00	10.67	2.67	39.40
HMP-ALU-T-60/100	2.5	60/100	12.90	2.55	50.00	20.84	4.17	47.78
HMP-ALU-U-60/120	3	60/120	15.09	3.09	50.00	43.21	7.20	78.84



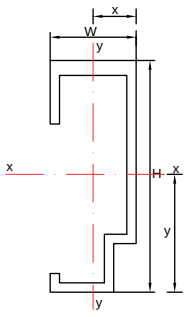
HMP-ALU-BH
Box Channel

Product code	Thickness T (mm)	Section W/H (mm)	Ixx (cm4)	Sx (cm3)	x (mm)	Iyy (cm4)	Sy (cm3)	Y (mm)
HMP-ALU-BH-40/30	3.00	40/30	5.08	3.38	20.00	8.14	4.07	15.00
HMP-ALU-BH-40/40	3.00	40/40	10.20	5.10	20.00	10.20	5.10	20.00
HMP-ALU-BH-40/60	4.00	40/60	34.50	11.50	20.00	17.80	8.90	30.00



HMP-ALU-P
Aggrafe Channel

Product code	Thickness T (mm)	Section W/H (mm)	Ixx (cm4)	Sx (cm3)	x (mm)	Iyy (cm4)	Sy (cm3)	Y (mm)
HMP-ALU-P-45/32	2.2	45/32	16.66	4.66	14.03	2.03	1.45	35.72

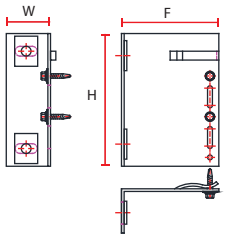


- Material: Extruded Aluminium Grade EN AW 6063 T66 mill finish and black anodised
- Table above is prepared according to Eurocode standards
- Loads stated are working resistance loads
- Channels can be provided up to 6 metres length.

HMP ALU channel systems - supports & restraints product details

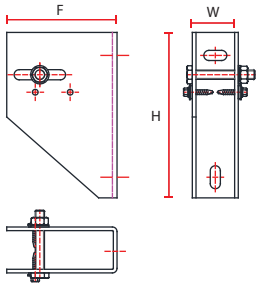
HCSP3-AL Channel Support

Product code	Width W (mm)	Height H (mm)	Form size F (mm)	Self drill screw	Exp. Bolt	Max Load (N)	Max wind load (N)
HCSP3-AL-55	50	120	55	5.5 x 30	M10x90	4000	2580
HCSP3-AL-75	50	120	75	5.5 x 30	M10x90	3500	2580
HCSP3-AL-95	50	120	95	5.5 x 30	M10x90	3000	2580
HCSP3-AL-125	50	120	125	5.5 x 30	M10x90	2200	2580
HCSP3-AL-155	50	120	155	5.5 x 30	M10x90	2200	2580
HCSP3-AL-185	50	120	185	5.5 x 30	M10x90	2200	2580
HCSP3-AL-215	50	120	215	5.5 x 30	M10x90	2000	2580
HCSP3-AL-245	50	120	245	5.5 x 30	M10x90	2000	2580
HCSP3-AL-275	60	120	275	5.5 x 30	M10x90	2000	2580
HCSP3-AL-305	60	120	305	5.5 x 30	M10x90	2000	2580



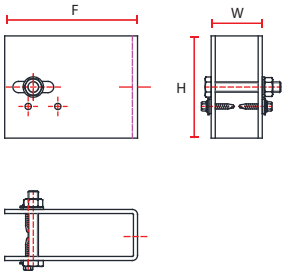
HCSP4-AL Channel Support

Product code	Width W (mm)	Height H (mm)	Form size F (mm)	Hex bolt	Exp. Bolt	Max Load (N)	Max wind load (N)
HCSP4-AL-100	50	175	100	M10x80	M10x90	5000	3500
HCSP4-AL-120	50	175	120	M10x80	M10x90	5000	3500
HCSP4-AL-140	50	175	140	M10x80	M10x90	5000	3500
HCSP4-AL-160	50	195	160	M10x80	M10x90	5000	3500
HCSP4-AL-180	50	195	180	M10x80	M10x90	5000	3500
HCSP4-AL-210	50	195	210	M10x80	M12x110	4500	3500
HCSP4-AL-240	50	195	240	M10x80	M12x110	4500	3500
HCSP4-AL-270	50	215	270	M10x80	M12x110	4000	3500
HCSP4-AL-300	50	215	300	M10x80	M12x110	4000	3500



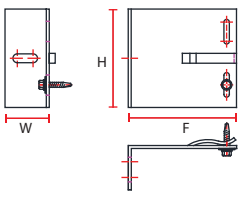
HCSP5-AL Channel Support

Product code	Width W (mm)	Height H (mm)	Form size F (mm)	Hex bolt	Exp. Bolt	Max Load (N)	Max wind load (N)
HCSP4-AL-100	50	175	100	M10x70	M10x90	4000	2850
HCSP4-AL-120	50	175	120	M10x70	M10x90	4000	2850
HCSP4-AL-140	50	175	140	M10x70	M10x90	4000	2850
HCSP4-AL-160	50	195	160	M10x70	M10x90	4000	2850
HCSP4-AL-180	50	195	180	M10x70	M10x90	4000	2850
HCSP4-AL-210	50	195	210	M10x70	M12x110	3500	2850
HCSP4-AL-240	50	195	240	M10x70	M12x110	3500	2850
HCSP4-AL-270	50	215	270	M10x70	M12x110	3000	2850
HCSP4-AL-300	50	215	300	M10x70	M12x110	3000	2850

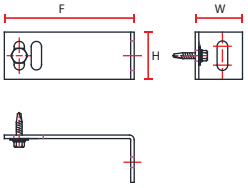


HCRS3-AL Channel Restraint

Product code	Width W (mm)	Height H (mm)	Form size F (mm)	Self drill screw	Exp. Bolt	Max wind load (N)
HCRS3-AL-70	40	80	70	5.5 x 30	M8x80	2580
HCRS3-AL-70	40	80	90	5.5 x 30	M8x80	2580
HCRS3-AL-90	40	80	110	5.5 x 30	M8x80	2580
HCRS3-AL-110	40	80	130	5.5 x 30	M8x80	2580
HCRS3-AL-130	40	80	150	5.5 x 30	M8x80	2580
HCRS3-AL-150	40	80	170	5.5 x 30	M8x80	2580
HCRS3-AL-170	40	80	190	5.5 x 30	M8x80	2580
HCRS3-AL-190	40	80	210	5.5 x 30	M8x80	2580
HCRS3-AL-210	40	80	230	5.5 x 30	M8x80	2580
HCRS3-AL-230	50	120	300	5.5 x 30	M8x80	2580



HCRS6-AL Channel Restraint



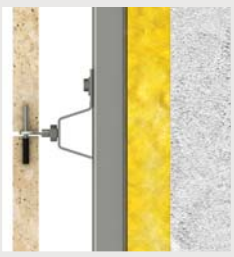
- Material : Stainless Steel 1.4301 (A2) & 1.4401 (A4) & Hot Dip Galvanized Steel
- Table above is prepared according to Eurocode standards
- Loads stated are working resistance loads
- Expansion bolts are provided separately
- More sizes available upon request

Adjustable anchors for sub channel systems

Adjustable anchors are designed to connect cladding materials to the sub-channel grid securely. These anchors can be fastened to the channels using set screws, lock nuts, or self-drilling screws. A variety of anchor types are available to meet the specific requirements of different applications. For more detailed technical information, please refer to the HAZ Sub-Channel Technical Catalogue.

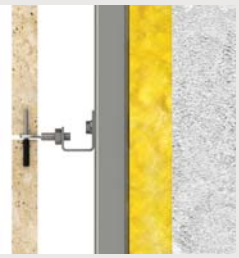
Anchors for steel sub channel systems

HZ02 Z Anchor Set



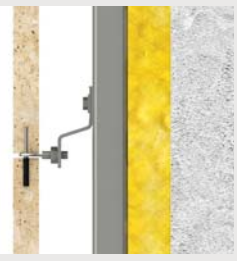
Dead Load Capacity: up to 500 N
Wind Load Capacity: 316 N

HRS01 Restraint Anchor



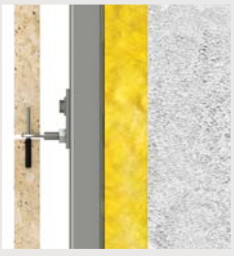
Wind Load Capacity: 316 N

HZ01 Z Anchor Set



Dead Load Capacity: up to 350 N
Wind Load Capacity: 316 N

HZ00 Z Anchor Set



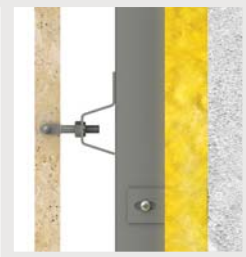
Dead Load Capacity: up to 500 N
Wind Load Capacity: 316 N

HZ02 Z Anchor Set

Dead Load Capacity: 800 N
Wind Load Capacity: 316 N

Anchors for aluminium sub channel systems

HZ02-SPX Z Anchor Set

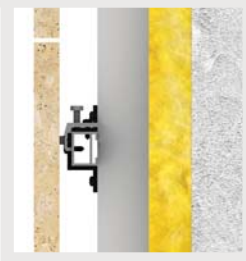


Dead Load Capacity: 500 N
Wind Load Capacity: 316 N

HZ00-SPX Z Anchor Set

Dead Load Capacity: 400 N
Wind Load Capacity: 316 N

HM-AG-G Agraffe Set

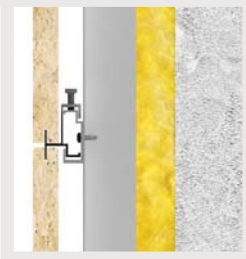


Dead Load Capacity: 400 N
Wind Load Capacity: 316 N

HM-AG-P Agraffe Set

Dead Load Capacity: 400 N
Wind Load Capacity: 316 N

HZ02 Z Anchor Set



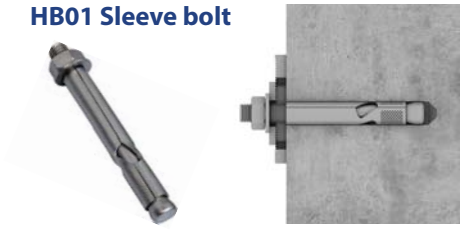
Dead Load Capacity: 400 N
Wind Load Capacity: 316 N

- Material: Stainless Steel 1.4301 (A2) & 1.4401 (A4)
- Hex bolts & lock nuts are provided separately
- Structural calculation reports are available upon order
- More information available in sub channels systems technical catalogue

Accessories for sub channel systems

Anchor bolts and related accessories play a critical role in ensuring the stability of a sub-channel system. Each component must be carefully specified to create a secure fixing solution. Selecting the appropriate product is essential for achieving reliable connections. For more technical details, please refer to the HAZ anchor bolts technical catalogue or contact HAZ Metal for further assistance.

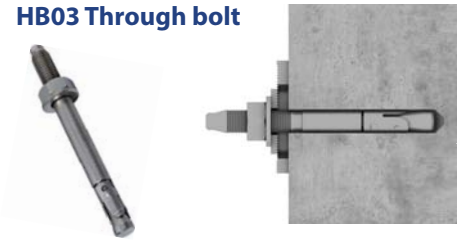
HB01 Sleeve bolt



Code	Size MxL mm	M
HB01-6/80	M6x80	M6
HB01-8/80	M8x80	M8
HB01-10/100	M10x100	M10
HB01-12/120	M12x120	M12

- *For fastening to concrete with min, C20/25 strength*
- *Available in stainless steel & galvanized steel*

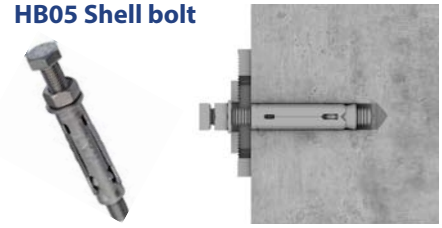
HB03 Through bolt



Code	Size MxL mm	M
HBZ-8/80	M8x80	M8
HBZ-10/90	M10x90	M10
HBZ-12/110	M12x110	M12
HBZ-16/145	M16x145	M16

- *For fastening to concrete with min, C20/25 strength*
- *Available in stainless steel & galvanized steel*

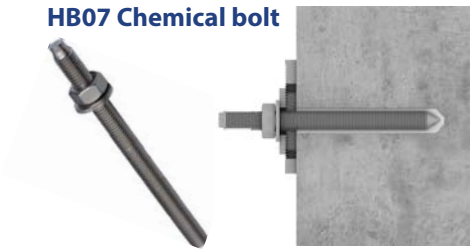
HB05 Shell bolt



Code	Size MxL mm	M
HB05-6/60	M6x60	M6
HB05-8/80	M8x80	M8
HB05-10/80	M10x80	M10
HB05-12/100	M12x100	M12

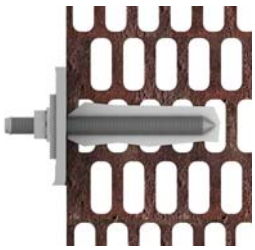
- *For fastening to blockwork min 7n strength*
- *Available in stainless steel*

HB07 Chemical bolt



Code	Size MxL mm	M
HB07-8/110	M8x110	M8
HB07-10/130	M10x130	M10
HB07-12/160	M12x160	M12
HB01-16/190	M16x190	M16

- *For fastening to concrete, block work and masonry*
- *Available in stainless steel & galvanized steel*

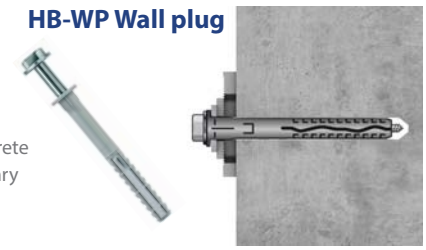


Vynlester Resin for concrete
Epoxy acralite for masonry

Cartridge gun

Plastic sleeve

HB-WP Wall plug



Code	Size MxL mm	M
HB07-8/110	M8x110	M8
HB07-10/130	M10x130	M10
HB07-12/160	M12x160	M12
HB01-16/190	M16x190	M16

HMLN
Lock Nut

Code	Size t*w*l	M
HMLN-Z 41-6	6x20x34	M6
HMLN-Z 41-8	8x20x34	M8
HMLN-Z 41-10	10x20x34	M10
HMLN-Z 41-12	10x20x34	M12

- *For fastening to 41 type channels*
- *Available in stainless steel & galv. steel*

HB-STS
Self drill screw

Code	Size diaxL mm	M
HB-STS-5.5/35	6x20x34	M6
HB-STS-5.5/55	8x20x34	M8
HB-STS-5.5/75	10x20x34	M10
HB-STS-5.5/105	10x20x34	M12

- *For drilling direct to steel sections*
- *Available in stainless steel & galv. steel*

HBB
Blind bolt

Code	Size MxL mm	M
HBB-8/50	8x50	M8
HBB-10/60	10x60	M10
HBB-12/60	12x60	M12
HBB-16/70	16x70	M16

- *For connections to hollow steel sections*
- *Available in stainless steel & galv. steel*

DIN933
Hex Bolt set

Code	Size MxL mm	M
DIN933-8/25	8x50	M8
DIN933-10/30	10x60	M10
DIN933-12/40	12x60	M12
DIN933-16/50	16x70	M16

- *For connections to flat steel sections*
- *Available in stainless steel & galv. steel*

HTI
Thermal break pad

- *For preventing cold bridging*
- *Available in 2,3, 5,10 & 20 mm thicknesses*
- *Shape and holes is made to suit the brackets*

HBI
Isolator pad

- *For cutting contact between dissimilar materials*
- *Neoprene material*
- *Shape and holes is made to suit the brackets*

HBV
Isolator pad

- *For observing vibrations and impact*
- *Neoprene material*
- *Shape and holes is made to suit the brackets*

Sub Channel Systems Summary

HAZ Metal product range offers all the possible stone fixing methods that are available in the industry. It is the companys` objective to offer the most suitable and economic solutions for stone fixings.

HAZ Design department recommends and designs bespoke fixing system solutions for the individual requirements of each project.

Further system details are also available as concept drawings which include sections, plan and elevation details which illustrate fixing details of the HAZ system.

A comprehensive Sub Channel Fixing Systems Technical Product Catalogue is available to download from our web site www.hazmetal.com.

Sub Channel Fixings Systems Technical catalogue downloadable at www.hazmetal.com

HMPA-HC2 Sub Channel System

- Projection sizes up to 350 mm
- Ideal for heavy loads and large projections
- Installation in vertical and horizontal joints
- Adjustability in all directions, +/-30 mm
- Fixing to channels with set screw sets

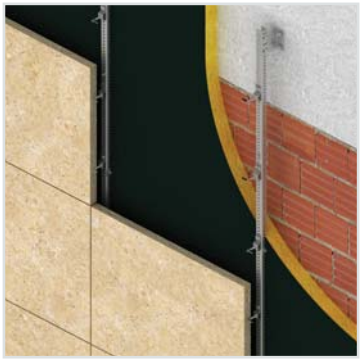
HMP-ATS Sub Channel System

- Projection sizes up to 360 mm
- Ideal for different projection sizes and stone panel dimensions
- Adjustability in all directions
- Fixing to channels with lock nut sets

HMPC-HC1/H Sub Channel System

- Projection sizes up to 300 mm
- Ideal for staggered patterned facades
- Quick adjustability at horizontal axis
- Installation at horizontal joints
- Fixing to channels with lock nut sets

HMPA-HC3 Sub Channel System



- Projection sizes up to 250 mm
- Fast & easy, and economic
- Installation at horizontal and vertical joints
- Fixing to channels with set screw sets

Four Seasons Hotel, Cairo

Grand Mosque, Abu Dhabi

Texas College, Qatar