walraven

Products for direct to rail fixings

Rail Industry Fixings

walraven.com

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Walraven Group

Walraven

Walraven is a manufacturer of a wide range of technical installation materials, with an emphasis on fixing systems, fire protection systems and sanitary systems. Since its founding in 1942, the family business has grown into an international company with more than 1000 skilled employees and its own sales and production sites in various countries in Europe.

Our employees think in solutions and are happy to assist you with well grounded advice and technical support.
All this in close collaboration with specialised wholesale partners and distributors. Thanks to them Walraven products always close by and available at the right time in Europe, North and South America Middle East, Asia and Australia.

Head office

J. van Walraven Holding B.V.
Mijdrecht (NL)

18 Sales companies

Mijdrecht (NL)
Walraven B.V.
The Netherlands

Mijdrecht (NL)
Walraven International
Other countries

Tienen (BE)
Walraven BVBA
Belgium – Luxembourg

Bayreuth (DE)
Walraven GmbH
Germany – Austria – Switzerland
Italy – South East Europe

Grenoble (FR)
Walraven France Eurl
France

Banbury (UK)
Walraven Ltd.
United Kingdom – Ireland

Mladá Boleslav (CZ)
Walraven s.r.o.
Czech republic – Slovak republic

Kraków (PL)
Walraven Sp. z o.o.
Poland – Lithuania – Latvia – Estonia

Kyiv (UA)
Walraven Ltd.
Ukraine

Barcelona (ES)
Walraven Iberia S.L.
Spain – Portugal

Detroit (US)
Walraven, Inc.
United States of America – Canada

Moscow (RU)
Walraven LLC
Russia

Shanghai (CN)
Walraven Shanghai, Ltd.
China

Malmö (SE)
Walraven Nordic AB
Sweden – Denmark – Norway – Finland – Iceland

Dubai (AE)
Hira Walraven
Middle East

Budapest (HU)
Walraven Kft.
Hungary – Romania

Mumbai (IN)
Diamond Walraven

Singapore (SG)
Walraven Pte. Ltd.

11 Production / assembly companies

Mijdrecht (NL)
J. van Walraven B.V.

Cista (CZ)
Suchánek & Walraven s.r.o.

Horka (CZ)
Suchánek & Walraven s.r.o.

Barcelona (ES)
Walraven Iberia S.L.

Banbury (UK)
Walraven Ltd.

Istanbul (TR)
Jefleks Plastik Kauçuk

Gramsbergen (NL)
Loko Gramsbergen B.V.

Horka (CZ)
SWO Tooling s.r.o.

Changshu (CN)
Walraven Metal Products (Changshu) Co. Ltd

Detroit (US)
Walraven, Inc.
United States of America – Canada

Mumbai (IN)
Diamond Walraven

On the fast track

For many years we have offered an extensive range of innovative fixing products, targeted mainly at the construction and building services industries.

We also manufacture specially designed fixings for Permanent Way maintenance and new rail projects.

The attachment of services directly to rails is a particularly demanding fixing environment, and requires specific solutions. Walraven has the answer - our range of high performing products designed for direct-to-rail fixings.

This catalogue is designed to make product selection speedy and simple. A convenient product selector provides an easy route to identifying the right product for a given application.

In the pages that follow you will find a selection of standard fixings specifically designed to be robust enough to function effectively on the Permanent Way - in situations subject to high vibration, movement, moisture, oil and significant temperature variation.

Many of the rail fixings have been developed following close consultation with rail professionals who requested help to provide solutions to specific problems. With, in particular, the proliferation of modern cable based systems on rail networks, we are ready and willing to offer a flexible, custom design and manufacturing service to industry partners.

The **RHC** range is versatile enough to allow fixings to most of the rail types currently in use, and will accommodate various manufacturers points heating and sensor components. The **RCC** range offers cable management for many power and data applications.

The primary function of **RHC** fixings is to secure electrical points heating systems. However, they are also ideal for anchoring other services, either directly attached or by adaptation.

Characterised by substantial construction and robust plated finish, Walraven fixings are easily and rapidly installed simply by hammering onto the foot of the rail. Once in place, they powerfully resist the effect of movement and vibration, and cope extremely well with corrosive conditions.

Walraven Railclips incorporate features that enhance fixing security and therefore improve safety:

- Robust and vibration resistant
- Resistant to corrosive environments
- Quick and simple to install
- Special uptilted leading edge that enables the clip to rise up and over the heating element as it is being installed

For further information on product design matters, please contact us using the details on the back of the catalogue.

Technical Information

Material
Rail fixings are pressed from high quality CS70 spring steel strip, of 1.64 mm. thickness. Where fixings comprise two or more components, attachment is made using 430 gauge stainless steel rivets.

Deltatone®
Fixings are coated with a combination of Deltatone® and DELTA-Seal finishes. The result is an extremely durable zinc rich base, coated with an organic resin sealant. The outstanding properties-are:

- Excellent weathering resistance (500 salt spray hours when tested to ASTM B 117 and DIN-50021).
- Resistance to corrosion by chemicals (acids and lyes) and by oils, lubricants, coolants etc.
- High electric insulation properties, giving protection against bi-metallic contact corrosion.

Deltatone® consists of zinc and aluminium particles that are held together by an inorganic binder. This offers an effective protection against corrosion even with a limited layer of thickness. Deltatone® is applied in an immersion/centrifugal or spray process and then dried at a temperature of 200°C. With this method an even layer is formed over the whole product with a thickness of 4 - 10 µm. Subsequently Deltatone® forms a connection with the metal underneath and the surface consists of a layer of inorganic material with zinc and aluminium lakes. In contrast to electrolytic and thermal galvanizing, with Deltatone® there is no danger of hydrogen embrittlement 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 4 - 10 µm. Products protected by Deltatone® are suitable for outside use as well as moderate corrosive environments.

Standards for Deltatone®:

- BS 7371, pt. 1, 2 and 11 (1991)

Approvals
Rail clips marked * are approved by RAILTRACK plc for switch point heating applications, under their Certificate of Acceptance no. PA05/456.

London Underground operates the LUL Approved Products Register and only products that meet the requirements of this process can be installed within the network.

Within the booklet you will find the Walraven products that satisfy the requirements set by the London Underground and are therefore on the LUL Approved Products Register.

Quick Reference Rail Clip Selector

Ref. No.	NR Cat. No.	To fit Rail type							
		BS110	BS113	UIC54	UIC54A	UIC54B	UIC60	UIC60B	BULLHEAD
EMRHC 001 *	55 / 009155	*	*	*			*		
EMRHC 002 *	55 / 009156				*				
EMRHC 003 *	55 / 009157					*			
EMRHC 004 *	55 / 009158	*	*	*			*		
EMRHC 005 *	55 / 009159				*				
EMRHC 006 *	55 / 009160					*			
EMRHC 007 *	55 / 009161	*	*	*					
EMRHC 013 *	55 / 009166							*	
EMRHC 014 *	55 / 009167							*	
EMRHC 015 *	55 / 009168								*
EMRHC 016 *	55 / 009169								*
EMRHC 017 *	55 / 009172								*
EMRHC 019 *	55 / 009175	*	*	*			*		
EMRHC 025	55 / 009179								*
EMRCC 01-14 *	55 / 009162	*	*	*			*		
EMRCC 01-20 *	55 / 009163	*	*	*			*		
EMRCC 01-25 *	55 / 009164	*	*	*			*		
EMRCC 02 *	55 / 009165	*	*	*			*		
EMRCC 04									
EMRCC 05									
EMRCC 06									
EM 5117 1 213 (HP5-12)		*	*	*			*		

* Denotes fixings that have successfully completed Railtrack Product Acceptance.

BIS Rail Clips

BIS Top Fix

fixing of heating elements to rail

Features and benefits

- designed to hold heating element securely in position under the head of a rail
- material: spring steel (type CS70)
- surface treatment: Delta-Tone 9000 (600 hours)

Part No.	Code	A (mm)	For	Pack 1
EMRHC 007	RHC-007	11 - 13	BS110, 113, UIC54	25
Adaptations can be made to suit other rail pipes including UIC60.				

BIS Bottom Fix Clip (RHC)

fixing of heating elements to rail

Features and benefits

- designed to hold heating element securely in position on foot of rail
- raised leading edge of clip rises up over the heater during installation
- material: spring steel (type CS70)
- surface treatment: Delta-Tone 9000 (600 hours)

Part No.	Code	A (mm)	L	B (mm)	H (mm)	d1 (mm)	B1 (mm)	For	Pack 1
EMRHC 001	RHC-001	11 - 13	60.0 mm	43	27	6.5	33.4	BS110, 113, UIC43, 60	25
EMRHC 002	RHC-002	14 - 16	57.0 mm	43	32	6.5	34.0	UIC54A	25
EMRHC 003	RHC-003	20 - 22	72.5 mm	43	29	6.5	28.0	UIC54B	25
EMRHC 013	RHC-013	20 - 22	62.5 mm	43	34	6.5	37.0	UIC60B	25
EMRHC003 and EMRHC013: to suit an elongated rail flange.									

BIS Temperature Sensor Clip

fixing of heating / cable connector to rail

Features and benefits

- designed to secure a heater / cable connector unit on the rail foot
- can be made to suit other rail sizes
- material: spring steel (type CS70)
- surface treatment: Delta-Tone 9000 (600 hours)

Part No.	A (mm)	For	Pack 1
EMRHC 019	11 - 13	BS110, 113, UIC54, 60	25

BIS Knock-on General Purpose Bracket

Features and benefits

- can be made to suit other rail sizes
- material: spring steel (type CS70)
- surface treatment: Delta-Tone 9000 (600 hours)

Part No.	A (mm)	For	Pack 1
EMRHC 034	11 - 13	BS110, 113, UIC54, 60	20

BIS Bottom Fix Clip

fixing of heating elements to rail

Features and benefits

- designed to secure a heater on the rail foot
- this clip compromises of two components which are easily assembled around the base of the rail to provide a secure fixing
- material: spring steel (type CS70)
- surface treatment: Delta-Tone 9000 (600 hours)

Part No.	Code	A (mm)	For	Pack 1
EMRHC 015	RHC-15	23	Bullhead BS95	25

BIS Barrel Holder

fixing of heating elements to rail 25 mm

Features and benefits

- the heating element leaving the connector is secured to the rail
- code RHC-004 and RHC-005 designed to secure a heating cable connector unit to the foot of a rail
- code RHC-006 and RHC-14 designed to secure a heating cable connector unit to a non-tapering, extended rail base flange
- material: spring steel (type CS70)
- surface treatment: Delta-Tone 9000 (480 hours)

Part No.	Code	D (mm)	A (mm)	L	H (mm)	B1 (mm)	For	Pack 1
EMRHC 004	RHC-004	25	11 - 13	62.0 mm	74.5	33.4	BS110, 113, UIC54, 60	25
EMRHC 005	RHC-005	25	14 - 16	62.5 mm	77.0	33.4	UIC54A	25
EMRHC 006	RHC-006	25	20 - 23	82.0 mm	74.0	28.0	UIC54B	25
EMRHC 014	RHC-014	25	20 - 23	62.0 mm	74.5	33.4	UIC60B	25

BIS Barrel Holder

23 - 27 mm

Features and benefits

- designed to secure a heater / cable connector unit on the rail foot
- this clip compromises of two components which are easily assembled around the base of the rail to provide a secure fixing
- material: spring steel (type CS70)
- surface treatment: Delta-Tone 9000 (480 hours)

Part No.	Code	D (mm)	A (mm)	For	Pack 1
EMRHC 017	RHC-017	23 - 27	23	Bullhead BS95	25

BIS Top Fix

Features and benefits

- designed to secure a heater under the rail head
- this clip compromises of two components which are easily assembled around the base of the rail to provide a secure fixing
- material: spring steel (type CS70)
- surface treatment: Delta-Tone 9000 (600 hours)

Part No.	Code	A (mm)	For	Pack 1
EMRHC 016	RHC-016	23	Bullhead BS95	25

BIS Knock-on Top of Rail Heater Clip

Features and benefits

- designed to hold heating element securely in position under the rail head on switch rail toe-ends i.e. where one side of the rail has been machined
- the clip holds the heater strip at the angle of foot and neck
- material: Britclips® Beam Clips made of spring steel (type CS70); other parts made of steel
- surface treatment: Delta-Tone 9000 (480 hours)

Part No.	H (mm)	For	Pack 1
EMRHC 028	95	Bullhead BS95	25

BIS Toe End Knock-on Heater Clip

Features and benefits

- designed to hold heating element securely in position on the rail foot on switch rail toe-ends i.e. where one side of the rail has been machined
- the clip holds the heater strip at the angle of foot and neck
- material: Britclips® Beam Clips made of spring steel (type CS70); other parts made of steel
- surface treatment: Delta-Tone 9000 (480 hours)

Part No.	Code	For	Pack 1
EMRHC 025	RHC-025	Bullhead BS95	25

BIS Bottom Fix Clip (RCC)

13 - 15 mm

Features and benefits

- for single cable or tube fixing
- clip is hammered into position on the foot of the rail, with the cable being pushed into the open-top spring clip
- can be made to suit other rail sizes
- cable is held firmly in place, yet can easily be removed when required
- material: spring steel (type CS70)
- surface treatment: Delta-Tone 9000 (480 hours)

Part No.	D (mm)	A (mm)	H (mm)	h (mm)	For	Pack 1
EMRCC 01-14	13 - 15	13	45	18	BS110, 113, UIC54, 60	25

BIS Knock-on Sensor Clip

Features and benefits

- designed to secure a heater /cable connector unit on the rail foot tip at the switch rail toe-ends i.e. where one side of the rail has been machined
- material: spring steel (type CS70)
- surface treatment: Delta-Tone 9000 (480 hours)

Part No.	For	Pack 1
EMRHC 030	Bullhead BS95	25

Britclips® Electrical Fixings

Britclips® Universal Pipe Clip

for flange 3 - 20 mm

Features and benefits

- for a solid fixing to steel construction without the need for welding or drilling
- Part No. EM 5117 1 213: suits up to 12 mm diameter cable
- Part No. EM 5117 1 213: is for use with rail types: BS110, BS113, UIC54 and UIC 60
- surface treatment: Britclips® Universal Beam Clips: Delta-Tone 9000 (480 hours); Britclips® Pipe Clips: zinc plated
- material: Britclips® Universal Beam Clips made of spring steel (type CS70); Britclips® Pipe Clips made of steel

Part No.	Code	D (mm)	A (mm)	Pack 1
EM 5117 1 213	HP5-12	12	8.0 - 12.5	100
For use with static loads only.				

Britclips® Beam Clip

for flange 2 - 30 mm

Features and benefits

- for a solid fixing to steel construction without the need for welding or drilling
- with fixing hole (Ø 6.5 mm) to fix S-hook, bolt/nut, etc.
- material: spring steel (type CS70)
- surface treatment: Delta-Tone 9000 (480 hours)

Part No.	Code	A (mm)	h (mm)	$F_{a,z}$ (N)	Pack 1
EM 5002 0 004	BC125	2 - 4	21	720	100
EP 5002 0 004	BC125	2 - 4	21	720	25
EM 5002 0 009	BC250	5 - 9	23	900	100
EP 5002 0 009	BC250	5 - 9	23	900	25
EM 5002 0 016	BC500	10 - 16	29	900	100
EP 5002 0 016	BC500	10 - 16	29	900	25
EM 5002 0 020	BC750	17 - 20	34	900	100
EP 5002 0 020	BC750	17 - 20	34	900	25
EM 5002 0 030	BC1000	23 - 30	40	900	100

For use with static loads only.

Britclips® Suspension Clip / Single Clip

for composite flooring systems

Features and benefits

- for fixing to composite flooring systems
- with thread connection or fixing hole for universal fixing
- material: spring steel (type CS70)
- surface treatment: Delta-Tone 9000 (480 hours)

Part No.	Code	R	$F_{a,z}$ (N)	Pack 1
EM 5842 0 619	HOL3-6MT	M6	600	100
EM 5842 0 819	HOL3-8MT	M8	600	100
EM 5842 1 019	HOL3-10-MT	M10	600	100

For use with static loads only.

Britclips® Cable Run Clip Flange 2-7 mm

for flange 2 - 7 mm

Features and benefits

- for quick fixing of cables
- material: spring steel (type CS70)
- surface treatment: Delta-Tone 9000 (480 hours)

Part No.	Code	D (mm)	A (mm)	Pack 1
EM 5202 0 604	CR25	4.5 - 5.5	2 - 4	100
EM 5202 0 704	CR26	6.0 - 7.0	2 - 4	100
EP 5202 0 704	CR26	6.0 - 7.0	2 - 4	25
EM 5202 0 904	CR27	7.0 - 9.0	2 - 4	100
EP 5202 0 904	CR27	7.0 - 9.0	2 - 4	25
EM 5202 1 104	CR210	10.0 - 11.0	2 - 4	100
EP 5202 1 104	CR210	10.0 - 11.0	2 - 4	25
EM 5202 1 404	CR212	12.0 - 14.0	2 - 4	100
EP 5202 1 404	CR212	12.0 - 14.0	2 - 4	25
EM 5202 1 804	CR215	15.0 - 18.0	2 - 4	100
EP 5202 1 804	CR215	15.0 - 18.0	2 - 4	25
EM 5202 2 404	CR219	19.0 - 24.0	2 - 4	100
EP 5202 2 404	CR219	19.0 - 24.0	2 - 4	25
EM 5202 3 004	CR225	25.0 - 30.0	2 - 4	100
EP 5202 3 004	CR225	25.0 - 30.0	2 - 4	25
EM 5202 0 607	CR45	4.5 - 5.5	4 - 7	100
EM 5202 0 707	CR46	6.0 - 7.0	4 - 7	100
EP 5202 0 707	CR46	6.0 - 7.0	4 - 7	25
EM 5202 0 907	CR47	7.0 - 9.0	4 - 7	100
EP 5202 0 907	CR47	7.0 - 9.0	4 - 7	25
EM 5202 1 107	CR410	10.0 - 11.0	4 - 7	100
EP 5202 1 107	CR410	10.0 - 11.0	4 - 7	25
EM 5202 1 407	CR412	12.0 - 14.0	4 - 7	100
EP 5202 1 407	CR412	12.0 - 14.0	4 - 7	25
EM 5202 1 807	CR415	15.0 - 18.0	4 - 7	100
EP 5202 1 807	CR415	15.0 - 18.0	4 - 7	25
EM 5202 2 407	CR419	19.0 - 24.0	4 - 7	100
EP 5202 2 407	CR419	19.0 - 24.0	4 - 7	25
EM 5202 3 007	CR425	25.0 - 30.0	4 - 7	100
EP 5202 3 007	CR425	25.0 - 30.0	4 - 7	25
For use with static loads only.				

Britclips® Cable Run Clip Flange 8-12 mm

for flange 8 - 20 mm

EX 5202 X XXX

EX 5202 0 020

CR

CRA

Features and benefits

- for quick fixing of cables
- Part No's EM/EP 5202 0 020: adaptor for fastening of maximum 3 cable run clips (type CR)
- Part No's EM/EP 5202 0 020: adaptor for fastening of maximum 3 cable run clips (type CR)
- material: spring steel (type CS70)
- surface treatment: Delta-Tone 9000 (480 hours)

Part No.	Code	D (mm)	A (mm)	Model	Pack 1
EM 5202 0 612	CR85	4.5 - 5.5	8 - 12	-	100
EM 5202 0 712	CR86	6.0 - 7.0	8 - 12	-	100
EP 5202 0 712	CR86	6.0 - 7.0	8 - 12	-	25
EM 5202 0 912	CR87	7.0 - 9.0	8 - 12	-	100
EP 5202 0 912	CR87	7.0 - 9.0	8 - 12	-	25
EM 5202 1 112	CR810	10.0 - 11.0	8 - 12	-	100
EP 5202 1 112	CR810	10.0 - 11.0	8 - 12	-	25
EM 5202 1 412	CR812	12.0 - 14.0	8 - 12	-	100
EP 5202 1 412	CR812	12.0 - 14.0	8 - 12	-	25
EM 5202 1 812	CR815	15.0 - 18.0	8 - 12	-	100
EP 5202 1 812	CR815	15.0 - 18.0	8 - 12	-	25
EM 5202 2 412	CR819	19.0 - 24.0	8 - 12	-	100
EP 5202 2 412	CR819	19.0 - 24.0	8 - 12	-	25
EM 5202 3 012	CR825	25.0 - 30.0	8 - 12	-	100
EP 5202 3 012	CR825	25.0 - 30.0	8 - 12	-	25
EM 5202 0 020	CRA	0.0	12 - 20	Fits CR25 - CR225	100
EP 5202 0 020	CRA	0.0	12 - 20	Fits CR25 - CR225	25
For use with static loads only.					

CR

CRA

Britclips® Support Clip

for threaded rods or flanges 16 - 32 mm

Features and benefits

- for quick fixing to threaded rods or flanges without welding or drilling
- material: spring steel (type CS70)
- surface treatment: Delta-Tone 9000 (480 hours)

Part No.	Code	D (mm)	A (mm)	R	$F_{a,z}$ (N)	Pack 1
EM 5592 2 008	SC750	16 - 20	6 - 9	M6 - M8	450	100
EP 5592 2 008	SC750	16 - 20	6 - 9	M6 - M8	450	25
EM 5592 2 510	SC1000	16 - 20	6 - 9	M6 - M8 / M10	450	100
EP 5592 2 510	SC1000	16 - 20	6 - 9	M6 - M8 / M10	450	25
EM 5592 3 210	SC1250	25 - 32	6 - 9	M6 - M8 / M10	450	50

For use with static loads only.
Load shown is for beam application, for rod application $F_{o,z}$ = 220 N.

Britclips® Cable / Conduit Clamp

for all pipes Ø 16 - 64 mm

Features and benefits

- engages horizontal flanges
- supports services running at right angles to the supporting flange
- pre-galvanized

Part No.	Code	D (mm)	$F_{a,z}$ (N)	Pack 1
EM 5555 1 222	GCCU22	16 - 22	1,000	50
EM 5555 1 228	GCCU28	22 - 28	1,000	50

For use with static loads only.

Products approved for use on the London Underground

(LUL Approved Products Register)

BIS Heavy Duty Clamp HD500 (BUP1000)

for steel pipes 15 - 227 mm

M8/10 - M10/12

Authorised for use on the London Underground. Certificate number 2683.

Features and benefits

- two-part clamp with two locking bolts
- up to and including 5": locking nut is captive, hidden in plastic holder
- heavy design
- bolts secured with anti-loss washer
- with CO_2 welded connection nut
- material: steel
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
- surface protection:
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
- also available: noise insulating lining of silicone rubber (reddish brown), heat resistant up to +200 °C (A 35 15)

RAL-GZ 655/B
Cert.Nr. 2011-13a

RAL-GZ 656
Cert.Nr. 2011-05

Part No.	D (mm)	D (")	DN	G	B (mm)	H (mm)	h (mm)	b x s (mm)	$F_{a,z}$ (N)	RAL	Pack 1
3303 8 019	15 - 19	3/8	10	M8/10	75	46	32	30 x 2.5	2,100	RAL[2]	25
3303 8 023	19 - 23	1/2	15	M8/10	78	50	34	30 x 2.5	2,100	RAL[2]	25
3303 8 030	25 - 30	3/4	20	M8/10	84	57	38	30 x 2.5	2,100	RAL[2]	25
3303 8 036	31 - 36	1	25	M8/10	91	63	41	30 x 2.5	2,100	RAL[2]	25
3303 8 042	37 - 42	-	-	M8/10	98	69	44	30 x 2.5	2,100	RAL[2]	25
3303 8 045	40 - 45	1 1/4	32	M8/10	101	72	45	30 x 2.5	2,100	RAL[2]	25
3303 8 052	47 - 52	1 1/2	40	M8/10	109	79	49	30 x 2.5	2,100	RAL[2]	25
3303 8 058	53 - 58	-	-	M8/10	115	85	52	30 x 2.5	2,100	RAL[2]	25
3303 8 065	59 - 65	2	50	M8/10	122	92	55	30 x 2.5	2,100	RAL[2]	25
3303 8 071	66 - 71	-	-	M8/10	129	98	58	30 x 2.5	2,100	RAL[2]	25
3304 8 078	72 - 78	2 1/2	65	M10/12	136	115	70	30 x 3.0	4,000	RAL[2]	25
3304 8 085	79 - 85	-	-	M10/12	144	122	75	30 x 3.0	4,000	RAL[2]	25
3304 8 092	86 - 92	3	80	M10/12	152	129	78	30 x 3.0	4,000	RAL[2]	25
3304 8 106	98 - 106	-	-	M10/12	165	143	85	30 x 3.0	4,000	RAL[2]	25
3304 8 116	108 - 116	4	100	M10/12	175	153	90	30 x 3.0	4,000	RAL[2]	25
3304 8 123	116 - 123	-	-	M10/12	182	160	94	30 x 3.0	4,000	RAL[2]	25
3304 8 133	125 - 133	-	-	M10/12	193	170	99	30 x 3.0	4,000	RAL[2]	25
3304 8 140	132 - 140	5	125	M10/12	200	177	102	30 x 3.0	4,000	RAL[2]	25
3304 8 154	148 - 154	-	-	M10/12	215	191	109	30 x 3.0	4,000	RAL[2]	15
3304 8 169	159 - 169	6	150	M10/12	240	207	117	38 x 4.0	8,200	RAL[2]	15
3304 8 183	173 - 183	-	-	M10/12	254	221	124	38 x 4.0	8,200	RAL[2]	15
3304 8 202	192 - 202	-	-	M10/12	274	240	133	38 x 4.0	8,200	RAL[2]	15
3304 8 219	208 - 219	-	-	M10/12	290	256	141	38 x 4.0	8,200	RAL[2]	15
3304 8 227	217 - 227	8	200	M10/12	299	265	146	38 x 4.0	8,200	RAL[2]	2

RAL[2] = tested, certified and monitored by a third party according to RAL-GZ 655/B and RAL-GZ 656. For detailed technical information about our RAL marked products, please see the RAL datasheet in our web catalogue.

BIS Heavy Duty Clamp HD1501 (BUP1000)

for metal pipes 15 - 227 mm

M8/10 - M10/12

Authorised for use on the London Underground. Certificate number 2684.

Features and benefits

- two-part clamp with two locking bolts
- up to and including 5": locking nut is captive, hidden in plastic holder
- heavy design
- bolts secured with anti-loss washer
- with CO_2 welded connection nut
- material: steel
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
- surface protection:
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
- noise insulating lining, EPDM rubber, black
- also available: noise insulating lining of silicone rubber (reddish brown), heat resistant up to +200 °C (A 35 15)
- age resistant lining
- sound insulating lining according DIN 4109

RAL-GZ 655/B Cert.Nr. 2011-12a

RAL-GZ 656 Cert.Nr. 2011-14

Part No.	D (mm)	D (")	DN	G	B (mm)	H (mm)	h (mm)	b x s (mm)	$F_{a,z}$ (N)	RAL	Pack 1
3313 8 019	15 - 19	3/8	10	M8/10	81	55	35	30 x 2.5	1,500	RAL[2]	25
3313 8 023	19 - 23	1/2	15	M8/10	84	58	37	30 x 2.5	1,500	RAL[2]	25
3313 8 029	25 - 29	3/4	20	M8/10	91	64	40	30 x 2.5	1,500	RAL[2]	25
3313 8 035	30 - 35	1	25	M8/10	98	70	43	30 x 2.5	1,500	RAL[2]	25
3313 8 045	40 - 45	1 1/4	32	M8/10	109	80	48	30 x 2.5	1,500	RAL[2]	25
3313 8 051	46 - 51	1 1/2	40	M8/10	115	86	51	30 x 2.5	1,500	RAL[2]	25
3313 8 059	53 - 59	-	-	M8/10	122	93	55	30 x 2.5	1,500	RAL[2]	25
3313 8 064	59 - 64	2	50	M8/10	129	99	57	30 x 2.5	1,500	RAL[2]	25
3314 8 071	65 - 71	-	-	M10/12	136	116	71	30 x 3.0	2,300	RAL[2]	25
3314 8 078	72 - 78	2 1/2	65	M10/12	144	123	74	30 x 3.0	2,300	RAL[2]	25
3314 8 085	79 - 85	-	-	M10/12	152	130	78	30 x 3.0	2,300	RAL[2]	25
3314 8 092	86 - 92	3	80	M10/12	159	136	81	30 x 3.0	2,300	RAL[2]	25
3314 8 109	101 - 109	-	-	M10/12	175	154	90	30 x 3.0	2,300	RAL[2]	25
3314 8 116	108 - 116	4	100	M10/12	182	160	93	30 x 3.0	2,300	RAL[2]	25
3314 8 133	125 - 133	-	-	M10/12	200	178	102	30 x 3.0	2,300	RAL[2]	25
3314 8 140	132 - 140	5	125	M10/12	207	184	104	30 x 3.0	2,300	RAL[2]	15
3314 8 169	159 - 169	6	150	M10/12	254	223	124	38 x 4.0	3,800	RAL[2]	15
3314 8 188	178 - 188	-	-	M10/12	274	242	133	38 x 4.0	3,800	RAL[2]	15
3314 8 204	194 - 204	-	-	M10/12	290	258	141	38 x 4.0	3,800	RAL[2]	15
3314 8 213	203 - 213	-	-	M10/12	299	267	146	38 x 4.0	3,800	RAL[2]	15
3314 8 227	217 - 227	8	200	M10/12	322	282	152	38 x 4.0	3,800	RAL[2]	2

RAL[2] = tested, certified and monitored by a third party according to RAL-GZ 655/B and RAL-GZ 656. For detailed technical information about our RAL marked products, please see the RAL datasheet in our web catalogue.

BIS Heavy Duty Clamp HD1501 (BUP1000)

for metal pipes 217 - 509 mm

M16

Authorised for use on the London Underground. Certificate number 2684.

Features and benefits

- two-part clamp with two locking bolts
- heavy design
- bolts secured with anti-loss washer
- with CO_2 welded connection nut
- material: steel
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
- surface protection:
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
- noise insulating lining, EPDM rubber, black
- also available: noise insulating lining of silicone rubber (reddish brown), heat resistant up to +200 °C (A 35 15)
- age resistant lining
- sound insulating lining according DIN 4109

RAL-GZ 655/B Cert.Nr. 2011-12a

RAL-GZ 656 Cert.Nr. 2011-14

Part No.	D (mm)	D (")	DN	G	B (mm)	H (mm)	h (mm)	b x s (mm)	$F_{a,z}$ (N)	RAL	Pack 1
3316 8 227	217 - 227	8	200	M16	322	278	150	38 x 4.0	3,800	RAL[2]	2
3316 8 250	240 - 250	-	-	M16	345	302	163	38 x 4.0	3,800	RAL[1]	2
3316 8 275	265 - 275	10	250	M16	367	327	175	48 x 5.0	9,200	RAL[1]	2
3316 8 325	315 - 325	12	300	M16	414	374	198	48 x 5.0	9,200	RAL[1]	2
3316 8 364	354 - 364	14	350	M16	453	412	217	48 x 5.0	9,200	RAL[1]	2
3316 8 408	398 - 408	16	400	M16	497	456	239	48 x 5.0	9,200	RAL[1]	2
3316 8 458	448 - 458	18	450	M16	548	506	264	48 x 5.0	9,200	RAL[1]	2
3316 8 509	499 - 509	20	500	M16	599	557	289	48 x 5.0	9,200	RAL[1]	2

RAL[1] = tested, certified and monitored by a third party according to RAL-GZ 655/B.
RAL[2] = tested, certified and monitored by a third party according to RAL-GZ 655/B and RAL-GZ 656.
For detailed technical information about our RAL marked products, please see the RAL datasheet in our web catalogue.

BIS RapidRail® Wall Plate

fixing to wall

Authorised for use on the London Underground. Certificate number 2676.

Features and benefits

- U-profile welded on wall plate
- for wall fixing of rail
- rail can be fixed with slot downwards or sideways
- Part No. 661 3 200: suitable for WM0, 1, 15, 2, 30
- Part No. 661 3 235: suitable for WM35
- slots at 90° to each other to simplify fixing
- CO_2 welded
- with pre-assembled BIS RapidRail® Sliding nut(s) for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- zinc plated

Part No.	L	B (mm)	H (mm)	s (mm)	d1 (mm)	k (mm)	SW1 (mm)	$T_{(max.)}$ (Nm)	For Rail	$F_{a,z}$ (N)	Pack 1
661 3 200	100 mm	50	123	4.0	25 x 11	83	13	15.0	WM0 - 30	2,850	25
661 3 235	80 mm	60	133	5.0	25 x 11	93	13	15.0	WM35	2,850	25

BIS RapidRail® Fixing Rail

suspension and support

Authorised for use on the London Underground. Certificate number 2676.

RAL-GZ 655/C
Cert.Nr. 2012-03

WM0, 1, 15, 2, 30

WM35

Features and benefits

- C-profile
- for a quick and easy fixing
- with continuous perforation (on request without perforation)
- distance between rail end and first hole is always equal
- a continuous graduated centimetre scale on one side
- unique perforation on rail WM15, WM30 and WM35 allows for hanging on both sides
- material: steel 1.0242
- yield strength 240 N/mm²
- pre-galvanized
- for more information about the max. allowed load ($F_{a,z}$) please refer to the loading tables or our online datasheet 'Technical Details BIS RapidRail®'

Part No.	Type	L	B (mm)	H (mm)	s (mm)	S (mm)	RAL	BndS	BndL	App.
650 5 000	WM0	2 m	27	18	1.20	15	RAL[1]	20	400	m.
650 5 300	WM0	3 m	27	18	1.20	15	RAL[1]	30	600	m.
650 5 600	WM0	6 m	27	18	1.20	15	RAL[1]	60	1.200	m.
650 5 001	WM1	2 m	30	15	2.00	15	RAL[1]	20	480	m.
650 5 301	WM1	3 m	30	15	2.00	15	RAL[1]	30	720	m.
650 5 601	WM1	6 m	30	15	2.00	15	RAL[1]	60	720	m.
650 5 015	WM15	2 m	30	20	1.75	15	RAL[1]	20	480	m.
650 5 315	WM15	3 m	30	20	1.75	15	RAL[1]	30	720	m.
650 5 615	WM15	6 m	30	20	1.75	15	RAL[1]	60	720	m.
650 5 002	WM2	2 m	30	30	2.00	15	RAL[1]	20	400	m.
650 5 302	WM2	3 m	30	30	2.00	15	RAL[1]	30	600	m.
650 5 602	WM2	6 m	30	30	2.00	15	RAL[1]	60	600	m.
650 5 030	WM30	2 m	30	45	2.00	15	RAL[1]	20	240	m.
650 5 630	WM30	6 m	30	45	2.00	15	RAL[1]	60	360	m.
650 5 235	WM35	2 m	38	40	2.00	15	-	20	100	m.
650 5 335	WM35	3 m	38	40	2.00	15	-	30	150	m.
650 5 635	WM35	6 m	38	40	2.00	15	-	60	300	m.

RAL[1] = tested, certified and monitored by a third party according to RAL-GZ 655/C.
For detailed technical information about our RAL marked products, please see the RAL datasheet in our web catalogue.
For more information about the max. allowed load ($F_{a,z}$) please refer to the loading tables or our online datasheet 'Technical Details BIS RapidRail®'.

BIS RapidRail® Hammerfix

fixing to BIS RapidRail®

Authorised for use on the London Underground. Certificate number 2676.

Features and benefits

- slide nut with stud bolt, washer and BIS RapidRail® spring
- suitable for WM0, 1, 15, 2, 30, 35
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- zinc plated

Part No.	G	L	LU (mm)	s (mm)	SW1 (mm)	$T_{(max.)}$ (Nm)	For Rail	$F_{a,z}$ (N)	Pack 1	Pack 2
652 3 602	M6	20 mm	5	4.0	10	7.5	WM0 - 35	2,000	25	250
652 3 603	M6	30 mm	15	4.0	10	7.5	WM0 - 35	2,000	25	250
652 3 604	M6	40 mm	25	4.0	10	7.5	WM0 - 35	2,000	25	250
652 3 802	M8	25 mm	7	5.0	13	15.0	WM0 - 35	2,700	25	250
652 3 803	M8	30 mm	12	5.0	13	15.0	WM0 - 35	2,700	25	250
652 3 804	M8	40 mm	22	5.0	13	15.0	WM0 - 35	2,700	25	250
652 3 805	M8	50 mm	32	5.0	13	15.0	WM0 - 35	2,700	25	250
652 3 806	M8	60 mm	42	5.0	13	15.0	WM0 - 35	2,700	25	250
652 3 807	M8	70 mm	52	5.0	13	15.0	WM0 - 35	2,700	25	250
652 3 808	M8	80 mm	62	5.0	13	15.0	WM0 - 35	2,700	25	250
652 3 809	M8	90 mm	72	5.0	13	7.5	WM0 - 35	2,700	25	250
652 3 810	M8	100 mm	82	5.0	13	15.0	WM0 - 35	2,700	25	250
652 3 812	M8	120 mm	102	5.0	13	15.0	WM0 - 35	2,700	25	250
652 3 815	M8	150 mm	132	5.0	13	15.0	WM0 - 35	2,700	25	250
652 3 818	M8	180 mm	162	5.0	13	15.0	WM0 - 35	2,700	25	125
652 3 820	M8	200 mm	182	5.0	13	15.0	WM0 - 35	2,700	25	125
652 3 002	M10	25 mm	7	5.0	17	15.0	WM0 - 35	2,900	25	250
652 3 003	M10	30 mm	12	5.0	17	15.0	WM0 - 35	2,900	25	250
652 3 004	M10	40 mm	22	5.0	17	15.0	WM0 - 35	2,900	25	250
652 3 005	M10	50 mm	32	5.0	17	15.0	WM0 - 35	2,900	25	250
652 3 006	M10	60 mm	42	5.0	17	15.0	WM0 - 35	2,900	25	250
652 3 008	M10	80 mm	62	5.0	17	15.0	WM0 - 35	2,900	25	250
652 3 010	M10	100 mm	82	5.0	17	15.0	WM0 - 35	2,900	25	250
652 3 016	M10	160 mm	142	5.0	17	15.0	WM0 - 35	2,900	25	125

BIS RapidRail® Slide Nut

fixing to BIS RapidRail®

Authorised for use on the London Underground. Certificate number 2676.

Features and benefits

- slide nut with washer and BIS RapidRail® spring
- suitable for WM0, 1, 15, 2, 30, 35
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- zinc plated

Part No.	G	s (mm)	$T_{(max.)}$ (Nm)	For Rail	$F_{a,z}$ (N)	Pack 1	Pack 2
651 3 106	M6	4.0	7.5	WM0 - 35	2,000	50	500
651 3 108	M8	5.0	15.0	WM0 - 35	2,700	50	500
651 3 110	M10	5.0	15.0	WM0 - 35	2,900	50	500

BIS RapidRail® Connector 90°

to make BIS RapidRail® fabrications

Authorised for use on the London Underground. Certificate number 2676.

RAL-GZ 655/D
Cert.Nr. 2012-09

Features and benefits

- connector with pre-assembled BIS RapidRail® Slide nut(s)
- to make rail fabrications
- suitable for WM0, 1, 15, 2, 30, 35
- ready-to-use pre-assembled for a quick fixing, and retains assembly in place before final tightening
- material: metal parts made of steel 1.0332; spring(s) made of POM (polyoxymethylene), green
- zinc plated

Part No.	Model	a (°)	$T_{(max.)}$ (Nm)	For Rail	$F_{a,z}$ (N)	$F_{a,x}$ (N)	RAL	Pack 1
658 4 001	Long / long	90°	15.0	WM0 - 35	1,562	720	RAL[1]	25
658 4 002	Short / long	90°	15.0	WM0 - 35	1,336	448	RAL[1]	25
658 4 003	Short / short	90°	15.0	WM0 - 35	1,336	448	RAL[1]	25
658 4 011	Long / long	90°	15.0	WM0 - 35	1,562	720	RAL[1]	25

RAL[1] = tested, certified and monitored by a third party according to RAL-GZ 655/D in combination with Rail WM1, 2, 15 and 30.
For detailed technical information about our RAL marked products, please see the RAL datasheet in our web catalogue.

658 4 001

658 4 002

658 4 003

658 4 011

BIS RapidStrut® Fixing Rail DS 5 (BUP1000)

suspension and support

Authorised for use on the London Underground. Certificate number 2688.

Features and benefits

- for a quick and easy fixing
- unique hole pattern, allowing BIS RapidStrut® Accessories to be mounted on both sides of the rail
- very high corrosion resistance (BIS UltraProtect® 1000)
- corrosion protection remains intact after cutting
- strength minimal equal to Strut 41x41x2.5 mm
- with continuous perforation
- distance between rail end and first hole is always equal
- a continuous graduated centimetre scale on one side
- material: steel 1.0242
- surface protection:
  - product is part of the BIS UltraProtect® 1000 system
  - suitable for in- and outdoor applications
  - stands min. 1,000 hours salt spray test (max. 5% red rust) according to ISO 9227
- for more information about the max. allowed load ($F_{a,z}$) please refer to the loading tables or our online datasheet 'Technical Details BIS RapidStrut®'

Part No.	L	B (mm)	H (mm)	s (mm)	S (mm)	BndS	BndL	App.
6505 8 252	2 m	41	51	2.0	22	20	80	m.
6505 8 352	3 m	41	51	2.0	22	30	120	m.
6505 8 652	6 m	41	51	2.0	22	60	240	m.

For more information about the max. allowed load ($F_{a,z}$) please refer to the loading tables or our online datasheet 'Technical Details BIS RapidStrut®'.

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