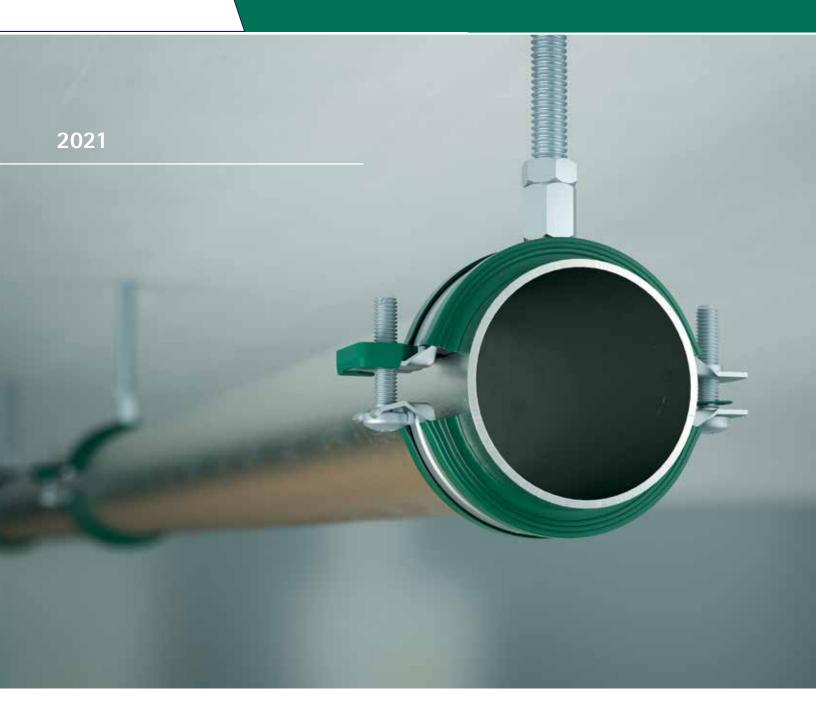
**TAYLOR** 

# walraven



# Walraven Catalog

Featuring In-Wall and Overhead Solutions







The value of smart

## Taylor Walraven Partnership Announcement

# TAYLOR walraven



Taylor Pipe Supports and the Walraven Group are excited to announce the formation of our Canadian partnership effective October 2020 under the name Taylor Walraven.

Headquartered in Burlington, Ontario, Taylor Pipe Supports is a family-owned company founded in 1966. Over its 55 years in business, the company has firmly established itself as the leading supplier of pipe support products to the Canadian distribution market.

The Walraven Group, based in the Netherlands, is a family-owned business established in 1942. With its roots also in the pipe support business, Walraven is now a globally active manufacturer and solution provider to the mechanical installation market. The Walraven Group operates with over 1200 employees in 5 continents.



In joining together we believe greater opportunities exist for us and for our customers. Taylor Walraven's expanded and extensive offering in terms of products and services, along with our combined 125 years of industry experience, has us focused on growth and to becoming the preferred solutions partner to the mechanical installation market across North America.

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#### Abbreviations Key

SS

BndL # of items per pallet BndS # of items per bundle (bands of products) ВТ Bolt size CTS Copper tube size D Diameter of item D/ACR Pipe diameter for HVACR pipes D/CTS Diameter of copper tube D/IPS Diameter of iron pipe EMT Electrical Metallic Tubing Fa,z Maximum allowed load Breaking load vertically Fb,z For rail = What size and/or type of rail the product fits IPS Iron pipe size

Stainless steel

#### Rapid Sliding Wall Bracket (RSWB)



Item number	Product abbreviation	Expansion range (inches)	Items per pkg.
59491220	RSWB3	12-20	50
59491827	RSWB4	16-26	35

- Extendable in-wall bracket for mounting plumbing pipes, electrical pipes, electrical boxes and conduit between studs
- Suitable for use in metal or wood stud walls and floor joists
- Quicker and easier to install than traditional methods no measuring or cutting
- Can be set at multiple depths
- For use with RapidRail® Slide Nuts, starQuick® Clamps, starQuick® Universal Rail Adapter and RapidRail® Hammerfix accessories
- Break apart design (sold in connected pairs)
- Material: pre hot-dip galvanized steel 1.0226



Rapid Sliding Wall Bracket in use with Rabbit clamp holding copper pipe and starQuick® clamp holding PEX pipe.

#### Light Angled Wall Bracket (LAWB)



ltem number	Product abbreviation	Expansion range (inches)	Items per pkg.
59493001	LAWB1	12-20	25
59493002	LAWB2	18-26	25

- Used to support vertical piping and horizontal stub-outs within wall
- Bracket mounts at 4 points for added strength, stability and durability
- Adjustable for ease of use with studs that are not exactly on center
- Hole pattern allows for adjustable stub-outs every 2" +or- 1/2"
- Packaged in convenient resealable tube
- Material: pre hot-dip galvanized steel 1.0242



Light Angled Wall Bracket securely mounts at 4 points.

### Heavy Angled Wall Bracket (HAWB)



ltem number	Product abbreviation	Expansion range (inches)	ltems per pkg.
59494001	HAWB1	12-20	25
59494002	HAWB2	18-26	25

- Used to support vertical piping and horizontal stub-outs within wall
- Bracket mounts at 4 points for added strength, stability and durability
- Adjustable for ease of use with studs that are not exactly on center
- Hole pattern allows for adjustable stub-outs every 2" +or- 1/2"
- Packaged in convenient resealable tube
- Material: steel 1.0242



Heavy Angled Wall Bracket in use with single CPVC/copper stubout clamp.



### Multi-Purpose Telescoping Support (MPTS)



ltem number	Product abbreviation	Expansion range (inches)	ltems per pkg.
59492001	MPTS1	12-20	25
59492002	MPTS2	18-26	25

- This heavy-duty, adjustable, 3 piece bracket is used to support vertical piping and stub-outs on studs at 6 points
- Adjustable for ease of use
- Heavy-duty profile supports any in-wall hardware
- Hole pattern fits sliding and fixed stub-outs as well as a variety of clamps
- Material: pre-galvanized steel 1.0242



Multi-Purpose Telescoping Support in use with starQuick®

### Multi-Purpose Telescoping Support (MPTS) Insert



ltem	Size	Items
number	(inches)	per pkg.
59492000	8" x 3/4" x 1/2"	50

- Can be used to make a custom length in-wall bracket when paired with WMO strut
- Can be used as a cantilever or to attach strut in between walls
- Features 3 fixing points to support any length of WMO strut
- Easily customizable
- Use to attach custom size WMO strut in a narrow, confined space
- Material: pre-galvanized steel 1.0242

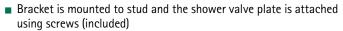


59490950

### Rapid Sliding Wall Bracket (RSWB) Shower Valve Bracket Kit







- Versatile use square nut and bolt for adjustable application and screws for fixed application
- Kit includes: Rapid Sliding Wall Brackets, Universal Shower Valve Plates, square nut, mounting hardware, installation instructions
- Individually bagged for convenience

ltem number	Each kit contains	Items per pkg.	
59490960	RSWB3, spans from 12" to 20", Universal Shower Valve Plate 1 (USVP1*), hardware	25	Universal Shower Valve Plate sh
59490961	RSWB4, spans from 16" to 26", Universal Shower Valve Plate 1 (USVP1*), hardware	25	

25



Universal Shower Valve Plate shown mounted in a fixed application.



Square nut allows Universal Shower Valve Plate to be adjusted horizontally once mounted.

# Rapid Sliding Wall Bracket (RSWB) Shower Valve Bracket Kit - Contractor Pack of 25

RSWB4, spans from 16" to 26", Universal

Shower Valve Plate 2 (USVP2\*\*), hardware



- Loose parts are organized and nested in one sturdy box
- Universal Shower Valve Brackets (USVP) are boxed and hardware is bagged separately within larger box for easy access
- Contractor Pack includes: Rapid Sliding Wall Brackets, Universal Shower Valve Plates, square nut, mounting hardware, installation instructions
- Versatile use square nut and bolt for adjustable application and screws for fixed application

ltem number	Each kit contains	Items per pkg.
59490962	RSWB3, spans from 12" to 20", Universal Shower Valve Plate 1 (USVP1*), hardware	25
59490963	RSWB4, spans from 16" to 26", Universal Shower Valve Plate 1 (USVP1*), hardware	25

 $<sup>^*</sup>$  USVP1: Universal Shower Valve Plate 1 is used with Delta, Moen $^{\circ}$ , Kohler $^{\circ}$  and American Standard shower valves.



<sup>\*\*</sup> USVP2: Universal Shower Valve Plate 2 is used with PROFLO® and Price Pfister® shower valves.

#### Silent Nut Assembly for Shower Head



ltem	Size	Items
number	(inches)	per pkg.
59490965	#8 x 3/4	25

- An adjustable connection option for mounting shower drop ear 90 to Rapid Sliding Wall Bracket (RSWB) and in-wall strut
- Noise and vibration reducing
- Features quick, quarter-turn technology
- Hardware included



# Silent Nut Assembly for Stub-Out Bracket and Universal Shower Valve Plate

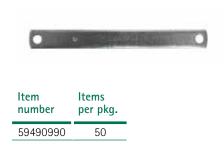


ltem	Size	ltems
number	(inches)	per pkg.
59490964	1/4 x 1/2	25

- An adjustable connection option for mounting Universal Shower Valve Plate to stub-out bracket
- Noise and vibration reducing
- Features quick, quarter-turn technology
- Hardware included



### Plate for Adjustable Shower Valve



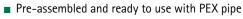
- Conveniently fits on the Universal Shower Valve Plate
- Allows for Universal Shower Valve Plate to be repositioned once valve is attached.
- Easy to install
- Square nut and 1/4" x 1/2" machine screw included
- Material: zinc plated steel 1.0332





### Rapid Sliding Wall Bracket (RSWB) Double PEX 1/2" Stub-Out Kit





- Easy to adjust and close using hands or drill
- Individually bagged for convenience



Item number	Each kit contains	Items per pkg.
59490971	RSWB3, spans from 12" to 20", 2 stub-out brackets, hardware	25
59490972	RSWB4, spans from 16" to 26", 2 stub-out brackets, hardware	25



# Rapid Sliding Wall Bracket (RSWB) Double CPVC or Copper Pipe 1/2" Stub-Out Kit



- Pre-assembled and ready to use with CPVC or copper pipe
- Easy to adjust and close using hands or drill
- Individually bagged for convenience

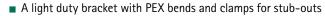


ltem number	Each kit contains	ltems per pkg.
59490981	RSWB3, spans from 12" to 20", 2 stub-out brackets, hardware	25
59490982	RSWB4, spans from 16" to 26", 2 stub-out brackets, hardware	25



# Light Angled Wall Bracket (LAWB) Double PEX 1/2" Stub-Out Kit





- Adjustable to accommodate different stud spacing
- Hole pattern for stub-outs is every 2" with adjustability of +or- 1/2"
- Pre-packaged with necessary hardware



ltem number	Each kit contains	ltems per pkg.
59496111	LAWB1, spans from 12" to 20", 2 stub-out brackets, hardware	25
59496112	LAWB2, spans from 18" to 26", 2 stub-out brackets, hardware	25



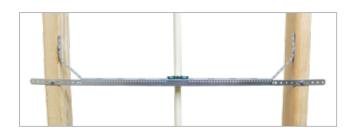
# Light Angled Wall Bracket (LAWB) Double CPVC or Copper Pipe 1/2" Stub-Out Kit





- A light duty bracket with rubber inserts and clamps for use with CPVC or copper pipe stub-outs
- Adjustable to accommodate different stud spacing
- Hole pattern for stub-outs is every 2" with adjustability of +or- 1/2"
- Pre-packaged with necessary hardware

Item number	Each kit contains	Items per pkg.
59496211	LAWB1, spans from 12" to 20", 2 stub-out brackets, hardware	25
59496212	LAWB2, spans from 18" to 26", 2 stub-out brackets, hardware	25



### Heavy Angled Wall Bracket (HAWB) Double PEX 1/2" Stub-Out Kit





- A heavy duty bracket with PEX bends and clamps for stub-outs
- Adjustable to accommodate different stud spacing
- Hole pattern for stub-outs is every 2" with adjustability of +or- 1/2"
- Pre-packaged with necessary hardware



ltem number	Each kit contains	ltems per pkg.
59495111	HAWB1, spans from 12" to 20", 2 stub-out brackets, hardware	25
59495112	HAWB2, spans from 18" to 26", 2 stub-out brackets, hardware	25



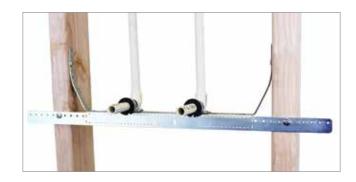
### Heavy Angled Wall Bracket (HAWB) Double CPVC or Copper Pipe 1/2" Stub-Out Kit





Item number	Each kit contains	ltems per pkg.
59495211	HAWB1, spans from 12" to 20", 2 stub-out brackets, hardware	25
59495212	HAWB2, spans from 18" to 26", 2 stub-out brackets, hardware	25

- A heavy duty bracket with rubber inserts and clamps for use with CPVC or copper pipe stub-outs
- Adjustable to accommodate different stud spacing
- Hole pattern for stub-outs is every 2" with adjustability of +or- 1/2"
- Pre-packaged with necessary hardware



# PEX Stub-Out Clamp for Rapid Sliding Wall Bracket (RSWB)



ltem	Size	ltems
number	(inches)	per pkg.
59497112	1/2	25



- Pre-assembled for quick installation
- Features a thumb screw and square nut for easy adjustability
- A secure way to support PEX stub-outs
- Easily mounts to the Multi-Purpose Telescoping Support (MPTS)



# CPVC or Copper Pipe Stub-Out Clamp for Rapid Sliding Wall Bracket (RSWB)



ltem number	Size (inches)	Items per pkg.
59497212	1/2	25
59497216	3/4	25

#### For use with CPVC or copper pipe

- Pre-assembled for quick installation
- Features a thumb screw for easy adjustability
- A secure way to support CPVC or copper pipe stub-outs
- Easily mounts to the Multi-Purpose Telescoping Support (MPTS)



### PEX Stub-Out Clamp for Angled Wall Bracket



ltem	Size	ltems
number	(inches)	per pkg.
59498112	1/2	25

- For use with PEX tubing
- Assembly is placed into pre-punched holes on Angled Wall Bracket or in-wall strut and secured using retained screw
- No loose hardware
- Adjustable every 2", +or- 1/2"
- Insert PEX bend to create a secure stub-out support
- Easily mounts to the Multi-Purpose Telescoping Support (MPTS)





### CPVC or Copper Pipe Stub-Out Clamp for Angled Wall Bracket



Item number	Size (inches)	ltems per pkg.
59498212	1/2	25
59498216	3/4	25

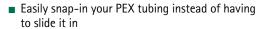
- For use with CPVC or copper pipe
- Pre-assembled for quick installation
- Features a thumb screw for easy adjustability
- A strong and secure way to support copper pipe stub-outs
- Easily mounts to the Multi-Purpose Telescoping Support (MPTS)

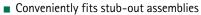


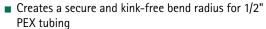
### PEX 90° Bend Support



ltem	Size	Items
number	(inches)	per pkg.
59490973	1/2	25







■ Versatile - suitable for many types of installations







### Flush Valve Support - 1"



ltem	Size	ltems
number	(inches)	per pkg.
59499982	1	10

- Supports the 1" line from toilet carrier to wall
- Rubber lined support reduces vibration and noise
- Adjustable both horizontally and vertically
- Pipe is secured using two captured screws
- Material: pre hot-dip galvanized steel 1.0226





#### Wall Plate for WM0 Strut





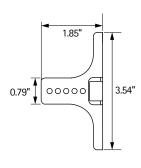


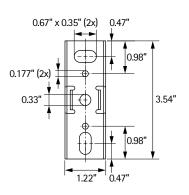
- Used to mount custom lengths of light strut or WMO onto wall, ceiling or studs
- Can easily support custom length light strut
- Can be mounted flat to horizontal or vertical surfaces
- Material: pre hot-dip galvanized steel 1.0226



PEX shown mounted to wood studs using Wall Plate and a starQuick® clamp

Item	For	Items
number	strut	per pkg.
66190110	WMo	25





#### Cantilever Arm for WMO Strut



ltem	Size	Items
number	(inches)	per pkg.
66090110	8	25

- Mounts directly to the wall or ceiling without all thread, allowing for a tight mounting
- A large variety of clamps can be attached to the cantilever with only a single screw or other accessories
- Conveniently pre-assembled for a quick installation
- Material: pre hot-dip galvanized steel 1.0226



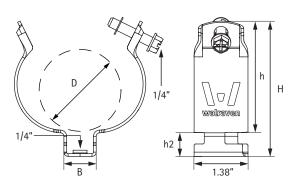
Copper pipe shown mounted to Cantilever Arm and secured with starQuick® clamp

### W1000 Strut Clamp





- For use with steel pipes and EMT conduit
- 3-way use, on strut, on threaded rod, directly on wall or ceiling
- One piece design means no loose parts
- Easier, faster, safer installs with one hand
- 3 way screw head: Phillips, flat and hex
- Unique design allows one clamp to fit multiple pipe sizes meaning less items to stock
- W Series Clamps are boxed for easy handling no more bags
- Surface is treated with high grade Zn-Mg based coating (withstands a salt spray corrosion test of at least 600 hours)
- Test Reports: Strength: 2017-TR15XXXX-VX
- Material: pre-galvanized steel 1.0242



	ltem number	D / IPS (inches)	D / EMT (inches)	D (mm)	B (inches)	H (inches)	h (inches)	h2 (inches)	Fa,z (lbs.)	Items per pkg.
ľ	2015021	1/2	1/2	18-21	0.57	2.05	1.42	0.63	200	50
	2015027	3/4	3/4	23-27	0.75	2.24	1.65	0.59	200	50
	2015033	1	1	29-33	0.75	2.52	1.89	0.63	220	25
	2015042	1-1/4	1-1/4	38-42	0.85	2.87	2.24	0.63	220	25
	2015048	1-1/2	1-1/2	44-48	0.85	3.07	2.48	0.59	400	25
	2015060	2	2	56-60	0.85	3.46	2.83	0.59	400	25

#### This versatile clamp can be installed 3 different ways:



Use with strut channel, like a standard strut clamp



Suspend from threaded rod, like a clevis/loop hanger



Mount directly on the wall, like a conduit clamp

### W2000 Cushion Clamp

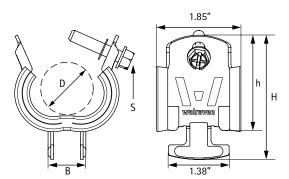




- For use with metal pipes
  - Patented one piece design means no loose parts
  - Easier, faster, safer installs with one hand
  - 3 way screw head: Phillips, flat and hex
  - Unique design allows one clamp to fit multiple pipe sizes meaning less items to stock

**NOISE REDUCING** 

- Noise and vibration reducing lining according to DIN EN ISO 3822-1
- EPDM rubber lining protects against galvanic corrosion
- W Series Clamps are boxed for easy handling no more bags
- Surface is treated with high grade Zn-Mg based coating (withstands a salt spray corrosion test of at least 600 hours)
- Test Reports: Strength, Fire and Smoke: UL 1565 Listed, Noise emission: 2016-SG-Bauakustik-1647-001-16
- Materials: pre-galvanized steel 1.0242, age resistant lining: EPDM rubber



ltem number	D / CTS (inches)	D / ACR (inches)	D / IPS (inches)	D (mm)	B (inches)	H (inches)	h (inches)	S (inches)	Fa,z (lbs.)	Items per pkg.
2025004	1/4	3/8	-	9-10	0.85	2.16	1.50	1/4	200	50
2025006	3/8	1/2	-	11-13	0.85	2.16	1.50	1/4	200	50
2025008	1/2	5/8	1/4	14-16	0.85	2.16	1.50	1/4	200	50
2025010	5/8	3/4	3/8	17-19	0.85	2.32	1.65	1/4	220	50
2025012	3/4	7/8	1/2	20-22	0.85	2.44	1.77	1/4	220	50
2025014	1	1-1/8	3/4	25-29	0.85	2.71	2.09	1/4	400	50
2025016	1-1/4	1-3/8	1	32-35	0.79	2.91	2.28	1/4	400	50
2025018	-	1-1/2	-	37-40	0.79	2.91	2.28	1/4	400	50
2025020	1-1/2	1-5/8	1-1/4	40-43	0.79	3.19	2.56	5/16	400	25
2025022	-	-	1-1/2	48-50	0.75	3.50	2.87	5/16	400	25
2025024	2	2-1/8	-	54-56	0.79	3.70	3.07	5/16	400	25
2025026	-	-	2	60-63	0.79	4.05	3.46	5/16	400	25



1. Place and turn into strut



2. Insert pipe



3. Tighten screw



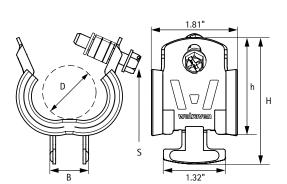
#### W5000 Cushion Clamp







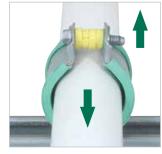
- For use with plastic pipes
- Spacers allow for pipe expansion and contraction
- Removable spacers make clamp suitable for either sliding or fixed points
- Patented one piece design means no loose parts
- Easier, faster, safer installs with one hand
- 3 way screw head: Phillips, flat and hex
- Unique design allows one clamp to fit multiple pipe sizes meaning less items to stock
- Noise and vibration reducing lining according to DIN EN ISO 3822-1
- Green EPDM rubber lining will prevent plasticiser migration
- W Series Clamps are boxed for easy handling no more bags
- Surface is treated with high grade Zn-Mg based coating (withstands a salt spray corrosion test of at least 600 hours)
- Test Reports: Strength, Fire and Smoke: UL 1565 Listed, Plasticizer migration behavior: 2016-TR151002-V5, Noise emission: 2016-SG-Bauakustik-1647-001-16
- Materials: pre-galvanized steel 1.0242, noise insulation lining: EPDM rubber



ltem number	D / CTS (inches)	D / IPS (inches)	D (mm)	B (inches)	H (inches)	h (inches)	S (inches)	Fa,z (lbs.)	Items per pkg.
2055007	3/8	-	12-13	0.85	2.16	1.50	1/4	200	50
2055008	-	1/4	14-15	0.85	2.16	1.50	1/4	200	50
2055009	1/2	-	15-16	0.85	2.32	1.65	1/4	200	50
2055010	-	3/8	17-18	0.85	2.32	1.65	1/4	220	50
2055012	5/8-3/4	1/2	19-22	0.85	2.44	1.77	1/4	220	50
2055013	-	-	24-25	0.85	2.71	2.09	1/4	400	50
2055014	1	3/4	26-29	0.85	2.71	2.09	1/4	400	50
2055016	1-1/4	1	32-35	0.79	2.91	2.28	1/4	400	50
2055020	1-1/2	1-1/4	40-43	0.79	3.19	2.56	5/16	400	25
2055022	-	1-1/2	47-49	0.75	3.50	2.87	5/16	400	25
2055023	-	-	50-52	0.79	3.70	3.07	5/16	400	25
2055024	2	-	53-54	0.79	3.70	3.07	5/16	400	25
2055025	-	-	56-58	0.75	4.05	3.46	5/16	400	25
2055026	-	2	60-63	0.75	4.05	3.46	5/16	400	25



Clamp has removable spacers.



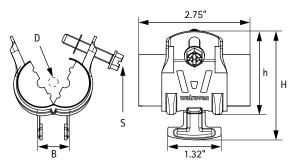
Use spacers for sliding points



Remove spacers for fixed points

### W6000 Insulated Clamp with Integrated Thermal Insulation Block





- For use with pipes that need to be insulated thermal isolated steel, copper, stainless steel or plastic pipe
- Available with 3/8", 1/2" and 3/4" integrated thermal insulation block
- To be used in combination with soft insulation material
- Recommended for applications with service temperatures ranging from -40°F to +220°F
- An outer PVC jacket with overlapping tab system serves as a vapor barrier
- Excellent thermal and mechanical properties
- Patented one piece design means no loose parts
- Easier, faster, safer installs with one hand
- 3 way screw head: Phillips, flat and hex
- W Series Clamps are boxed for easy handling no more bags
- Clamp surface is treated with high grade Zn-Mg base coating (withstands salt spray corrosion test of at least 600 hours)
- Materials: pre-galvanized steel 1.0242, insulation block: rigid polyurethane core with NBR/PVC-based elastometric insulation collars, wrapped by an outer PVC layer with overlapping tab system

Item number	D / CTS (inches)	D / ACR (inches)	D (mm)	B (inches)	H (inches)	h (inches)	S (inches)	Fa,z (lbs.)	Items per pkg.				
				3/8" insul	ation block								
2061006	-	1/4	-	0.85	2.44	1.77	1/4	36	25				
2061010	1/4	3/8	9-10	0.85	2.44	1.77	1/4	36	25				
2061013	3/8	1/2	11-13	0.85	2.71	2.09	1/4	68	25				
2061016	1/2	5/8	14-16	0.85	2.71	2.09	1/4	68	25				
2061019	5/8	3/4	17-19	0.79	2.91	2.28	1/4	91	25				
2061022	3/4	7/8	20-22	0.79	2.91	2.28	1/4	91	25				
2061029	1	1-1/8	25-29	0.79	3.19	2.56	1/4	159	25				
2061035	1-1/4	1-3/8	32-35	0.75	3.50	2.87	1/4	159	25				
2061041	1-1/2	1-5/8	40-43	0.79	3.70	3.07	5/16	227	25				
1/2" insulation block													
2062006	-	1/4	-	0.85	2.71	2.09	1/4	36	25				
2062010	1/4	3/8	9-10	0.85	2.71	2.09	1/4	36	25				
2062013	3/8	1/2	11-13	0.85	2.91	2.28	1/4	68	25				
2062016	1/2	5/8	14-16	0.85	2.91	2.28	1/4	68	25				
2062019	5/8	3/4	17-19	0.79	3.19	2.56	1/4	91	25				
2062022	3/4	7/8	20-22	0.79	3.19	2.56	1/4	91	25				
2062029	1	1-1/8	25-29	0.79	3.50	2.87	1/4	159	25				
2062035	1-1/4	1-3/8	32-35	0.79	3.70	3.07	1/4	159	25				
2062041	1-1/2	1-5/8	40-43	0.79	4.05	3.46	5/16	227	25				
				3/4" insul	ation block								
2063010	1/4	3/8	9-10	0.78	3.19	2.56	5/16	36	25				
2063013	3/8	1/2	11-13	0.78	3.19	2.56	5/16	68	25				
2063016	1/2	5/8	14-16	0.78	3.50	2.87	5/16	68	25				
2063019	5/8	3/4	17-19	0.78	3.70	3.07	5/16	91	25				
2063022	3/4	7/8	20-22	0.78	3.70	3.07	5/16	91	25				
2063029	1	1-1/8	25-29	0.78	4.05	3.45	5/16	159	25				
2063035	1-1/4	1-3/8	32-35	0.78	4.05	3.45	5/16	159	25				



1. Place and turn into strut



 ${\it 2. Insert pipe. Close and tighten}$ 



 ${\it 3. Place thermal insulation on pipe}$ 

Notes	

### BISMAT® Flash Clamp®



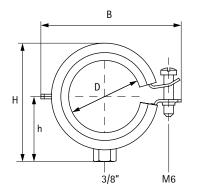


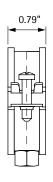






- For use with all metal pipes
- Suitable for fitting all types of metal pipes 3/8" up to and including 2"
- Single screw clamp installs with one hand
- Features our patented quick-locking system
- Due to the locking screw feature, no tools are required for installation
- Since the locking screw is manually closed, there is minimal rubber compression: this results in better absorption of noise and vibration.
- Noise and vibration reducing lining according to DIN 4109
- Plenum rated tested to ASTM E-84
- Tested for fire safety
- Materials: zinc plated steel 1.0037, age resistant lining: EPDM rubber



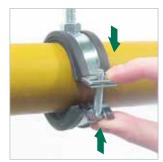


ltem number	D / CTS (inches)	D / IPS (inches)	D (mm)	B (inches)	H (inches)	h (inches)	Fa,z (lbs.)	ltems per pkg.
CR3379018	1/2	3/8	15-18	1.9	1.4	0.87	180	50
CR3379023	3/4	1/2	20-23	2.1	1.5	0.91	180	50
CR3379028	1	3/4	25-28	2.3	1.7	1.00	180	50
CR3379035	1-1/4	1	32-35	2.6	2.0	1.20	180	50
CR3379043	1-1/2	1-1/4	40-43	2.9	2.4	1.30	180	50
CR3379051	-	1-1/2	48-51	3.2	2.6	1.50	180	50
CR3379056	2	-	53-56	3.3	3.0	1.60	180	50
CR3379063	-	2	57-63	3.6	3.2	1.80	180	50

The maximum allowed load (Fa,z) is calculated using specific statistical methods related to the breaking load, taking into account a deflection of 0.060" (1.5mm) or 2% of the maximum nominal clamp diameter. The test results are certified and monitored by an independent test institute.







2. Close clamp/push screw



3. Done!

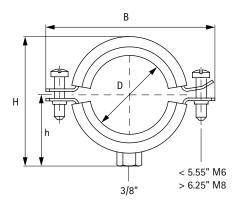
### BISMAT® 2000 Clamp

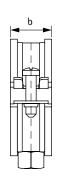


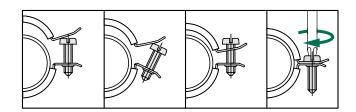




- For use with all metal pipes
- Double screw clamp features a swivel opening
- Features our patented quick-locking system
- Noise and vibration reducing lining according to DIN 4109
- Complies with Federal Specification WW-H-w171E and A-A-1192A Type 4 and Manufacturers Standardization Society MSS-SP-58 and SP-69 Type 12
- Contains no plastizers
- Plenum rated tested to ASTM E-84
- Materials: zinc plated steel 1.0332, age-resistant lining: EPDM rubber







ltem number	Replaces item #	D / CTS (inches)	D / IPS (inches)	D (mm)	B (inches)	b (inches)	H (inches)	h (inches)	Fa,z (lbs.)	Items per pkg.
CR3408070	CR3409070	2-1/2	-	64-70	4.5	0.90	3.9	0.87	210	50
CR3408080	CR3409080	3	2-1/2	73-80	5.0	0.90	4.3	2.4	210	50
CR3408091	CR3409091	-	3	83-91	5.4	0.98	4.8	2.6	210	25
				Feature	es dual nut					
CR3408105	CR3409105	4	-	100-105	6.0	0.98	5.3	2.9	210	25
CR3408114	CR3409114	-	4	108-114	6.3	0.98	5.7	3.1	210	25
CR3408125	-	-	-	122-125	6.78	1.22	6.58	3.78	-	25
CR3408141	-	-	5	133-141	7.36	1.22	7.13	4.05	-	25

The maximum allowed load (Fa,z) is calculated using specific statistical methods related to the breaking load, taking into account a deflection of 0.060" (1.5mm) or 2% of the maximum nominal clamp diameter. The test results are certified and monitored by an independent test institute.

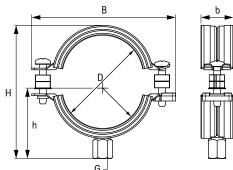
#### Bifix® 5000 G2 Clamp



CR3189019-CR3189079



- For use with plastic pipes
- Clamp sizes 1/4"-2-1/2" feature a 3/8" nut (CR3189019-CR3189079) which allows for installation on 3/8" threaded rod
- Clamp sizes 3"-6" feature a 3/8"-1/2" dual nut (CR3189105-CR3189169), which allows for installation on 3/8" or 1/2" threaded rod without the need of an adapter
- Removable spacers allow for expansion and contraction of pipe and makes clamp suitable for sliding or anchoring applications
- Plenum rated tested to ASTM E-84
- Surface protection: Product is part of the BIS UltraProtect® 1000 system - withstands a salt spray corrosion test for a minimum of 1,000 hours (maximum 5% red rust) according to ISO 9227
- Suitable for indoor and outdoor applications
- Age resistant lining
- Noise insulating lining according to DIN 4109
- Inner part of lining is smooth to improve sliding of pipe in clamp
- Material: steel 1.0332, lining: EPDM rubber



-	CR3189105-CR3189169			н	h	D G			
tem	Replaces these	D / CTS	D / IPS	D	В	b	G	Н	

Item number	Replaces these BISMAT® 5000	D / CTS (inches)	D / IPS (inches)	D (mm)	B (inches)	b (inches)	G (inches)	H (inches)	h (inches)	Fa,z (lbs.)	Items per pkg.
				Fea	tures 3/8"	nut					
CR3189019	CR3489018	1/2	1/4	14-17	2.49	0.96	3/8	1.69	0.92	180	50
CR3189023	CR3489023	3/4	1/2	19-23	2.67	0.96	3/8	1.89	0.99	180	50
CR3189028	CR3489028	1	3/4	26-29	2.91	0.96	3/8	2.12	1.11	180	50
CR3189039	CR3489035	1-1/4	1	32-35	3.31	0.96	3/8	2.33	1.31	180	50
CR3189045	CR3489043	1-1/2	1-1/4	40-42	3.57	0.96	3/8	2.61	1.44	180	50
CR3189052	CR3489053	-	1-1/2	47.9-49	3.82	0.96	3/8	2.89	1.56	180	50
CR3189058	CR3489056	2	-	53-54	4.09	0.96	3/8	3.07	1.70	180	50
CR3189064	CR3489058	-	2	60	4.31	0.96	3/8	3.33	1.80	180	50
CR3189070	CR3489067	2-1/2	-	66-67	4.64	0.97	3/8	3.59	1.96	300	50
CR3189079	CR3489075	3	2-1/2	73-74	4.92	0.97	3/8	3.82	2.11	300	50
				Features 3	3/8" - 1/2"	dual nut					
CR3189105	CR3489090	-	3	78.7-92	5.81	1.08	3/8-1/2	5.37	3.29	300	25
CR3189115	CR3489110	-	4	114-115	6.44	1.08	3/8-1/2	6.36	3.61	300	25
CR3189130	CR3489125	5	-	125-130	7.11	1.09	3/8-1/2	6.96	3.94	300	25
CR3189160	CR3489160	6	-	156-156	8.21	1.09	3/8-1/2	7.95	4.49	300	10
CR3189169*	-	-	6	168-169	8.85	1.16	3/8-1/2	8.65	4.71	300	10

<sup>\*6&</sup>quot; IPS made to order

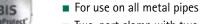
### BISMAT® Heavy Duty Clamp - HD1501



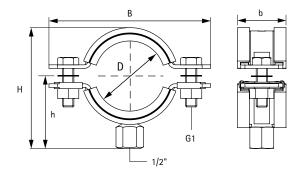




See chart on page 52 for information on adapters needed for installation (#6793964, VA6474321, VA6474221).



- Two-part clamp with two locking bolts
- Nut and screw stay captive due to the plastic nut holder and antiloss washer
- Surface protection: Product is part of the BIS UltraProtect® 1000 system - withstands a salt spray corrosion test for a minimum of 1,000 hours
  - (maximum 5% red rust) according to ISO 9227
- Suitable for indoor and outdoor applications
- Noise and vibration reducing lining according to DIN 4109
- Preferred adapter must be specified when placing order.
- Available with silicone lining for the installation of steam pipes (temperature resistant up to 390° F.)
- Materials: steel 1.0332, age resistant lining, EPDM rubber



ltem number	D / CTS (inches)	D / IPS (inches)	D (mm)	B (inches)	b (inches)	G1 size	H (inches)	h (inches)	Fa,z (lbs.)	Items per pkg.
33178029	1	3/4	25	3.58	1.18	M8	2.32	1.38	350	25
33178035	1-1/4	1	32	3.86	1.18	M8	2.56	1.50	350	25
33178045	1-1/2	1-1/4	40	4.29	1.18	M8	2.95	1.69	350	25
33178051	-	1-1/2	50	4.53	1.18	M8	3.39	2.01	350	25
33178059	2	-	-	4.80	1.18	M8	3.46	1.97	350	25
33178064	-	2	63	5.08	1.18	M8	3.70	2.09	350	25
33178078	-	2-1/2	74	5.67	1.18	M8	4.29	2.36	525	25
33178092	-	3	90	6.26	1.18	M8	4.84	2.68	525	25
33178116	-	4	110	7.17	1.18	M8	5.79	3.11	525	25
33178133	-	-	125	7.87	1.18	M8	6.46	3.39	525	15
33178169	-	6	160	10.00	1.50	M10	8.27	4.33	875	15
33178204	-	-	200	11.42	1.50	M10	9.65	5.04	875	15
33178227	-	8	-	12.68	1.50	M10	10.55	5.51	875	2
33178250	-	-	250	13.58	1.89	M12	11.50	6.02	875	2
33178275	-	10	-	14.45	1.89	M12	12.48	6.50	2,100	2
33178325	-	12	315	16.30	1.89	M12	14.33	7.40	2,100	2

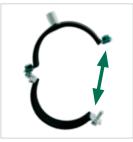
The maximum allowed load (Fa,z) is calculated using specific statistical methods related to the breaking load, taking into account a deflection of 0.060" (1.5mm) or 2% of the maximum nominal clamp diameter. The test results are certified and monitored by an independent test institute.



The nut and locking screw stay captive due to the plastic nut holder and anti-loss washer.



The HD clamp is a straight forward assembly, wellfinished with no sharp edaes or corners.



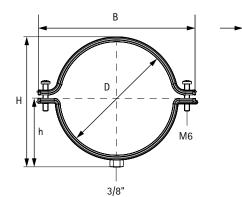
There is sufficient space between both clamp halves to place the pipe, meaning only one locking screw needs to be unscrewed.

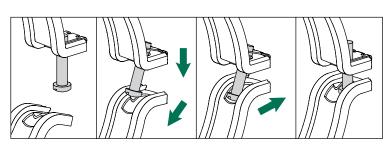
### BIS Aero® Clamp





- For use with spiral ducts and metal and plastic venting
- Designed for use with 3/8" threaded rod
- Features our patented quick-locking system
- Rubber lining is conjoined with the clamp (lining remains attached when sliding on spiral duct)
- Materials: pre-galvanized steel 1.0226, noise insulating lining: TPE rubber





Patented quick-locking system

ltem number	D (inches)	D (mm)	B (inches)	b (inches)	H (inches)	h (inches)	Fa,z (lbs.)	ltems per pkg.
CR4115060	-	60	4.90	1	3.10	1.70	157	25
CR4115080	3	80	5.28	1	3.31	2.13	157	25
CR4115100	-	100	6.10	1	4.53	2.52	157	25
CR4115110	4	110	6.22	1	5.16	2.76	157	25
CR4115125	5	125	7.05	1	5.47	2.99	157	20
CR4115150	-	150	8.07	1	6.45	3.46	162	20
CR4115160	6	160	8.46	1	6.89	3.66	162	20
CR4115200	8	200	10.04	1	8.46	4.49	162	20
CR4115250	10	250	12.05	1	10.43	5.43	162	20
CR4115300	12	300	14.02	1	12.68	6.50	162	20
CR4115315	-	315	14.61	1	13.07	6.77	162	20



Rubber lining is joined with steel



Trouble-free when sliding duct through clamp



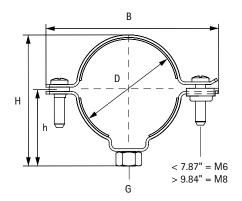
Features patented Quick-Locking system

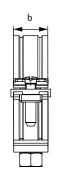
### BIS 4000 Plastic Pipe Clamp - Metric

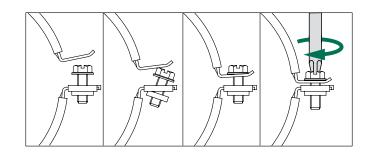




- For use with metric sized plastic pipes
- Allows for expansion or contraction of pipe
- Two-screw clamp
- Features our patented quick-locking system
- Clamp will not open during installation
- Clamp has removable spacer washers, making the clamp suitable for either sliding or anchoring
- Inside profile to protect pipes from damage
- Material: zinc plated steel 1.0332







ltem number	DM (mm)	D (mm)	B (inches)	b (inches)	G (inches)	H (inches)	h (mm)	Fa,z (lbs.)	ltems per pkg.
TS4443040	32	40	3.27	0.79	3/8	2.40	1.46	200	50
TS4443050	40	50	3.74	0.79	3/8	2.80	1.61	200	50
TS4443063	57	63	4.25	0.79	3/8	3.31	1.93	200	50
TS4443075	70	75	4.69	0.79	3/8	3.78	2.17	200	50
TS4443090	80	90	5.28	0.90	3/8	4.37	2.44	200	50
TS4443110	100	110	6.22	0.90	3/8	5.20	2.87	500	25
TS4443125	125	125	6.81	0.90	1/2	5.83	3.19	500	25
TS4443160	150	160	8.19	0.90	1/2	7.24	3.90	500	25
TS4443200	200	200	9.76	0.90	1/2	8.86	4.72	500	25



Features the patented quick-locking system: Will not open during installation



Featuring convenient removable spacer washers



 ${\it Inside profile to protect pipes from damage}$ 

### Quick Hanger Bolt - Male



ltem	Size	Items
number	(inches)	per pkg.
6353991	3/8 x 1-1/2	200

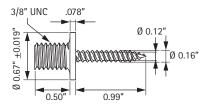
- Used to quickly attachment of 3/8" threaded rod clamps
- Quick and easy to install
- Packaged in easy close container

■ Packaged in easy close container

- Self-tapping
- Installs on metal studs, wood studs or Walraven bracket systems
- Material: steel, 1.5525



Self-tapping



### Quick Hanger Bolt - Female



ltem	Size	Items
number	(inches)	per pkg.
6353992	3/8 x 2	50





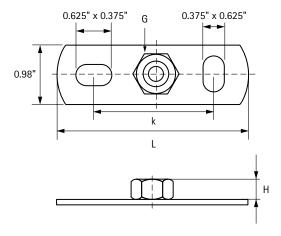
■ Installs on metal studs, wood studs or Walraven bracket systems

#### **BIS Wall Plate**



- Slots at 90° to each other to simplify installation
- Designed for mounting to walls and ceilings
- Features resistance welded connection nut
- Material: zinc plated steel

ltem	G	H	k	L	Items
number	(inches)	(inches)	(inches)	(inches)	per pkg.
MI 6703011	3/8	0.39	1.96	3 15	50

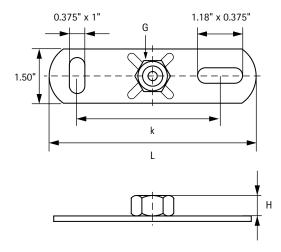


### BIS Wall Plate - Heavy



ltem	G	H	k	L	ltems
number	(inches)	(inches)	(inches)	(inches)	per pkg.
ML6713013	1/2	0.43	3.94	5.17	50

- $\blacksquare$  Slots at 90° to each other to simplify installation
- Designed for mounting to walls and ceilings
- Features CO2 welded connection nut
- Material: zinc plated steel



#### starQuick®

starQuick® products are made from UV-stabilized polyamid PA6. This state of the art materials offers a wide temperature range and has a high resistance to many chemicals. Halogen-free, corrosion-free and fully recyclable.

The starQuick® clamps guarantee a reliable and time-saving pipe installation. The starQuick® clamp is self-locking, meaning the clamp closes when the pipe is pushed into it. The starQuick® clamps are suitable for plumbing, heating and electrical installations.

The starQuick® range offers all kinds of smart solutions for mounting two or more parallel running pipes, pipe work to metal rail and pipe work to threaded rods.

















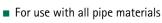






starQuick®

### starQuick® Clamp



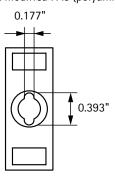


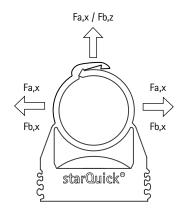


- One-part clamp closes by applying pressure to the pipe
- For both indoor and outdoor use
- Due to a patented profile, it is possible to tack several clamps to each other (up to 1-1/4" CP)
- Resistant to UV, aging, oil and gasoline
- Corrosion-free, recyclable, halogen-free
- Temperature resistance: from approximately -104°F to approximately 194°F constant, approximately 266°F peak (Note: temperature must be above 15°F during installation process)
- Plenum rated tested to ASTM E-84
- Material: modified PA6 (polyamide)



h2





ltem number	Type (size)	D / CTS (inches)	D / IPS (inches)	D (mm)	B (inches)	b (inches)	H (inches)	h (inches)	h2 (inches)	Fa,z (lbs.)	Fb,z (lbs.)	Items per pkg.
0854010	SQ-10	1/4	-	10-12	1.1	0.67	1.3	0.91	0.413	38	112	100
0854012	SQ-12	3/8	1/4	12-14	1.1	0.67	1.3	0.91	0.413	40	123	100
0854015	SQ-15	1/2	-	14-16	1.1	0.67	1.4	0.94	0.413	45	134	100
0854018	SQ-17	5/8	3/8	16-20	1.1	0.67	1.6	1.00	0.413	51	157	100
0854022	SQ-20	3/4	1/2	20-23	1.1	0.67	1.7	1.10	0.413	60	179	50
0854028	SQ-25	-	3/4	24-28	1.6	0.67	2.0	1.20	0.413	63	191	50
0854031	SQ-28	1	-	28-32	1.6	0.67	2.1	1.30	0.413	67	202	50
0854035	SQ-32	1-1/4	1	32-35	1.7	0.67	2.2	1.30	0.413	74	224	50
0854038	SQ-36	-	-	35-40	1.9	0.67	2.6	1.60	0.472	83	247	25
0854042	SQ-40	1-1/2	1-1/4	40-44	2.0	0.67	2.8	1.70	0.472	90	269	25
0854050	SQ-47	-	-	44-50	2.2	0.67	3.0	1.80	0.472	96	292	25
0854054	SQ-51	2	1-1/2	48-55	2.5	0.67	3.2	1.90	0.472	105	314	15
0854063	SQ-59	-	2	59-65	2.9	0.78	3.7	2.20	0.472	112	337	15

Fa, x = Fa, z / Fb, x = Fb, z

The starQuick® System contains clamps for mounting all types of pipe, from 1/4" through 4". The starQuick® clamps are suitable for plumbing, heating and electrical installations.

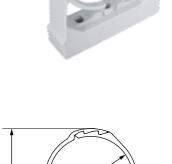






#### starQuick® Clamp





starQuick®

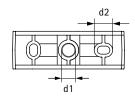
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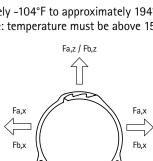
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h2

- For use with all pipe materials
- One-part clamp
- Clamp closes by applying pressure to the pipe
- For both indoor and outdoor use
- Clamp can be mounted to wall, floor or ceiling by use of two bolts (outer slots) or by using a standard Walraven slide nut (middle hole) and screwing the clamp on a threaded rod
- Due to a patented profile, it is possible to tack several clamps to each other (up to 1-1/4" CP)
- Resistant to UV, aging, oil and gasoline
- Corrosion-free, recyclable, halogen-free
- Temperature resistance: from approximately -104°F to approximately 194°F constant, approximately 266°F peak (Note: temperature must be above 15°F during installation process)
- Plenum rated tested to ASTM E-84
- Material: modified PA6 (polyamide)





starQuick

ltem number	D/IPS (inches)	D (mm)	B (inches)	H (inches)	h (inches)	h2 (inches)	d1 (inches)	d2 (inches)	Fa,z (lbs.)	Items per pkg.
08541075	2-1/2	71-76	4.13	4.50	2.88	1.10	0.413	0.511 x 0.326	200	50
08541090	3	88-93	4.50	5.25	3.25	1.25	0.511	0.590 x 0.413	200	40
08541110	4	109-115	5.75	6.50	3.75	1.38	0.511	0.590 x 0.413	200	25

For item # 08541075: use 3/8" bolts (for outer slots) or 1/2" Walraven slide nut to connect to 1/2" threaded rods (for middle hole). For item # 08541090: use 3/8" bolts (for outer slots) or 1/2" Walraven slide nut to connect to 1/2" threaded rods (for middle hole). For item # 08541110: use 1/2" bolts (for outer slots) or 1/2" Walraven slide nut to connect to 1/2" threaded rods (for middle hole). NOTE: This clamp does not work with starQuick® accessories.

### starQuick® Clamp - V0 fire-rated



ltem number	D / CTS (inches)	D / IPS (inches)	D (mm)	ltems per pkg.
0854015S	1/2	-	14-16	100
0854022S	3/4	1/2	20-23	50

- For use with all pipe materials
- One-part clamp closes by applying pressure to the pipe
- For both indoor and outdoor use
- Due to a patented profile, it is possible to tack several clamps to each other (up to 1-1/4" CP)
- Resistant to UV, aging, oil and gasoline
- Corrosion-free, recyclable, halogen-free
- Temperature resistance: from approximately -104°F to approximately 194°F constant, approximately 266°F peak (Note: temperature must be above 15°F during installation process)
- Plenum rated tested to ASTM E-84
- Material: PA polyamide (nylon)

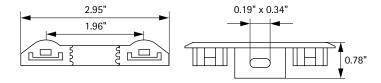


#### starQuick® Duo Bracket



ltem	Fb,z	Items
number	(lbs.)	per pkg.
0854000	134	100

- For use with all pipe materials
- Used to easily mount two pipes using starQuick® clamps
- Suitable for starQuick® Clamps up to 3/4" CTS
- Allows for 3/16" lateral adjustment
- The distance between the pipe and the wall is equal to that of a single clip
- Resistant to UV, aging, oil and gasoline
- Corrosion-free, recyclable, halogen-free
- Temperature resistance: from approximately -104°F to approximately 194°F constant, approximately 266°F peak
- Material: modified PA6 (polyamide)

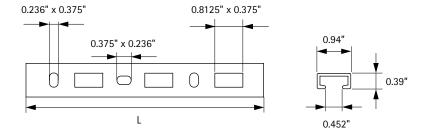


### starQuick® Fixing Rail



ltem number	L (inches)	ltems per pkg.
0854316	6	50
0854325	39	25

- For anchoring of multiple pipes with starQuick® clamps without nuts
- The starQuick® clamp is attached to the rail using the starQuick® Rail Adapter (item #0854313)
- Material: PVC (polyvinylchloride)



#### Installing two or more pipes

The starQuick System offers various time and cost-saving solutions for installing two or more parallel pipes. It is possible to tack more than one starQuick® Clamp together. Additional solutions include the starQuick Fixing Rail and the starQuick Duo Bracket; the ultimate solution for paired pipe runs such as hot and cold or supply and return runs.





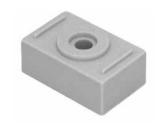


Fixing Rail



Duo Bracket

#### starQuick® Distance Block



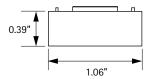
ltem number	ltems per pkg.
паттост	per pag.
0854510	25

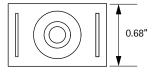
### starQuick® Fixing Nut



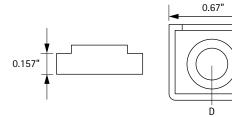
ltem number	D (inches)	ltems per pkg.
SQ0854006	1/4	100
0854308	M8	100

- Used for mounting a clamp when there is distance to the structure
- Used for screwing a clip to a distance block, using a screw of at least 2.165"
- Suitable for use with starQuick® clamp sizes SQ-10 to SQ-36
- starQuick® clamp can easily be stacked onto a distance block
- Can be clicked together for a larger distances from wall/surface
- Resistant to UV, ozone and chemicals
- Corrosion-free, recyclable, halogen-free
- Temperature resistance: from approximately -104°F to approximately 194°F constant, approximately 266°F peak
- Material: PA/Nylon 6 (polyamide/nylon 6)





- Used to make a threaded connection in a starQuick® clamp
- Entirely integrated in clamp (does not protrude)
- Temperature resistance: from approximately -95°F to approx. 230°F (constant); to approximately 257°F short term
- Material: PC (polycarbonate)

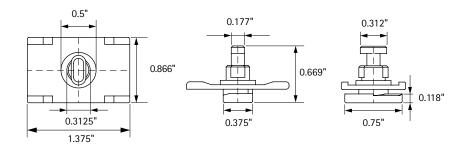


#### starQuick® Distance Block



ltem	ltems
number	per pkg.
0854313	20

- Used to easily mount starQuick® clamps up to 1-1/4" CTS in size
- Used to attach a starQuick® clamp (without nut) onto a starQuick® Fixing Rail
- Resistant to UV, aging, oil and gasoline
- Corrosion-free, recyclable, halogen-free
- Temperature resistance: from approximately -104°F to approximately 194°F constant, approximately 266°F peak
- Material: modified PA6 (polyamide)

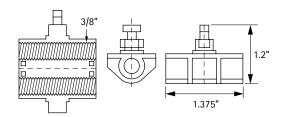


### starQuick® Threaded Rod Adapter



ltem	Items
number	per pkg.
0854359	25

- For mounting starQuick® clamp to a 3/8" threaded rod
- To add pipework quickly and simply to an existing installation
- Suitable for use with starQuick® clamp sizes SQ-10 to SQ-51
- Resistant to UV, aging, oil and gasoline
- Corrosion-free, recyclable, halogen free
- Temperature resistance: from approximately -104°F to approximately 194°F constant, approximately 266°F peak
- Material: PA (polyamide)

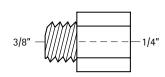


### starQuick® Threaded Rod Adapter with Nut, SS



ltem	Items
number	per pkg.
0854001	50

- Used to easily mount starQuick® clamps to 3/8" threaded rod
- Suitable for use with starQuick® clamp sizes SQ-10 to SQ-59
- Material: stainless steel





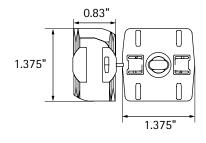
Close adapter around rod and mount

#### starQuick® Universal Rail Adapter

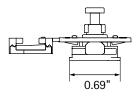


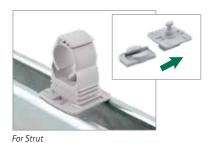
- Used to easily mount starQuick® clamps to RapidRail®, Strut Rail or Rapid Sliding Wall Brackets (RSWB)
- Used to add pipework quickly and simply to an existing installation
- Suitable for use with starQuick® clamp sizes SQ-10 to SQ-51
- Suitable for WM15 RapidRail® and 1-5/8" Strut
- Resistant to UV, aging, oil and gasoline
- Temperature resistance: from approximately -104°F to approximately 194°F constant, approximately 266°F peak
- Material: modified PA6 (polyamide)

ltem number	For strut	Items per pkg.
0854332	WM15+ Strut	50











For RapidRail® and Rapid Sliding Wall Bracket (RSWB)

### starQuick® Universal Rail Adapter - V0 fire-rated





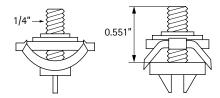
- Used to easily mount starQuick® VO fire-rated clamps to RapidRail®, Strut Rail or Rapid Sliding Wall Brackets (RSWB)
- Used to add pipework quickly and simply to an existing installation
- Suitable for use with starQuick® clamp sizes SQ-10 to SQ-51
- Suitable for WM15 RapidRail® and 1-5/8" Strut
- Resistant to UV, aging, oil and gasoline
- Temperature resistance: from approximately -104°F to approximately 194°F constant, approximately 266°F peak
- Material: PA polyamide (nylon)

### starQuick® Hammerfix - 1/4"



ltem number	For rail	ltems per pkg.
SQ0854337	WM15	50

- Assembly to mount clamps to RapidRail®
- Plenum rated tested to ASTM E-84
- starQuick® 1/4" Fixing Nut (item #SQ0854006) is included
- Material: metal parts made of zinc plated steel 1.0332, spring(s) made of POM (polyoxymethylene)



### starQuick® Silent Nut Assembly



ltem	Size	Items
number	(inches)	per pkg.
0854999	#8 x 1	25

- A sound reducing, adjustable connection option for shower drop ear
   90 to Rapid Sliding Wall Bracket (RSWB), RapidRail® and in-wall strut
- Creates a noise and vibration reducing connection
- Features quick-turn technology
- Hardware conveniently included to mount starQuick® clamps

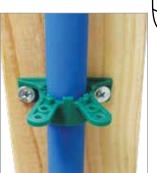
### Rabbit Clamp



ltem number	Size (inches)	D / CTS (inches)	D / IPS (inches)	ltems per pkg.
0856016	1/2	1/2	-	100
0856022	3/4	3/4	1/2	100

- One piece multi-purpose clamp that can be secured at the base or top using two screws to mount 1/2" pipe
- Ideal for copper, PEX and CPVC tubing
- Mounts directly to brackets, studs and
- Features multi-use mounting holes
- Materials: Polypropylene, PA6 (polyamide)





#### Rabbit Clamp with Plastic Insert



- Multi-purpose clamp that can be secured at the base or top using two screws to mount multiple pipe sizes
- Ideal for copper, PEX and CPVC tubing
- Insert is either retained or removed based upon pipe size
- Can be used with 2 different sizes of pipe, due to insert
- Mounts directly to brackets, studs and walls
- Features multi-use mounting holes
- Materials: Polypropylene, PA6 (polyamide)





#### D / CTS D / IPS Item Size Items (inches) (inches) number (inches) per pkg. 0856035 1-1/4 1 to 1-1/4 50 0856054 1-1/2 to 2 25

### Rabbit Clamp with Rubber Insert



ltem number	Size (inches)	D / CTS (inches)	D / IPS (inches)	ltems per pkg.
0856016N	1/2	-	-	25
0856022N	3/4	-	-	25
0856028N	1	-	_	25

- Multi-purpose clamp that can be secured at the base or top using two screws to mount multiple pipe sizes
- Ideal for copper pipe, PEX and CPVC tubing
- Rubber insert helps reduce noise and
- Mounts directly to brackets, studs and
- Features multi-use mounting holes
- Materials: Polypropylene, PA6 (polyamide)







### Rabbit Clamp - VO fire-rated



ltem number	Size (inches)	D / CTS (inches)	D / IPS (inches)	Items per pkg.
0856016S	1/2	1/2	-	25
0856022S	3/4	3/4	1/2	25

- One piece multi-purpose, VO fire-rated clamp that can be secured at the base or top using two screws to mount 1/2" pipe
- Ideal for copper, PEX and CPVC tubing
- Mounts directly to brackets, studs and walls
- Quick-closing
- Features multi-use mounting holes
- V0 fire-rated
- Material: PA polyamide (nylon)

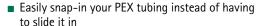


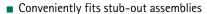


### PEX 90° Bend Support



ltem numb	er	Size (inches)	Items per pkg.
5949	0973	1/2	25







- Versatile suitable for many types of installations
- Materials: Polypropylene



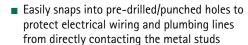




#### Grommet



ltem	D / CTS	ltems
number	(inches)	per pkg.
08549922	1/2-3/4	100



- Fits PEX 90° bend support (item #59490973)
- Accommodates 1/2" and 3/4" PEX, CPVC and copper pipe
- Conveniently fits in both round and rectangular stud holes
- Eliminates/prevents pipe rattle
- One-piece design
- Materials: Polypropylene, PA6 (polyamide)

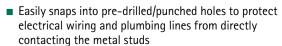




### Grommet - VO fire-rated



ltem	D / CTS	ltems
number	(inches)	per pkg.
085499225	1/2-3/4	100

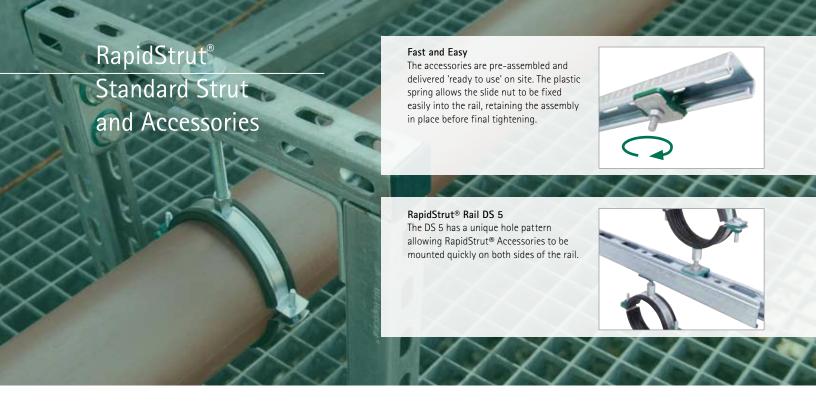




- Accommodates 1/2" and 2/4" PEX, CPVC and copper pipe
- Conveniently fits in both round and rectangular stud holes
- Eliminates/prevents pipe rattle
- One-piece design
- V0 fire-rated
- Material: PA polyamide (nylon)







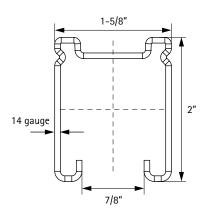


- Used for quick and easy installation
- Unique hole pattern, allowing RapidStrut® accessories to be mounted on both sides of the rail
- Corrosion protection remains intact even after cutting
- Strength equal to US strut 1-5/8" x 1-5/8" x 12 gauge
- Designed with continuous perforation
- Distance between rail end and first hole is always equal
- Continuous graduated centimeter scale on one side
- Surface protection: Product is part of the BIS UltraProtect® 1000 system

   withstands a salt spray corrosion test for a minimum of 1,000 hours
   (maximum 5% red rust) according to ISO 9227
- Suitable for indoor and outdoor applications
- Material: pre-galvanized steel 1.0242

ltem	Strut size	Length	ltems
number	(inches)		per bundle
65058352	1-5/8 x 2 x 14 ga.	9' 10"	10

For more information about the maximum allowed load (Fa,z) please refer to the loading tables or our on-line data sheet, Technical Details RapidStrut®



# RapidStrut® Base Plate



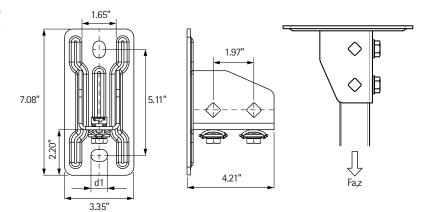




Flexible	e base	plate	for	strut	rails

- Suitable for all Strut rail up to 82mm height
- Open side of rails 1.61" x 1.61" can be turned to all sides
- At high loads we advise to install with throughbolts
- Time-saving with pre-assembled fasteners
- Surface protection: Product is part of the BIS UltraProtect® 1000 system
   withstands a salt spray corrosion test for a minimum of 1,000 hours
   (maximum 5% red rust) according to ISO 9227
- Suitable for indoor and outdoor applications
- Tested for fire safety
- Material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene)

Item	For	d1	Fa,z	ltems
number	rail	(inches)	(lbs.)	per pkg.
665885400	Strut	0.78 x 0.55	817	10



### RapidStrut® Slide Nut

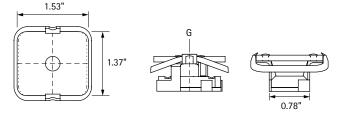






- Replaces tee-nut and washer with single piece
- Can be used with 1-5/8" x 1-5/8", 1-5/8" x 13/16" and DS5: 1-5/8" x 2" strut
- Fits in both deep and shallow strut
- Slide nut with washer and RapidStrut® spring
- Ready-to-use, pre-assembled for quick installation
- Retains assembly in place before final tightening
- Tested for fire safety
- Conforms to Metal Framing Manufacturers Association standards
- Surface protection: Product is part of the BIS UltraProtect® 1000 system withstands a salt spray corrosion test for a minimum of 1,000 hours (maximum 5% red rust) according to ISO 9227
- Suitable for indoor and outdoor applications
- Material: metal parts made of steel 1.0332, spring(s) made of POM (polyoxymethylene)

ltem number	For rail	G (inches)	Fa,x (lbs.)	ltems per pkg.
SR66518109	Strut	3/8	1,348	20
SR66518113	Strut	1/2	2,248	20



# RapidStrut® Hammerfix

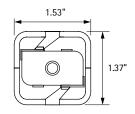


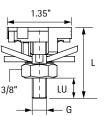


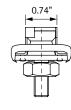


- Ready-to-use, pre-assembled for a quick installation
- Can be used with 1-5/8" x 1-5/8", 1-5/8" x 13/16" and DS5: 1-5/8" x 2" strut
- Fits in both deep and shallow strut
- Slide nut with threaded rod, washer and RapidStrut® spring
- Retains assembly in place before final tightening
- Replaces tee-nut, washer and threaded rod with one piece assembly
- No need to measure and cut rod!
- Tested for fire safety
- Conforms to Metal Framing Manufacturers Association standards
- Surface protection: Product is part of the BIS UltraProtect® 1000 system withstands a salt spray corrosion test for a minimum of 1,000 hours (maximum 5% red rust) according to ISO 9227
- Suitable for indoor and outdoor applications
- Material: metal parts made of steel 1.0332, spring(s) made of POM (polyoxymethylene)

ltem number	For rail	G (inches)	(inches)	LU (inches)	Fa,x (lbs.)	Items per pkg.
SR6528005	Strut	3/8	1-1/2	1/2	1,686	15
SR6528007	Strut	3/8	3	2	1,686	10
SR6528011	Strut	3/8	4	3	1,686	5
SR6528016	Strut	3/8	6	5	1,686	5





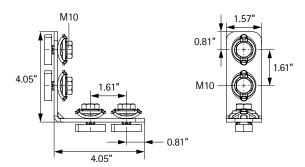


### RapidStrut® Connector - 90°



ltem number	Model	For rail	ltems per pkg.
665885205	Long/Long	Strut	20

- Connector with pre-assembled RapidStrut® slide nut(s)
- Used for RapidStrut rail fabrication
- Ready-to-use, pre-assembled for quick installation
- Retains assembly in place before final tightening
- Surface protection: Product is part of the BIS UltraProtect® 1000 system
   withstands a salt spray corrosion test for a minimum of 1,000 hours
   (maximum 5% red rust) according to ISO 9227
- Suitable for indoor and outdoor applications
- "Direct Twist" technology for easy and secure installation
- Visual guide to check position of slide nut
- Optimized for easy installation with electrical tools
- Material: metal parts made of steel 1.0332, spring(s) made of POM (polyoxymethylene)



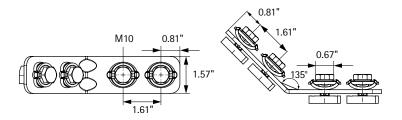
### RapidStrut® Connector - 135°



Item Number	Model	For rail	ltems per pkg.
665885235	Long/Long	Strut	20

- Connector with pre-assembled RapidStrut® slide nut(s)
- Used for RapidStrut rail fabrication
- Ready-to-use, pre-assembled for quick installation
- Retains assembly in place before final tightening
- Surface protection: Product is part of the BIS UltraProtect® 1000 system

   withstands a salt spray corrosion test for a minimum of 1,000 hours
   (maximum 5% red rust) according to ISO 9227
- Suitable for indoor and outdoor applications
- "Direct Twist" technology for easy and secure installation
- Visual guide to check position of slide nut
- Optimized for easy installation with electrical tools
- Material: metal parts made of steel 1.0332, spring(s) made of POM (polyoxymethylene)



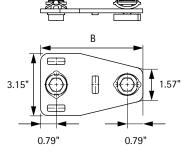
# RapidStrut® T and X Connector



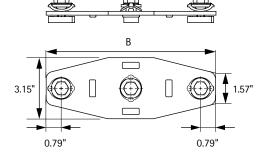
- Connector with pre-assembled RapidStrut® Slide nut(s)
- Used to make fabrication with Strut Rail
- Ready-to-use, pre-assembled for quick installation
- Retains assembly in place before final tightening
- Surface protection: Product is part of the BIS UltraProtect® 1000 system

   withstands a salt spray corrosion test for a minimum of 1,000 hours
   (maximum 5% red rust) according to ISO 9227
- Suitable for indoor and outdoor applications
- "Direct Twist" technology for easy and secure installation
- Visual guide to check position of slide nut
- Optimized for easy installation with electrical tools
- Material: metal parts made of steel 1.0332, spring(s) made of POM (polyoxymethylene)

	ltem number	Туре	Bolt size (inches)	B (inches)	For rail	Items per pkg.	
1.	665885213	T	3/8	5.16	Strut	20	
2.	665885223	Χ	3/8	8.74	Strut	15	

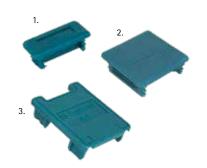








# Strut End Caps



	ltem number	For strut (inches)	ltems per pkg.
1.	6566021	1-5/8 x 13/16	50
2.	6566041	1-5/8 x 1-5/8	50
3.	6566051	1-5/8 x 2	40

- Install for a clean finish of rail end, covers all burrs
- Fits US strut sizes
- Easily inserted
- Secure fit will not fall out
- Material: PE (polyethylene)



Use end caps for a professional finish on any installation



#### Insert, lock, done

The accessories are pre-assembled and delivered 'ready to use' to site. The plastic spring allows the slide nut to be fixed into the rail easily.



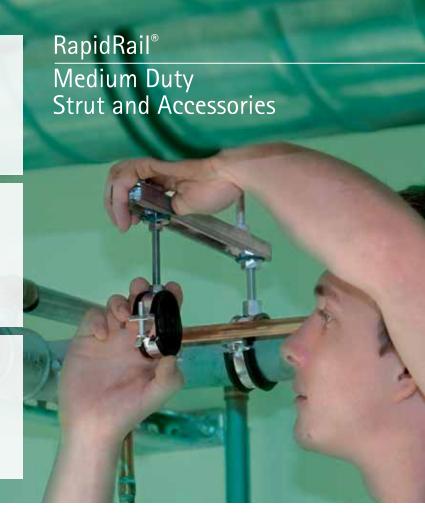
#### Extensive system

The RapidRail® System offers a choice of rail profiles and cantilever arms plus an extensive range of accessories for pipe fitting and rail construction.



#### Easy fitting

RapidRail® WM15 has a unique hole pattern allowing the accessories to be used on both sides of the rail. The distance between the rail end and the first hole is always even.



# Strut and Accessories - Medium Strut

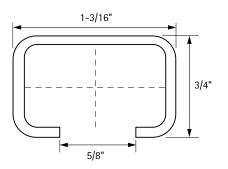
# RapidRail®



- C-profile
- For quick and easy installation
- Features continuous perforation
- The distance between rail end and first hole is always equal
- Continuous graduated centimeter scale on one side
- Unique perforation on rail WM15 allows for hanging on both sides
- Yield stress 34,809 pounds/square inch
- Material: pre-galvanized steel 1.0242

ltem number	Туре	L (inches)	# of items per bundle	# of items per pallet
65059502	WM15	10	20	-
65059505	WM15	20	10	-
65059510	WM15	39	10	-
6505015	WM15	78	10	240

For information about the maximum allowed load (Fa,z) please refer to the loading tables.



# RapidRail® Cantilever Arm

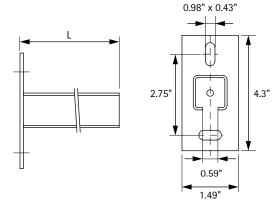


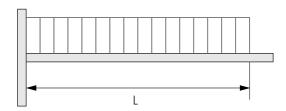


- Used for mounting to wall or ceiling
- Wall plate with CO2 welded C-profile
- Slots at 90° to each other to simplify installation
- Continuous graduated centimeter scale on one side
- Unique perforation on rail WM15 allows for hanging on both sides
- Surface protection: Product is part of the BIS UltraProtect® 1000 system withstands a salt spray corrosion test for a minimum of 1,000 hours (maximum 5% red rust) according to ISO 9227
- Suitable for indoor and outdoor applications
- Tested for fire safety
- Material: steel 1.0038

ltem number	For strut	L (inches)	ltems per pkg.
6603715	WM15	6	20
6603725	WM15	10	20

For more information about the maximum allowed load (Fa,z) refer to the loading tables.



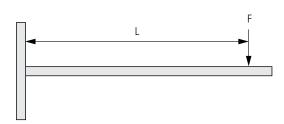


# RapidRail® Cantilever Arms Uniformly Distributed Load



Length (L) (inches)	WM15 (1.18" x 0.78")
10	133 lbs.
12	92 lbs.
20	33 lbs.

The stated values are only valid for the cantilever arms. The maximum safe load of all other construction parts have to be verified.



# RapidRail® Cantilever Arms One Suspension Point



Length (L) (inches)	WM15 (1.18" x 0.78")
10	50 lbs.
12	34 lbs.
20	12 lbs.

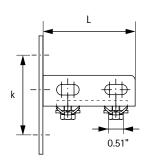
The stated values are only valid for the cantilever arms. The maximum safe load of all other construction parts have to be verified.

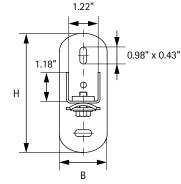
# RapidRail® Wall Plate

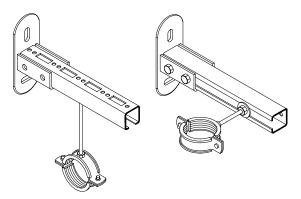


Item	For	Items
number	strut	per pkg.
6613200	WM15	25

- Can be mounted to floor or wall
- U-profile CO2 welded on wall plate
- Create a custom cantilever arm by cutting the rail to size and placing into wall plate
- Rail can be fixed with slot downwards or sideways
- Slots at 90° to each other to simplify fixing
- Pre-assembled with RapidRail® Slide Nut(s) for quick installation
- Retains assembly in place before final tightening
- Materials: metal parts made of zinc plated steel 1.0332, spring(s) made of POM (polyoxymethylene)





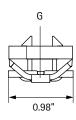


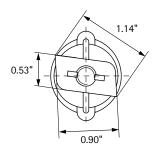
### RapidRail® Slide Nut



- Used for attaching to RapidRail®
- Replaces tee-nut and washer with a single piece
- Slide nut with washer and RapidRail® spring
- Ready-to-use, pre-assembled for quick installation
- Retains assembly in place before final tightening
- Plenum rated tested to ASTM E-84
- Conforms to Metal Framing Manufacturers Association standards
- Material: metal parts made of zinc plated steel 1.0332, spring(s) made of POM (polyoxymethylene)

ltem number	For strut	G (inches)	Fa,z (lbs.)	Fa,x (lbs.)	Items per pkg.	
RR6513109	WM15	3/8	625	135	50	



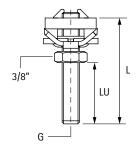


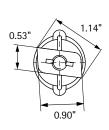
# RapidRail® Hammerfix



- Used for attaching to RapidRail®
- No need to measure and cut rod
- Slide nut with threaded rod, washer and RapidRail® spring
- Ready-to-use, pre-assembled for quick installation
- Retains assembly in place before final tightening
- Replaces tee-nut, washer and threaded rod with one piece assembly
- Plenum rated tested to ASTM E-84
- Conforms to Metal Framing Manufacturers Association standards
- Material: metal parts made of zinc plated steel 1.0332, spring(s) made of POM (polyoxymethylene)

Item number	For strut	G (inches)	L (inches)	LU (inches)	Items per pkg.
RR6523902	WM15	3/8	1-1/2	1	25
RR6523908	WM15	3/8	3	2-1/2	25
RR6523910	WM15	3/8	4	3-1/2	25
RR6523916	WM15	3/8	6	5-1/2	25



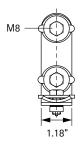


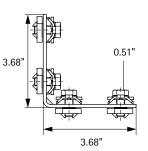
# RapidRail® Connector - 90°



Item	For	Fa,z	Fa,x	Items
number	strut	(lbs.)	(lbs.)	per pkg.
6584001	WM15	351	250	25

- Used to make rail fabrications
- Connector with pre-assembled RapidRail® slide nut
- Ready-to-use, pre-assembled for quick installation
- Retains assembly in place before final tightening
- Conforms to Metal Framing Manufacturers Association standards
- Material: metal parts made of zinc plated steel 1.0332, spring(s) made of POM (polyoxymethylene), green



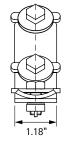


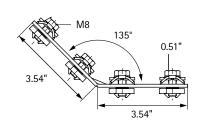
# RapidRail® Connector - 135°



ltem	For strut	Fa,z	Fa,x	Items
number		(lbs.)	(lbs.)	per pkg.
6584051	WM15	350	250	25

- Used to make rail fabrications
- Connector with pre-assembled RapidRail® slide nut
- With pre-assembled RapidRail® sliding nut(s) for quick installation
- Retains assembly in place before final tightening
- Conforms to Metal Framing Manufacturers Association Standards
- Material: metal parts made of zinc plated steel 1.0332, spring(s) made of POM (polyoxymethylene), green





# RapidRail® T and X Connector

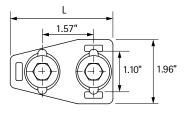


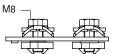
- Used to make rail fabrications
- Connector with pre-assembled RapidRail® slide nut
- Ready-to-use, pre-assembled for quick installation
- Retains assembly in place before final tightening
- Conforms to Metal Framing Manufacturers Association standards
- Material: metal parts made of zinc plated steel 1.0332, spring(s) made of POM (polyoxymethylene), green

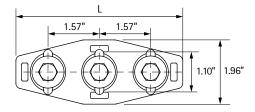
	ltem number	Type (style)	For strut	L (inches)	Fa,x (lbs.)	Items per pkg.
1.	6584090	T	WM15	3.14	77	25
2.	6584091	Χ	WM15	5.11	77	25

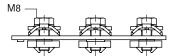


T connector in use with RapidRail®











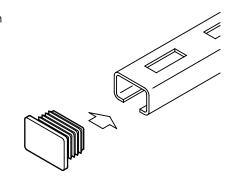
X connector in use with RapidRail®

# RapidRail® End Caps



ltem number		
6566000	WM15 (1.18 x 0.78)	50

- Use for clean finishing of rail end, covers all burrs
- Easily to insert
- Secure fit will not fall out
- Material: PE (polyethylene), green



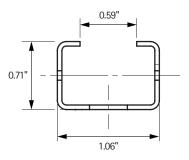
# Strut and Accessories - Light Strut

#### In-Wall Strut WM0



ltem number	Length (inches)	ltems per pkg.
650509008	8	25
650509012	12	25
650509018	18	25
650509022	22	25
650509032	32	25
650509000	7 ft.	1

- Once hung or mounted, this is used to support vertical or horizontal piping with attachments
- Channel side fits RapidRail®, starQuick® and stub-out accessories
- Pre-punched holes fit 3/8" threaded rod and angled wall bracket accessories
- Pre-drilled holes allow for secure mounting of starQuick®, Rabbit clamp and BISMAT® clamps using a Quick Hanger Bolt
- Material: pre-galvanized steel 1.0226



### Multi-purpose Hanging Strut (MPHS)



ltem number	Expansion range (inches)	Items per pkg.
650509922	12-20	20
650509923	22-30	20
650509924	32-40	20

- Adjustable, horizontal support that can be used with sliding or fixed accessories
- Pre-punched holes fit 3/8" threaded rod without the need for specialty washers
- A large variety of clamps can be easily mounted with a single screw or accessory
- Material: pre hot-dip galvanized steel 1.0242



# Rail Cutter for Rail



ltem	Items
number	per pkg.
6900005	1

- Easy to cut precise lengths of WMO Rail without creating burrs
- Perfect for prefabrication
- Cut light strut on the job site without the need for addition tools
- Create custom options specific to your installation needs



# Strut and Accessories - Light Strut

### Multi-Purpose Telescoping Support (MPTS)





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	ltem number	Product abbreviation	Expansion range (inches)	ltems per pkg.
Ī	59492001	MPTS1	12-20	25
	59492002	MPTS2	18-26	25

- This heavy-duty, adjustable, 3 piece bracket is used to support vertical piping and stub-outs on studs at 6 points
- Adjustable for ease of use
- Heavy-duty profile supports any in-wall hardware
- Hole pattern fits sliding and fixed stub-outs as well as a variety of clamps
- Material: pre-galvanized steel 1.0242



### Multi-Purpose Telescoping Support (MPTS) Insert



ltem	Size	ltems
number	(inches)	per pkg.
59492000	8" x 3/4" x 1/2"	50

- Can be used to make a custom length in-wall bracket when paired with WM0 strut
- Can be used as a cantilever or to attach strut in between walls
- Easily customizable
- Use to attach custom size WMO strut in a narrow, confined space
- Material: pre-galvanized steel 1.0242

# Rapid Sliding Wall Bracket (RSWB)



- Extendable in-wall bracket for mounting plumbing, pipes, electrical pipes, electrical boxes and conduit between studs in wall
- Suitable for use in metal or wood stud walls and floor joists
- Quicker and easier to install than traditional methods no measuring or cutting
- Can be set at multiple depths
- For use with RapidRail® Slide Nuts, starQuick® Clamps, starQuick® Universal Rail Adapter and RapidRail® Hammerfix accessories
- Break apart design (sold in connected pairs)
- Material: pre hot-dip galvanized steel





RSWB used in floor joists



# Strut and Accessories - Light Strut

#### Wall Plate for WM0 Strut





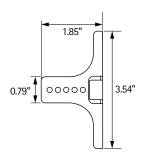


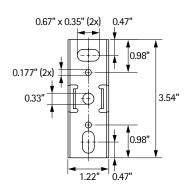
- Used to mount custom lengths of light strut or WMO onto wall, ceiling or studs
- Can easily support custom length light strut
- Can be mounted flat to horizontal or vertical surfaces
- Material: pre hot-dip galvanized steel 1.0226



PEX shown mounted to wood studs using Wall Plate and a starQuick® clamp.

Item	For	Items	
number	strut	per pkg.	
66190110	WMo	25	





### Cantilever Arm for WMO Strut



ltem	Length	ltems
number	(inches)	per pkg.
66090110	8	25

- Mounts directly to the wall or ceiling without all thread, allowing for a tight mounting
- A large variety of clamps can be attached to the cantilever with only a single screw or other accessories
- Conveniently pre-assembled for a quick installation
- Material: pre hot-dip galvanized steel 1.0226



Copper pipe shown mounted to Cantilever Arm and secured with starQuick® clamp



# Plastic (PEX and PP) Pipe Support



Pipe Reinforcement in use with BISMAT® 5000 Clamps

- Self-gripping and continuous support for plastic pipes to prevent unsatisfactory curvature, bending or snaking
- Allows for longer distance between supports
- Reinforcement conveniently fits inside insulation
- Lightweight and economical, also 9 foot lengths are easy to handle which speeds installation of plastic pipes
- Insulation can be installed over both the plastic pipe and pipe reinforcement
- Easily cut to size with basic hand tools
- Material: pre-galvanized steel 20 gauge

#### **PEX Pipe Reinforcement**

ltem number	D/CTS (inches)	L (feet)	L (meters)	Recommended hanger spacing*	ltems per bundle
PSU050-9	1/2	9	2.75	5 ft.	5
PSU075-9	3/4	9	2.75	5 ft.	5
PSU100-9	1	9	2.75	6 ft.	5
PSU125-9	1-1/4	9	2.75	7 ft.	5
PSU150-9	1-1/2	9	2.75	8 ft.	5
PSU200-9	2	9	2.75	8 ft.	5

<sup>\*</sup>At room temperature. For higher temperatures, check PEX pipe supplier recommendations. Larger sizes are available. Please contact your local sales office.

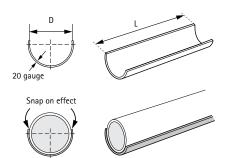
#### PEX Pipe Spacing Recommendations using Walraven Pipe Reinforcement

	Spaci	Spacing with pipe reinforcement		
Nominal pipe size	International Code: IPC and IMC	Uniform Codes: UPC and UMC	Canadian Code:	All Codes
1/2"	32" (0.8m)	32" (0.8m)	32" (0.8m)	72" (1.8m)
3/4"	32" (0.8m)	32" (0.8m)	32" (0.8m)	72" (1.8m)
1"	32" (0.8m)	32" (0.8m)	32" (0.8m)	96" (2.4m)
1-1/4"	32" (0.8m)	48" (1.2m)	32" (0.8m)	96" (2.4m)
1-1/2"	32" (0.8m)	48" (1.2m)	32" (0.8m)	96" (2.4m)
2"	32" (0.8m)	48" (1.2m)	32" (0.8m)	96" (2.4m)

#### PP Pipe Reinforcement

Item Number	D (inches)	D (mm)	L (feet)	L (meters)	Recommended hanger spacing*	Items per bundle
PRM016	-	16	10	3	60"	5
PRM020	1/2	20	10	3	72"	5
PRM025	3/4	25	10	3	72"	5
PRM032	1	32	10	3	96"	5
PRM040	1-1/4	40	10	3	96"	5
PRM050	1-1/2	50	10	3	96"	5
PRM063	2	63	10	3	96"	5
PRM075	2-1/2	75	10	3	96"	5
PRM090	3	90	10	3	96"	5
PRM110	3-1/2	110	10	3	96"	5
PRM125	4	125	10	3	96"	5
PRM160	6	160	10	3	96"	5
PRM200	8	200	10	3	96"	5
PRM250	10	250	10	3	120"	5
PRM315	12	315	10	3	120"	5

<sup>\*</sup>At room temperature. For higher temperatures, check PP pipe supplier recommendations. Larger sizes are available. Please contact your local sales office.



# Hardware

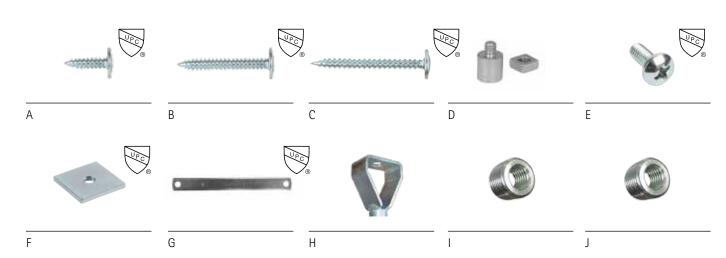
# Cable Ties - stainless steel



- Secures Pipe Reinforcement to plastic pipe
- Self-locking for a secure mount
- High resistance to moisture, corrosion and temperature
- Made of black PVC coated stainless steel
- Conveniently packaged in plastic bag

Fits pip Item # (inches)		Fits pipe sizes (inches)	Fits pipe size (mm)	ltems per pkg.
	09970150	1/2 to 1	16-25	15
	09970260	1-1/4 to 2	32-63	15
	09970520	2-1/2 to 3-1/2	75-125	15

Photo	ltem #	Item Description	Size (inches)	Box qty. (each)
А	61839412	Phillips Modified Truss/waferhead Self-tapping Screw	#8 x 1/2	250
В	61839425	Phillips Modified Truss/waferhead Self-tapping Screw	#8 x 1	250
С	61839441	Phillips Modified Truss/waferhead Self-tapping Screw	#8 x 1-5/8	250
D	SQ0854001	starQuick® Threaded Rod Adapter with nuts, SS	3/8 male, 1/4 female	50
Е	61739612	Phillips Panhead Machine Screw	1/4 × 1/2	250
F	6519106	Square Nut, 25 x 25 x 3	1/4	250
G	59490990	Plate for Adjustable Shower Valve	5.90	50
Н	6793964	Height Adjuster/Adapter	47 x 30 x 73.2	25
I	VA6474321	Thread Adapter	1/2 npt male, 3/8 female	50
J	VA6474221	Thread Adapter	1/2 npt male, 1/2 female	50



# **Specialty Products**

### BIS Suspension Band - Light duty



Item	Size	Size	Fa,z	ltems
number	(inches)	(mm)	(lbs.)	per pkg.
0831012	0.47 x 0.031	12 x 0.8	118	10

- Supports drain pipes and air ducts horizontally or vertically when attached to a joist or bracket respectively
- 30 foot roll is packaged in convenient case
- Can be cut effortlessly with hand tools
- Bends easily
- 19 gauge
- Material: steel 1.0226







### BIS Suspension Band - Heavy duty



ltem	Size	Size	Fa,z	Items
number	(inches)	(mm)	(lbs.)	per pkg.
0830017	0.67 x 0.039	17 x 1.0	337	10

- Supports drain pipes and air ducts horizontally or vertically when attached to a joist or bracket respectively
- 30 foot roll is packaged in convenient case
- Can be cut effortlessly with hand tools
- Bends easily
- 19 gauge
- Material: steel 1.0226





# BIS Suspension Band - Plasticized



- Supports drain pipes and air ducts horizontally or vertically when attached to a joist or bracket respectively
- PVC coating protects plastic pipes unlike uncoated suspension bands
- 30 foot roll is packaged in convenient case
- Can be cut effortlessly with hand tools
- Bends easily
- Features continuous perforation
- 19 gauge
- Material: steel 1.0226 with PVC coating





Item	Size	Size	Fa,z	ltems
number	(inches)	(mm)	(lbs.)	per pkg.
0832714	0.55 x 0.12	14 x 3.0	197	10

# **Specialty Products**

#### Silent Nut



ltem number	Size (inches)	Items per pkg.	
65197015	8-32	50	
65197022	1/4	50	

- An adjustable connection option for mounting clamps and accessories to Rapid Sliding Wall Bracket (RSWB), RapidRail® and in-wall strut
- Noise and vibration reducing
- Features quick, quarter-turn technology



# UPC ®

# starQuick® Silent Nut Assembly



ltem	Size	Items
number	(inches)	per pkg.
0854999	#8 x 1	25

- An adjustable connection option for mounting starQuick® clamps to Rapid Sliding Wall Bracket (RSWB), RapidRail® and in-wall strut
- Noise and vibration reducing
- Features quick, quarter-turn technology
- Hardware included

# Silent Nut Assembly for Shower Head



ltem	Size	ltems
number	(inches)	per pkg.
59490965	#8 x 3/4	25

- An adjustable connection option for mounting shower drop ear 90 to Rapid Sliding Wall Bracket (RSWB) and in-wall strut
- Noise and vibration reducing
- Features quick, quarter-turn technology
- Hardware included





# Silent Nut Assembly for Stub-Out Bracket and Universal Shower Valve Plate



ltem	Size	ltems
number	(inches)	per pkg.
59490964	1/4 x 1/2	25

- An adjustable connection option for mounting Universal Shower Valve Plate (USVP) to stub-out bracket
- Noise and vibration reducing
- Features quick, quarter-turn technology
- Hardware included

# **Rooftop Products**

### BIS Yeti® 130 Support System



- Modular supporting system for light rooftop installations
- Flexible, cost-effective solution for pipes, cable-trays, air duct channels, etc.
- For horizontal and vertical applications
- Features a non-slip, anti-vibration mat
- Features a unique click-mechanism for quick and safe installation
- Resistant to UV and chemical influences
- Material: moldings made of WPC, a composite of recycled plastic and wood fiber

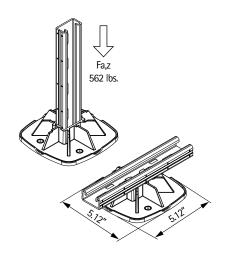
ltem number	For strut (inches)	ltems per pkg.
67685130	1-5/8 x 13/16 + 1-5/8 x 1-5/8	10



Horizontal use All strut rails with standard hole pattern can be used, preferably 1-5/8" x 13/16" or 1-5/8" x 1-5/8". You can build your own length of horizontal support.



Vertical use Strut rails 1-5/8" x 13/16" can be used as H-construction for light weights, the adapter is not necessary, just push the rail into the body of BIS Yeti® 130.



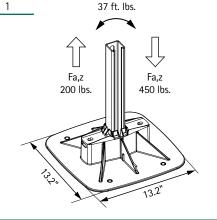
### BIS Yeti® 335 Support System



- For strut Item Items (inches) per pkg.
- number 67685201 1-5/8 x 1-5/8 + DS 5 (1-5/8 x 2)



Insert rotates 360° for precise positioning





- Designed for use on flat roofs
- For horizontal and vertical applications
- 1-5/8" strut insert rotates 360°
- Features non-slip, anti-vibration mat
- Resistant to UV and chemical influences
- Materials: moldings made of WPC, a composite of recycled plastic and wood fiber

# **Rooftop Products**

# BIS Yeti® 480 Support System



pipe work, cable ways, etc.	
- Designed for use on flat and law nitched roofs	

- Designed for use on flat and low pitched roofs
- Adjustable up to 7° to compensate for roof pitch
- 1-5/8" strut insert rotates 360°
- Features a non-slip anti-vibration mat
- Available with optional stackable ballast block for increased weight/stability

■ Modular supporting system for HVAC installations, solar panels, walkways,

- Resistant to UV and chemical influences
- Materials: moldings made of WPC, a composite of recycled plastic and wood fiber

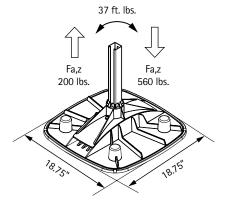
ltem	For strut	ltems
number	(inches)	per pkg.
67685001	1-5/8 x 1-5/8 + DS 5 (1-5/8 x 2)	1

#### Adjustable for precise positioning





Adjustable to compensate roof pitch up to 7°





### **Nut Spinner**

Insert rotates 360°.



ltem	ltems
number	per pkg.
0600211	ΕO

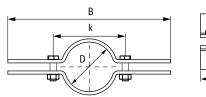
- Quickly thread nuts up and down threaded rod
- Designed for 3/8" and 1/2" nuts
- Open end allows access to nut anywhere along rod
- Material: PA (polyamide)





# Riser Clamps

# Riser Clamp - Zinc plated





- Recommended for support and stabilizing of vertical pipe runs
- Perfect for plastic and metal pipe applications where riser is required above and below floor penetration
- BIS Whisper Riser Pads (WP) are packaged separately
- Material: zinc plated carbon steel

Item number	Item number with Whisper riser pads*	D/IPS (inches)	Bolt size (inches)	B (inches)	b (inches)	k (inches)	Fa,z (lbs.)	Items per pkg.**
B4973027	B4973027WP	3/4	3/8	8-13/16	1	2-5/16	220	25
B4973034	B4973034WP	1	3/8	9-1/16	1	2-5/8	220	25
B4973042	B4973042WP	1-1/4	3/8	9-7/16	1	2-15/16	250	25
B4973048	B4973048WP	1-1/2	3/8	10	1	3-7/16	250	25
B4973060	B4973060WP	2	3/8	10-9/16	1	4	300	25
B4973075	B4973075WP	2-1/2	3/8	11-1/8	1	4-9/16	400	25
B4973090	B4973090WP	3	3/8	11-13/16	1	5-1/4	500	25
B4973106	B4973106WP	3-1/2	3/8	13	1	6	600	25
B4973114	B4973114WP	4	1/2	13-5/8	1	6-5/8	750	20
B4973140	B4973140WP	5	1/2	14-1/8	1-1/2	7-5/8	1,500	10
B4973169	B4973169WP	6	1/2	15-3/8	1-1/2	8-7/8	1,600	10
B4973227	B4973227WP	8	5/8	18-5/8	1-1/2	12	2,500	5
B4973275	B4973275WP	10	5/8	21	2	14-1/2	2,500	4

<sup>\*</sup>Riser clamps with Whisper Riser Pads (B4973027WP - B4973275WP) are packaged together but not assembled.

# Riser Clamp - Copper-Gard



- Recommended for support and stabilizing of vertical pipe runs
- Perfect for plastic and metal pipe applications where riser is required above and below floor penetration
- BIS Whisper Riser Pads (WP) are packaged separately
- Material: carbon steel with Copper-Gard coating with zinc hardware

ltem number	Item number with Whisper riser pads*	D/CTS (inches)	Bolt size (inches)	B (inches)	b (inches)	k (inches)	Fa,z (lbs.)	Items per pkg.**
B4979018	B4979018WP	1/2	1/4	6-11/16	1	1-11/16	225	50
B4979023	B4979023WP	3/4	1/4	7	1	2	225	50
B4979030	B4979030WP	1	1/4	8-3/4	1	2-1/4	250	50
B4979035	B4979035WP	1-1/4	1/4	9	1	2-1/2	250	50
B4979043	B4979043WP	1-1/2	1/4	9-3/8	1	2-7/8	250	50
B4979054	B4979054WP	2	3/8	9-15/16	1	3-3/8	500	25
B4979070	B4979070WP	2-1/2	3/8	10-1/2	1	4	500	25
B4979080	B4979080WP	3	3/8	11	1	4-7/16	500	25
B4979092	B4979092WP	3-1/2	3/8	12-3/16	1-1/4	5-1/8	500	25
B4979105	B4979105WP	4	3/8	12-5/8	1-1/4	5-9/16	500	25
B4979130	B4979130WP	5	1/2	14-1/8	1-1/2	7-1/8	815	10
B4979151	B4979151WP	6	1/2	15	1-1/2	8	815	10

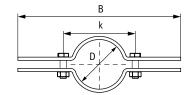
Copper Gard Approvals: Complies with Manufacturers' Standardization Society MSS SP-58 and SP-69 (Type 8)

<sup>\*\*</sup> Items per package quantities for the products that include Whisper Riser Pads (WP) may vary by size.

<sup>\*</sup>Riser clamps with Whisper Riser Pads (B4979018WP - B4979151WP) are packaged together but not assembled.
\*\*Items per package quantities for the products that include Whisper Riser Pads (WP) may vary by size.

# Riser Clamps

### Riser Clamp - Metric epoxy coated







- Recommended for support and stabilizing of vertical pipe runs
- Perfect for plastic and metal pipe applications where riser is required above and below floor penetration
- BIS Whisper Riser Pads (WP) are packaged separately
- Material: epoxy coated carbon steel

ltem number	Item number with Whisper riser pads*	D/IPS (mm)	Bolt size (inches)	B (inches)	b (inches)	k (inches)	Fa,z (lbs.)	ltems per pkg.**
B4976025	B4976025WP	25	M10 x 30mm	240	25	65	250	10
B4976032	B4976032WP	32	M10 x 30mm	245	25	68	250	10
B4976040	B4976040WP	40	M10 x 30mm	254	25	86	250	10
B4976050	B4976050WP	50	M10 x 30mm	265	25	95	250	10
B4976063	B4976063WP	63	M10 x 30mm	275	25	114	375	10
B4976075	B4976075WP	75	M10 x 30mm	285	25	116	500	10
B4976090	B4976090WP	90	M12 x 40mm	305	40	136	500	10
B4976110	B4976110WP	110	M12 x 40mm	343	40	176	800	10
B4976125	B4976125WP	125	M12 x 40mm	370	40	210	1,050	10
B4976160	B4976160WP	160	M12 x 40mm	395	40	228	1,450	10
B4976200	B4976200WP	200	M16 x 50mm	470	40	297	2,300	10
B4976250	B4976250WP	250	M16 x 50mm	530	40	371	2,500	10

Epoxy Gard Approvals: Complies with Manufacturers' Standardization Society MSS SP-58 and SP-69 (Type 8)

### BIS Whisper Riser Pad



Sold with Riser clamp only



- For use with most riser clamps up to 8" in size
- Used to insulate riser clamps from building structure to minimize vibration and noise transfer
- Reduces corrosion by isolating clamp from floor
- Temperature rated up to 250° F
- Tested for fire safety fire resistant
- Material: EPDM rubber





Tested in accordance with ISO 3822-1

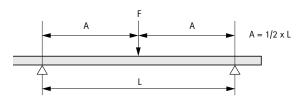
Whisper Riser Pads can be cut to create a customized fit.



<sup>\*</sup>Riser clamps with Whisper Riser Pads (B4976025WP - B4976250WP) are packaged together but not assembled.

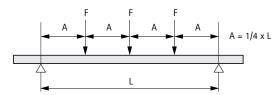
<sup>\*\*</sup> Items per package quantities for the products that include Whisper Riser Pads (WP) may vary by size.

# RapidRail® and RapidStrut® Fixing Rail Load Tables



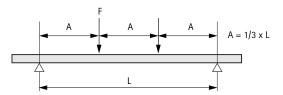
# Single centered load between 2 supports (lbs.)

	RapidStrut®	RapidRail®	In-wall strut
Length (L)	DS 5	WM15	WM0
0' 10"	1,981	276	191
1' 0"	1,650	230	159
1' 2"	1,415	197	136
1' 4"	1,238	173	119
1' 6"	1,100	154	106
1' 8"	990	138	96
1' 10"	825	117	87
2' 0"	707	100	80
2' 6"	619	78	60
3' 0"	550	62	50
3' 6"	495	44	38
4' 0"	413	34	29
4' 6"	354	27	23
5' 0"	309	22	19
6' 0"	275	15	13



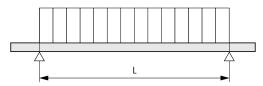
# Equal load on 3 points between 2 supports (lbs.)

RapidStrut®	RapidRail®	In-wall strut
DS 5	WM15	WM 0
990	138	96
825	115	80
707	99	68
619	86	60
550	77	53
495	69	48
412	63	43
354	57	40
310	36	30
275	25	21
248	19	16
206	14	12
177	11	10
148	9	8
117	6	6
	990 825 707 619 550 495 412 354 310 275 248 206 177	DS 5 WM15  990 138 825 115 707 99 619 86 550 77 495 69 412 63 354 57 310 36 275 25 248 19 206 14 177 11 148 9



# Equal load on 2 points between 2 supports (lbs.)

	RapidStrut®	RapidRail®	In-wall strut
Length (L)	DS 5	WM15	WMo
0' 10"	1,486	207	143
1' 0"	1,238	173	119
1' 2"	1,061	148	102
1' 4"	928	130	90
1' 6"	825	115	80
1' 8"	742	104	72
1' 10"	619	94	65
2' 0"	530	79	60
2' 6"	464	51	42
3' 0"	412	35	30
3' 6"	371	26	22
4' 0"	309	20	17
4' 6"	265	16	14
5' 0"	207	13	11
6' 0"	163	9	8



# Uniformly distributed load between 2 supports (lbs.)

	RapidStrut®	RapidRail®	In-wall strut
Length (L)	DS 5	WM15	WMo
0' 10"	3,961	553	382
1' 0"	3,301	461	318
1' 2"	2,830	395	273
1' 4"	2,476	346	239
1' 6"	2,201	307	212
1' 8"	1,981	276	191
1' 10"	1,650	251	174
2' 0"	1,415	216	159
2' 6"	1,238	138	115
3' 0"	1,100	96	82
3' 6"	990	70	61
4' 0"	825	54	47
4' 6"	707	43	38
5' 0"	564	34	31
6' 0"	446	24	22

# **Use Of Loading Tables**

#### Calculation Method

The published safe working loads are based on tests with perforated (slotted) rail. For non perforated rail the safe working loads can be taken as 20% higher.

Loads are calculated taking into consideration a maximum deflection (f) of length  $1/200 \times L$  and a maximum bending stress of 160 N/mm2. (figure A)

1 N (Newton) = 0.22 lbs. 2.2 lbs. = 8.89 N (Newton)

### Installing rails to walls or ceilings

The strength of the anchoring of the rail has not been taken into consideration. The installer must verify that the bolts and wall plugs used are suitable for the maximum permitted loading of the rail. (figure B)

### Methods of loading

Where loads are suspended beneath rails, the load must not exceed the relevant safe load of the slide nut. To increase rigidity of the installation we recommend the use of a U-formed washer. (figure C)

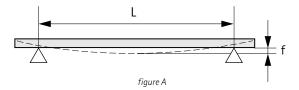
# Reading the rail loading tables

The stated values are only valid for the fixing rail. The maximum safe load of all other construction parts have to be verified. The stated maximum safe load is calculated for a static load at free bending support. (figure D)

Where the segment is marked with a hyphen, the stated length cannot be safely loaded.

### Special conditions

For special conditions not stated in the loading tables, please do not hesitate to contact Walraven Project Support.



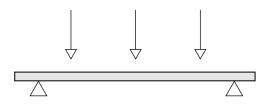
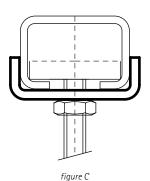
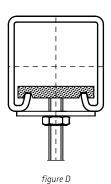


figure B



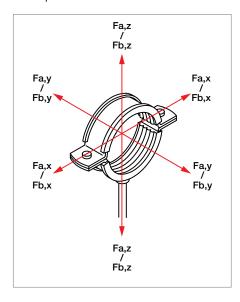


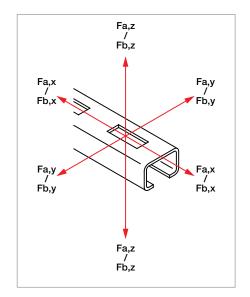
# Explanation of Maximum Recommended Load

#### Maximum allowed load:

For most of our products, a maximum allowed load is mentioned in the article tables. Stated values are determined by a Walraven developed method.

Force direction (F) x, y and z (at 68° F) Fa = maximum allowed load Fb = breaking load





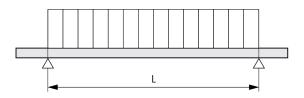
# Cantilever Arm Load Tables



# Single Suspended Load on 1 point (lbs)

#### RapidRail® Cantilevers

Item #	6603715	6603725	66090110
Туре	WN	<b>/</b> 115	WMo
Length (L)	6"	10"	8"
4"	175	175	28
6"	117	117	
8"		78	14
10"		50	
12"			
14"			
16"			
18"			
20"			
22"			
24"			



# Uniformly distributed load between 2 supports (lbs.)

	RapidStrut®	RapidRail®
Length	DS 5	WM15
0' 10"	3,961	553
1' 0"	3,301	461
1' 2"	2,830	395
1' 4"	2,476	346
1' 6"	2,201	307
1' 8"	1,981	276
1' 10"	1,650	251
2' 0"	1,415	216
2' 6"	1,238	138
3' 0"	1,100	96
3' 6"	990	70
4' 0"	825	54
4' 6"	707	43
5' 0"	564	34
6' 0"	446	24

# Information: Steel Pipes

# Steel Pipe Data Schedule 40 and 80

	Pipe OD F	Pipe OD		Wall	Weight	t per foot (lbs.)
Pipe size (inches)	(inches)	(mm)	Schedule no.	thickness (inches)	Pipe	Pipe filled with water
3/8"	0.675	17.15	40 80	0.091 0.126	0.567 0.740	0.650 0.800
1/2"	0.84	21.34	40 80	0.109 0.147	0.850 1.090	0.980 1.190
3/4"	1.05	26.67	40 80	0.113 0.154	1.130 1.470	1.360 1.660
1"	1.315	33.40	40 80	0.133 0.179	1.680 2.170	2.050 2.480
1-1/4"	1.66	42.16	40 80	0.140 0.191	2.270 3.000	2.920 3.550
1-1/2"	1.9	48.26	40 80	0.145 0.200	2.720 3.630	3.600 4.400
2"	2.375	60.33	40 80	0.154 0.218	3.650 5.020	5.100 6.300
2-1/2"	2.875	73.03	40 80	0.230 0.276	5.790 7.660	7.860 9.490
3"	3.5	88.90	40 80	0.216 0.300	7.580 10.250	10.780 13.110
3-1/2"	4	101.60	40 80	0.226 0.318	9.110 12.510	13.400 16.360
4"	4.5	114.30	40 80	0.237 0.337	10.790 14.980	16.300 19.960
5"	5.563	141.30	40 80	0.258 0.375	14.620 20.780	23.290 28.660
6"	6.625	168.28	40 80	0.280 0.432	18.970 28.570	31.490 39.860
8"	8.626	219.10	40 80	0.322 0.500	25.550 43.390	50.150 63.190
10"	10.75	273.05	40 80	0.365 0.593	40.480 64.400	74.580 95.500
12"	12.75	323.85	40 80	0.406 0.687	53.600 88.600	102.100 132.600
14"	14	355.60	40 80	0.437 0.750	63.000 107.000	122.000 132.600
16"	16	406.40	40 80	0.500 0.843	83.000 137.000	160.000 207.000
18"	18	457.20	40 80	0.563 0.937	105.000 171.000	202.000 260.000
20"	20	508.00	40 80	0.593 1.031	123.000 209.000	244.000 318.000
24"	24	609.60	40 80	0.687 0.218	171.000 297.000	345.000 455.000
30"	30	762.00	20	0.500	158.000	444.000
36"	36	914.40	API	0.500	190.000	607.000

# Information: Copper Pipe

# Copper Tubing Type L

	Pipe OD			- Wall	Weight per foot (lbs.)	
Pipe size (inches)	(inches)		(mm)	thickness (inches)	Pipe	Pipe filled with water
1/4"	3/8"	0.375	9.53	0.030	0.126	0.160
3/8"	1/2"	0.500	12.70	0.035	0.198	0.260
1/2"	5/8"	0.625	15.88	0.040	0.285	0.385
5/8"	3/4"	0.750	19.05	0.042	0.362	0.513
3/4"	7/8"	0.875	22.23	0.045	0.455	0.664
1"	1-1/8"	1.125	28.58	0.050	0.655	1.014
1-1/4"	1-3/8"	1.375	34.93	0.055	0.884	1.430
1-1/2"	1-5/8"	1.625	41.28	0.060	1.140	1.910
2"	2-1/8"	2.125	53.98	0.060	1.750	3.091
2-1/2"	2-5/8"	2.625	66.68	0.080	2.480	4.544
3"	3-1/8"	3.125	79.38	0.090	3.330	6.279
3-1/2"	3-5/8"	3.625	92.08	0.100	4.290	8.279
4"	4-1/8"	4.125	104.78	0.110	5.380	10.568
5"	5-1/8"	5.125	130.18	0.125	7.610	15.691
6"	6-1/8"	6.125	155.58	0.140	10.200	21.816
8"	8-1/8"	8.125	206.38	0.200	19.290	39.579
10"	10-1/8"	10.125	257.18	0.250	30.100	61.690
12"	12-1/8"	12.125	307.98	0.280	40.400	85.826

# Copper Tubing Type K

	Pipe OD		Pipe		· Wall	Weig	ht per foot (lbs.)
Pipe size (inches)	(inches)		(mm)	thickness (inches)	Pipe	Pipe filled with water	
1/4"	3/8"	0.375	9.53	0.035	0.145	0.177	
3/8"	1/2"	0.500	12.70	0.049	0.269	0.324	
1/2"	5/8"	0.625	15.88	0.049	0.344	0.438	
5/8"	3/4"	0.750	19.05	0.049	0.418	0.562	
3/4"	7/8"	0.875	22.23	0.065	0.641	0.829	
1"	1-1/8"	1.125	28.56	0.065	0.839	1.176	
1-1/4"	1-3/8"	1.375	34.93	0.065	1.040	1.567	
1-1/2"	1-5/8"	1.625	41.28	0.072	1.360	2.103	
2"	2-1/8"	2.125	53.98	0.083	2.060	3.370	
2-1/2"	2-5/8"	2.625	66.68	0.095	2.920	4.920	
3"	3-1/8"	3.125	79.38	0.109	4.000	6.960	
3-1/2"	3-5/8"	3.625	92.08	0.120	5.120	9.020	
4"	4-1/8"	4.125	104.78	0.134	6.510	11.570	
5"	5-1/8"	5.125	130.18	0.160	9.670	17.670	
6"	6-1/8"	6.125	155.58	0.192	13.870	25.070	
8"	8-1/8"	8.125	206.38	0.271	25.900	45.400	
10"	10-1/8"	10.125	257.18	0.338	40.300	70.723	
12"	12-1/8"	12.125	307.98	0.405	57.800	101.475	

# Information: Hubless Cast Iron Pipe

	Pino OD	Dina OD	Wall	Weigh	t per foot (lbs.)
Pipe size (inches)	Pipe OD (inches)	Pipe OD (mm)	thickness (inches)	Pipe	Pipe filled with water
1-1/2	1.90	48.26	0.16	2.85	3.7
2	2.35	59.69	0.16	3.71	5.1
3	3.35	85.09	0.16	5.40	8.4
4	4.38	111.25	0.19	7.60	12.4
5	5.30	134.62	0.19	9.76	18.1
6	6.30	160.02	0.19	11.78	23.8
8	8.38	212.85	0.23	17.09	38.0
10	10.56	268.22	0.28	25.46	59.5
12	12.50	317.50	0.28	31.81	80.3
15	15.83	402.08	0.36	49.26	127.0

# Information: PVC Pipe

# PVC Pipes - Schedule 40

	Pipe OD	Pipe OD	Minimum wall Nominal ins		Wei	ght per foot (lbs.)
Pipe size (inches)	(inches)	(mm)	thickness (inches)	diameter (inches)	Pipe	Pipe filled with water
3/8"	0.675	17.15	0.091	0.493	0.122	0.205
1/2"	0.840	21.34	0.109	0.622	0.180	0.312
3/4"	1.050	26.67	0.113	0.824	0.239	0.469
1"	1.315	33.40	0.133	1.049	0.352	0.726
1-1/4"	1.660	42.16	0.140	1.380	0.475	1.122
1-1/2"	1.900	48.26	0.145	1.610	0.568	1.450
2"	2.375	60.33	0.154	2.067	0.761	2.213
2-1/2"	2.875	73.03	0.203	2.469	1.201	3.273
3"	3.500	88.90	0.216	3.068	1.572	4.772
4"	4.500	114.30	0.237	4.026	2.239	7.749
5"	5.563	141.30	0.258	5.047	3.062	11.722
6"	6.625	168.28	0.280	6.065	3.945	16.455
8"	8.625	219.08	0.322	7.981	5.920	27.520
10"	10.750	273.05	0.365	10.020	8.406	42.506
12"	12.750	323.85	0.406	11.938	11.172	59.672
14"	14.000	355.60	0.438	13.124	13.262	71.762
16"	16.000	406.40	0.500	15.000	17.312	93.812

# PVC Pipes - Schedule 80

	Pipe OD	Pipe OD Minimum wall	Nominal inside	Weight per foot (lbs.)		
Pipe size (inches)	(inches)	(mm)	thickness (inches)	diameter (inches)	Pipe	Pipe filled with water
3/8"	0.675	17.15	0.126	0.423	0.154	0.215
1/2"	0.840	21.34	0.147	0.546	0.225	0.326
3/4"	1.050	26.67	0.154	0.742	0.305	0.491
1"	1.315	33.40	0.179	0.957	0.449	0.760
1-1/4"	1.660	42.16	0.191	1.278	0.618	1.173
1-1/2"	1.900	48.26	0.200	1.500	0.751	1.516
2"	2.375	60.33	0.218	1.939	1.040	2.319
2-1/2"	2.875	73.03	0.276	2.323	1.584	3418
3"	3.500	88.90	0.300	2.900	2.124	4.984
4"	4.500	114.30	0.337	3.826	3.105	8.085
5"	5.563	141.30	0.375	4.813	4.343	12.213
6"	6.625	168.28	0.432	5.761	5.929	17.219
8"	8.625	219.08	0.500	7.625	9.051	28.851
10"	10.750	273.05	0.593	9.564	13.429	44.529
12"	12.750	323.85	0.687	11.376	18.458	52.458
14"	14.000	355.60	0.750	12.500	22.224	73.424
16"	16.000	406.40	0.843	14.314	28.557	98.257

# Information: CPVC Pipe CPVC Pipes - SDR 11

	Pipe OD	Pipe OD	OD Minimum wall Nominal inside		Weig	ht per foot (lbs.)
Pipe size (inches)	(inches)	(mm)	thickness (inches)	diameter (inches)	Pipe	Pipe filled with water
1/2"	0.625	15.88	0.068	0.546	0.225	0.326
3/4"	0.875	22.23	0.080	0.742	0.305	0.491
1"	1.125	28.58	0.102	0.957	0.449	0.760
1-1/4"	1.375	34.93	0.125	1.278	0.618	1.173
1-1/2"	1.625	41.28	0.148	1.500	0.751	1.516
2"	2.125	53.98	0.193	1.939	1.040	2.319

# Information: PEX Pipe

PEX

	Pipe OD	ipe OD Pipe OD		Nominal inside	Weight per foot (lbs.)	
Pipe size (inches)	(inches)	(mm)	Minimum wall thickness (inches)	diameter (inches)	Pipe	Pipe filled with water
1/4"	0.375	9.53	0.067	0.241	0.040	0.059
3/8"	0.500	12.70	0.075	0.350	0.047	0.088
1/2"	0.625	15.88	0.075	0.475	0.060	0.137
5/8"	0.750	19.05	0.088	0.574	0.087	0.199
3/4"	0.875	22.23	0.102	0.671	0.110	0.263
1"	1.125	28.58	0.132	0.862	0.192	0.445
1-1/4"	1.375	34.93	0.161	1.054	0.350	0.727
1-1/2"	1.625	41.28	0.191	1.244	0.440	0.966
2"	2.125	53.98	0.248	1.629	0.682	1.622
2-1/2"	2.625	66.68	0.308	2.010	0.880	2.300
3"	3.125	79.38	0.363	2.400	1.280	3.240
3-1/2"	3.625	92.08	0.421	2.784	1.738	4.420
4"	4.125	104.78	0.478	3.169	2.251	5.670

# Noise Insulation in Pipe Work Systems

#### Sources of noise

Pipe work systems installed for fluid supply, heating and sanitary purposes, as well as ductwork systems for air conditioning, can act as conductors of acoustic vibrations. These vibrations arise from the flow of the medium in the system, the method of system connection and pumps, fans, valves etc.

### Statutory regulations

If a system conducting the acoustic vibrations mentioned above is directly fixed to walls or ceilings the noise level can increase because the building structure acts as an amplifier. Building regulations state a maximum permissible transmitted noise level from pipe work systems (see DIN 4109). Currently this residual valve is 35 dB (A) future regulation is expected to reduce this level.

### Noise insulation by pipe clamps

To reduce the transmission of acoustic vibrations in pipe work to the building structure, a layer of acoustic vibration absorbing material must be placed between the pipe work and all support fixing points. It is essential that the support fixing point into the building structure is never directly in contact with the pipe work. The smallest direct contact will act as a sound carrying bridge. Therefore, the acoustic vibration absorbing material needs to be specifically designed for each pipe clamp support.

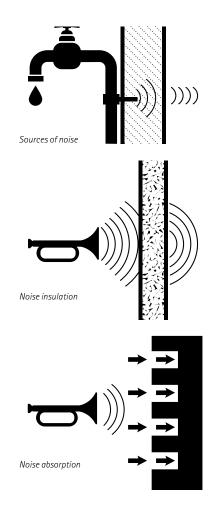
### Maximizing noise insulation

The acoustic vibration absorbing materials used in our products are rubber profiles. Since rubber is elastic the transmission of acoustic vibrations is considerably reduced. The shape of the rubber profile is specifically designed for each clamp to eliminate contact between pipe and clamp.

We have also paid considerable attention to the cross section of the rubber profile by introducing grooves which maximize absorption of acoustic vibrations.

### Quality of the rubber lining

The rubber lining must be durable and capable of retaining its elastic qualities to adequately absorb acoustic vibrations over a prolonged period. In consultation with rubber technology experts we have established performance standards to optimize aging resistance. The rubber profiles which we use are regularly tested against these performance standards independent specialist testing institutes.



#### Test certification

The reduction in noise transmission by use of our rubber lined pipe clamps tested by independent institutes on the basis of the requirements of DIN 4109.

The test method employed is that described in DIN 52 218 for measurement of noise transmission reduction of rubber linings.

Original test certificates are available upon request.

Please note the recorded RESIDUAL VALUE of noise transmission is that achieved by the DIN 52 218 test and measurement method at 3 bar.

### Rubber temperature performance

EPDM rubber (both black and green) has been designed for an operating temperature range of minus 58° F up to plus 200° F, continuous. For a peak situation it can be plus 250° F.

For steam pipes a special silicon rubber profile (red) is available, allowing for an operating temperature of 390° F, continuous and 420° F peak.

### Information: Surface Treatment

To improve the corrosion resistance of steel products, Walraven uses all kinds of methods. Below you will find an overview:

### BIS UltraProtect® 1000 system

The BIS UltraProtect® 1000 system is the ideal and most durable solution for securing or supporting mechanical installations, solar systems and many other types of installations.



The products in the BIS UltraProtect® 1000 system have very high corrosion resistance. They effortlessly withstand a salt spray test of at least 1000 hours\* (in accordance with ISO 9227). The salt spray test shows that the corrosion resistance of BIS UltraProtect® 1000 products is considerably higher than that of, for example, Hot Dip Galvanized products (approximately 300–600 hours).

Although the system utilities a relatively thin protective coating, the corrosion resistance is high. Not only does the BIS UltraProtect® 1000 system offer a smooth and fine finish, the products are also visually appealing. An additional benefit of the relatively thin protective coating is that threaded products are also well protected against corrosion. The BIS UltraProtect® 1000 products, including threaded items such as bolts, nuts and threaded rods, have superior corrosion resistance and will last at least 20 years\*\*!

#### Zinc Plating

The products to be treated are cleaned, degreased and pickled. The protective coating is then applied in an electrolytic process. The thickness of the layer of zinc is between 1 and 20  $\mu m$  (0.001 – 0.020 mm) and is determined by the current intensity and the duration of the galvanizing process. After the galvanizing process the products are passivated to extend the protection period.

#### Pre-galvanized

Also known as Sendzimir galvanization. Pre-galvanizing is a continuous thermal galvanizing process. The strip steel is guided through a bath containing liquid zinc after having been cleaned, degreased and pickled. Later the steel is cut to the required width. The sides of this cut material are not galvanized. This is also the case with any holes that may be drilled in the pre-galvanized material.

The sides of material thinner than 1,5 mm are protected somewhat by the zinc layer on the top and bottom by the electrolytic process of 'pulling together'.

This method is excellently suited for products with a screw thread, which are to be used indoors or in a non-corrosive environment.

#### Hot-Dip Galvanizing

Also known as 'thermal galvanizing', 'full bath galvanizing' or 'centrifugal galvanizing'. The products to be treated are cleaned, degreased and pickled and subsequently put into an immersion bath of liquid zinc. The immersion bath has a temperature of 1022° F. In this process an alloy of zinc/iron develops on the surface and is then covered by a layer of pure zinc.

The thickness of the zinc layer varies between 50 and 150  $\mu$ m (0.050 – 0.150 mm). In consequence the process is less suitable for products with screw thread. Hot-dip galvanized products are suitable for inside as well as outside use and also for damp and light-corrosive environments.

#### Delta-Tone 9000

Delta-Tone 9000 consists of zinc and aluminum particles that are held together by an inorganic binder. This offers an effective protection against corrosion even with a limited layer of thickness.

Delta–Tone 9000 is applied in an immersion/centrifugal or spray process and then dried at a temperature of  $392^\circ$  F. With this method an even layer is formed over the whole product with a thickness of  $10-12~\mu m$ . Subsequently Delta–Tone 9000 forms a connection with the metal underneath and the surface consists of a layer of inorganic material with zinc and aluminum flakes. In contrast to electrolytic and thermal galvanizing, with Delta–Tone 9000 there is no danger of hydrogen embritlement in materials with an increased carbon content, such as spring steel.

To improve the corrosion resistance, the process can be repeated which increases the thickness each time by  $10 - 12 \ \mu m$ .

Products protected by Delta-Tone 9000 are suitable for outside use as well as moderate corrosive environments.

### Stainless Steel 316 (1.4401)

Stainless steel 316 is one of the best corrosion resistant types of stainless steel. It offers a superior corrosion resistance compared to many other types of stainless steel in very many corrosive environments.

The protective layer is damaged by treatments such as punching, rilling and welding. That is why, after the last treatment, all stainless steel products receive an extra treatment which pickles and passivates to repair the protective layer.

Products from stainless steel 316 can be applied in aggressive situations such as a sea climate and industry.

<sup>\*</sup> Until the occurrence of maximum 5% red rust. \*\* The warranty conditions can be found on our website www.bis-ultraprotect.com

# Information: Surface Treatment

#### Salt-spray test

To compare the protection duration of various surface treatments, a salt-spray test is carried out according to ISO 9227. In this test products are placed in a space and sprayed with a salt solution. The products will start to corrode. The point at which "white" and then "red" rust appears is noted.

This test does not give a perfect protection duration (this depends on the surroundings in which the product is applied), but does offer a comparative view of the various surface treatments.

Table 1: results of salt-spray test

	Thickness protection layer (µm)	Hours until 5% red rust*	
BIS UltraProtect® 1000 system	_ **	1,000	
Surface treatment			
Zinc plating, blue passivation	8 - 10	72	
Zinc plating, yellow passivation	8 - 10	80	
Pre-galvanized	25	150	
Hot-dip galvanizing	50 - 80	300 - 600	
Dacromet	8	600***	
Delta-Tone 9000	10 - 12	480	

<sup>\*</sup> Until the occurrence of maximum 5% red rust

<sup>\*\*</sup> Method and thickness protection layer differ per product

<sup>\*\*\*</sup> Test stopped

# Information: Material Properties Plastics

### ABS - Acrilonitrile-Butadiene-Styrene

#### **Temperature-resistance:**

Permanently up to 316° F, briefly up to 365° F and to about minus 40° F\*.

#### Resistant to:

Formic acid, citric acid, lactic acid.

#### **Conditionally resistant to:**

Hydrochloric acid, sulphuric acid.

#### Not resistant to:

Acetone, petrol, benzene, solvents for paints and lacquers, butyric acid, chlorine, acetic acid, nitric acid.

### PA - PolyAmide (Nylon)

#### Temperature-resistance:

Permanently up to about 194° F, briefly up to about 266° F and to about minus 40° F\*.

#### Resistant to:

Petrol, benzene, diesel oil, acetone, solvents for paints and lacquers, oils and greases. Low tendency to stress cracking.

#### Not resistant to:

Bleach, most acids, chlorine.

### PA-GV - Polyamide, fiberglass reinforced

#### **Temperature-resistance:**

Permanently up to about 212-230° F, briefly up to 320° F and to about minus 40° F\*.

#### Resistant to:

Petrol, benzene, diesel oil, acetone, solvents for paints and lacquers, oils and greases. Low tendency to stress cracking.

#### Not resistant to:

Bleach, most acids, chlorine.

### PE - PolyEthylene

#### Temperature-resistance:

Hard types permanently up to about 194° F, briefly up to about 221° F soft types permanently up to about 176° F, briefly up to about 212° F and to about minus 40° F\*.

#### Resistant to:

Alkalis and inorganic acids.

#### **Conditionally resistant to:**

Acetone, organic acids, petrol, benzene, diesel oil, most oils.

#### Not resistant to:

Chlorine, hydrocarbons, oxidizing acids.

#### POM – PolyOxyMethylene

(polyacetal, polyformaldehyde)

#### **Temperature-resistance:**

Permanently up to about 212° F, briefly up to about 266° F and to minus 40° F\*.

#### Resistant to:

Acetone, ether, petrol, weak acetic acid, benzene, heating oil, oils and greases, toluene.

#### Not resistant to:

Methylene chloride, trichloroethylene, hydrochloric acid, nitric acid, sulphuric acid.

### PP - PolyPropylene

#### **Temperature-resistance:**

Permanently about 194 °F, briefly up to about 230° F and to about minus 22° F\*.

Resistance to chemicals generally as for polyethylene.

### PS - PolyStyrene

#### Temperature-resistance:

Because of its relatively high sensitivity to the effects of chemicals, its use is not recommended at temperatures above normal room temperature, about 77° F.

Resistance to cold: to about minus 40° F\*.

#### Resistant to:

Alkalis, most acids, alcohol.

#### **Conditionally resistant to:**

Oils and greases.

#### Not resistant to:

Butyric acid, concentrated nitric acid, concentrated acetic acid, acetone, ether, petrol and benzene, solvents for paints and lacquers, chlorine, diesel fuel.

# PVC (hard) – PolyVinylChloride (hard)

#### **Temperature-resistance:**

Permanently up to about 149° F, briefly up to about 167° F and to about minus 22° F\*.

#### Resistant to:

Weak acids, alkalis, oils and greases, petrol.

#### Not resistant to:

Strong acids, benzene, acetone, iodine, toluene, trichloroethylene.

<sup>\*</sup>The minus values apply only for parts in the quiescent condition with no severe impact stress.

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# TAYLOR Walraven



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Would you like to find out more about any of the solutions described in this brochure? Or would you like to discuss how we could help you find the best possible solution for your project? Contact us today!

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