

Product Name

Halfen Dynagrip® Anchor Channels and Bolts

Associated Specification Section

Section 03151 - Form Anchor Channels

Manufacturer's Name

Halfen Anchoring Systems, A Division of Meadow Burke Products

Product Description

2003-08-06



PRODUCT FEATURES

- BASIC USES / RELATED USES
 - Bolted, welded or cast-in-place I-anchor channels, to carry suspended or supported loads.
 - To allow safe transfer of loads to the structure while allowing easy installation and adjustment.
 - Typical applications include support for:
 - mechanical pipe and electrical components,
 - precast panel to panel connection,
 - beam to wall or column connection,
 - column/slab connection,
 - facade fixings and shelf angle anchoring with up/down and left/right adjustability, and
 - elevator guide rail attachment,
 - curtain wall anchoring at face of slab or top of slab.
- PRODUCT ATTRIBUTES AND CHARACTERISTICS
 - Hot rolled steel channel body with stud anchors welded to back of channel or welded to steel structural supports.
 - Channels are foam filled and attached to concrete forms to prevent fluid concrete from entering.
 - Toothed bolts carry loads in channel longitudinal direction, pullout loads, and transverse shear.
 - Fasteners can be inserted into the slot face anywhere, and then rotated up to 90 degrees into position.
 - Load bearing, with positive lock due to teeth, advantageous in longitudinal direction.
 - Anchor channels:
 - Safe working load up to 12 kN (2700 lbs.) in all directions.
 - Allowable amplitude of dynamic loads up to 3 kN (675 lbs).
 - HZA 29/20 - Safe working load up to 8 kN (1800 lbs.) allow load amplitude 2 kN (450 lbs) with HZS 29/20 strength grade 8.8 toothed bolts.
 - HZA 38/23 - Safe working load up to 12 kN (2700 lbs.) allow load amplitude 3 kN (675 lbs) with HZS 38/23 strength grade 8.8 toothed bolts.
- SELECTION CRITERIA
 - Two profiles of channels available from 44.5 mm (1-3/4 inch) to 6.1 m (20 feet) long.
 - 38/23 profile is 38 mm wide x 23 mm high.
 - 29/20 profile is 29 mm wide x 20 mm high.
- APPLICABLE STANDARDS AND RELATED REFERENCES
 - ASTM A283 - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates.
 - A123/A123M-02 Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - AWS B2.1 - Specification for Welding Procedure and Performance Qualification.
- QUALITY STATEMENT, TESTS, CERTIFICATIONS, AND APPROVALS
 - Welded I-anchors:
 - City of Los Angeles approved, Research Report 25452
 - City of Los Angeles fabricator license number 1812.
 - Bolted anchor channels:
 - DIN EN ISO 9001:1994.

- **LIMITATIONS**
 - Long lead order time required for special order bolts.
 - Welding of galvanized components produces hazardous fumes.
 - Minimum spacing dimensions are required for anchor channel pairs, and for near-edge conditions. Consult Dynagrip Technical Information for detailed information.
 - Whenever anchor channel is loaded simultaneously in several directions, resultant force must be less than or equal to permissible working load.
- **AVAILABILITY**
 - Products are available across North America.
 - Some products may have longer lead order time.
 - Other lengths available upon request.
- **COST**
 - Varies with substrate condition and configuration and relative size of building.
 - Consult manufacturer national or regional offices for specific product costs or relative costs.

PRODUCT PROPERTIES

- **MATERIALS**
 - Steel: Carbon steel.
 - Bolts: Hot-dip galvanized coating.
 - Anchor Channels with Welded Studs for Casting into Concrete: Hot-dip galvanized after fabrication.
 - Anchor Channels, Welded to Supports: Mill finish or hot-dip galvanized after fabrication.
 - Anchor Channels, Bolted to Supports: Mill finish or hot-dip galvanized.
- **SHAPE AND DIMENSIONS**
 - Halfen Bolts:
 - Toothed bolt, distributes imposed load in all directions:

	Profile 38/23		Profile 29/20
	M12 (1/2 inch)	M16 (5/8 inch)	M12 (1/2 inch)
Length mm (I)	Part #	Part #	Part #
30 mm (1-1/4 inch)	BD6421	sp	BD0421
40 mm (1-1/2 inch)	sp	sp	sp
50 mm (2 inch)	BH6421	BH6521	BH0421
60 mm (2-1/4 inch)	sp	sp	sp
80 mm (3-1/4 inch)	sp	sp	BN0421
100 mm (4 inch)	sp	BP6521	sp
125 mm (5 inch)	sp	sp	sp
150 mm (6 inch)	sp	sp	sp
200 mm (8 inch)	sp	sp	sp
250 mm (10 inch)	N/A	N/A	sp
300 mm (12 inch)	sp	sp	sp

sp = special order bolt, may have long lead time.

- Load Capacity of bolts, required tightening torque, permissible of bolt bending:

Halfen bolts HZS, Grade 8.8				Diameter of hole in connecting part (mm)
Metric diameter	Tightening torque (Nm)	Allow F in all directions (kN)	Allow bending moment per bolt (Nm)	
M12 (1/2 inch)	80 (59 lb ft)	19.4 (4361 lbs)	43.7 (32.2 lb ft)	14 (0.55 inch)
M16 (5/8 inch)	120 (89 lb ft)	36.1 (8115 lbs)	11.1 (8.2 lb ft)	18 (0.7 inch)

- Halfen Anchor Channel Type HZA 38/23:

Length	No. of anchors	Order code for hot-dip galvanizing	Part Number
		Hot-dip-galvanized	
150 mm (6 inch)	2	04-1080	HZ3806
200 mm (7-3/4 inch)	2	04-1081	HZ3808
250 mm (10 inch)	2	04-1082	HZ3810
300 mm (11-3/4 inch)	2	04-1083	HZ3812
400 mm (15-3/4 inch)	3	04-1085	HZ3816
6070 mm (239 inch)	25	04-1090	HZ3800
other lengths on request			

- Halfen Anchor Channel Type HZA 29/20:

Length (mm)	No. of anchors	Order code for hot-dip galvanizing	Part Number
		Hot-dip-galvanized	
150 mm (6 inch)	2	04-1091	HZ2906
200 mm (7-3/4 inch)	2	04-1092	HZ2908
250 mm (10 inch)	2	04-1093	HZ2910
300 mm (11-3/4 inch)	3	04-1094	HZ2912
400 mm (15-3/4 inch)	3	04-1096	HZ2916
6070 mm (239 inch)	31	04-1106	HZ2900
other lengths on request			

- Halfen Channel Type HZM - Plain Back, Welded or Bolted:

Type HZM 38/23	Length	Type HZM 29/20	Length
hot-dip galvanized	6070 mm (239 inch)	hot-dip galvanized	6070 mm (239 inch)
mill finish	6070 mm (239 inch)	mill finish	6070 mm (239 inch)
other lengths on request		other lengths on request	

- SHOP FABRICATION AND ASSEMBLY
 - Units are fabricated in factory, hot dip galvanized, and channel is foam filled.
- FINISH
 - Hot-dip galvanized where potential for moisture exists.

PRODUCT PLACEMENT

- INSTALLATION
 - For installation in wood forms - Method 1:
 - Position channel tight against the formwork with studs protruding into the wet concrete.
 - Nail in place through pre-punched or drilled holes, nail beside each side of channel and bend over to hold channel in position.
 - When concrete has been poured and cured, remove forms.
 - Remove foam filling from channel - clean channel of debris.
 - For installation in metal forms - Method 2: (edge of slab position)
 - Pre-punch slot 12 mm (1/2 inch) shorter than length of channel - same width as slot in face of channel) in metal pour stop.
 - Position anchor channel over slot in pour stop.
 - Tack weld two to three places along top edge and once at each end.
 - Hold back metal deck 25 mm (1 inch) beyond embedment depth of anchor channel.
 - Remove foam and debris from channel.
 - For installation in metal forms - Method 3: (edge of slab position)
 - Hold back metal deck 25 mm (1 inch) beyond embedment depth of anchor channel.
 - Notch pour stop at channel location.
 - Make notch 12 mm (1/2 inch) longer than embed and 6 mm (1/4 inch) deeper than bottom edge of channel.
 - Obtain embed assembly from Halfen (Halfen anchor channel with false plate).
 - Place assembly over notch and tack-weld or screw in place.
 - When concrete has been poured and cured, remove forms.
 - Remove foam filling and debris from channel.
 - For installation at top-of-slab position- Method 4:
 - Request custom anchor channels with setting legs and spacer bars, for correct height and distance from edge of slab.
 - Position anchor channel at correct location, and tie to reinforcement steel to secure.
 - Concrete to be poured and allowed to cure.
 - Remove foam filling and debris from channel.
 - For installation in masonry block (CMU) walls - Method 5:
 - Break out sides of block, minimum 150 mm (6 inch).
 - Place grout stop inside CMU to prevent grout from falling into cavity.
 - Nail channel to plywood and place over hole.
 - Fill void with grout.
 - After grout has set, remove plywood and foam filler.

Corporate Identification

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Classification and Filing

MasterFormat 1995:
Section 03151 - Form Anchor Channels

UniFormat 1998:
Section B10 - Superstructure

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