On Land

Putting safety first

MCT BRATTBERG®

Safety above all

Productprogramme

RGB and RGG ——   Multiple Frames —— Components /
                                      Accessories

RGP ——————— Planning

Standard Blocks ——— AddBlocks ——— HandiBlock ——

Plugs ——————— U-Blocks ————

Installation

The MCT Brattberg
Safety Club
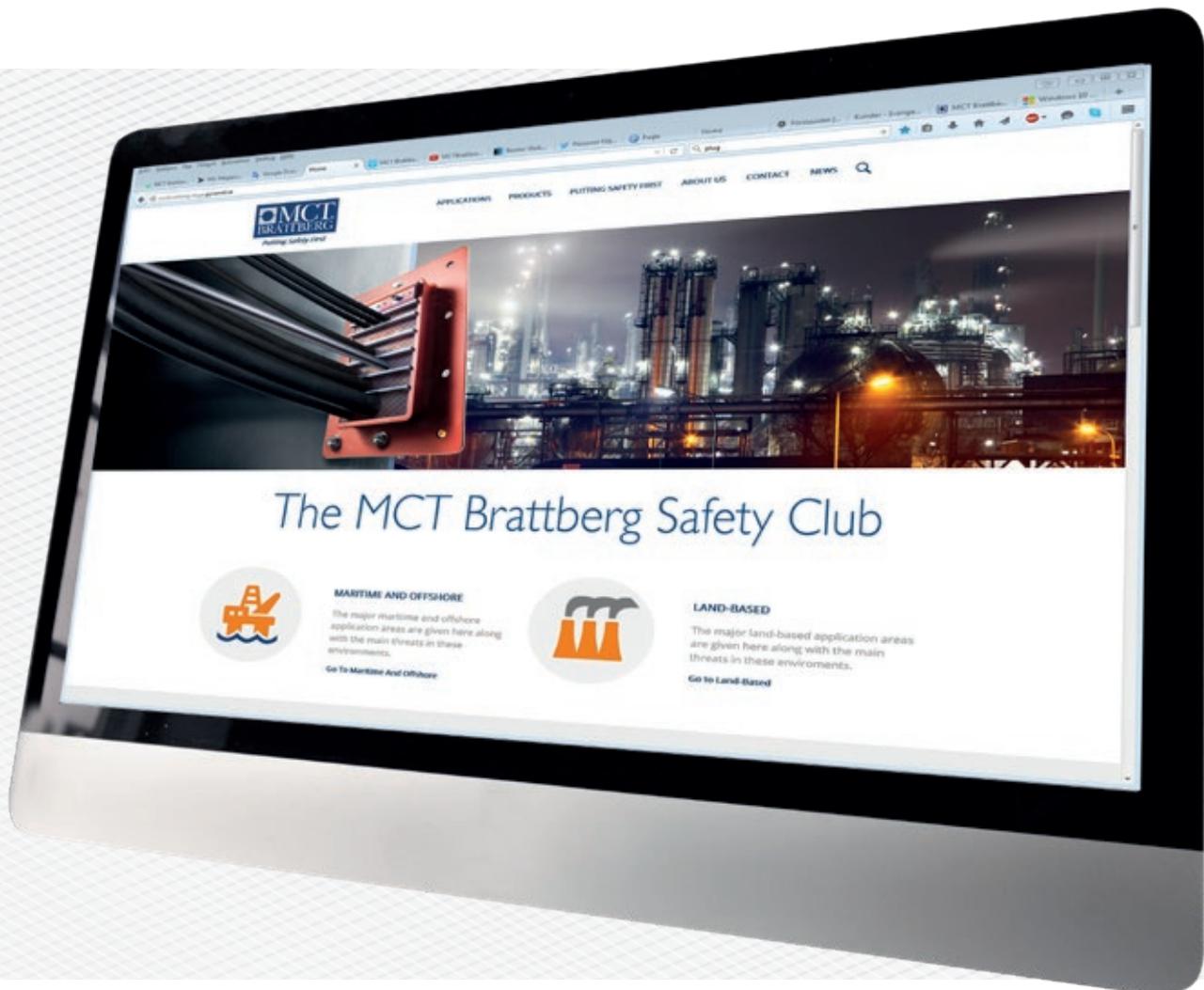
This club is located on our website at: **www.mctbrattberg.com**. First click on the menu header *Putting safety first* and then *The MCT Safety Club*. Its content primarily present information that will help those who install our cable and transit to do it correctly in order to achieve a high standard of safety.

The first time you visit the club you will be required to register. After that you can log in when you want and download material, see installation films or access various online training modules.

Tested, approved and
certified

Since the early 1950s, when we first started specializing in fireproof and pressure-sealed transits, quality testing and classification has been essential.

Tested by:

Aero Naval Lab. Inc. USA - Airo United Kingdom - AISH & Co United Kingdom Central Building Res. Institute United Kingdom - Central Building Res. Institute India Dantest Denmark - Dayton Brown USA - EMTECH Sweden - IBMB Germany International Research & Development United Kingdom - LCIE FranceLab. National Dessais France - Loss Prevention Council United KingdomNational Defence Research Institute Sweden - RAPRA United Kingdom Saab Avionics Sweden - SINTEF Norway - Southwest Research USA Swedish National Testing Institute Sweden - Swiss Testing Service Switzerland TNO Netherlands - ULC Canada - Warrington United Kingdom

Certified by:

*Bundesamt für Zivilschutz Germany
ETA Danmark A/S Denmark - Institut für Bautechnik Germany
SINTEF Norway - SP Sweden - Swedish Rescue Services Agency Sweden*

Please consult MCT Brattberg for latest updated certificates and approvals.

In 1986 our sealing method and quality system was adapted to meet the rigid requirements of the offshore and nuclear industry, and have been continuously updated to current requirements.

Today MCT Brattberg is assessed and certified by DNV, in accordance with the Quality and Environment Management system standard EN ISO 9001 and 14001, for the design, manufacture and supply of fire barrier and sealed transit systems associated with cable and pipe routes in building and marine environments.

As a direct result of this achievement, quality and environmental assessments are carried out by DNV twice annually.

MCT Brattberg also holds quality certificates and approvals from a wide variety of classification institutions and customers.

The original
cable transit

Based on the simple but clever idea of a frame with insert blocks and an end seal, the MCT Brattberg is the original transit system.

The MCT Brattberg was patented in the early 1950s. When oil rigs and nuclear power stations demanded cable and pipe installations with proven safety records, the MCT Brattberg system became a worldwide solution. And we´ve been improving it ever since. Comprehensive documentation shows that its resistance to fire, water, gas and pressure meets the latest safety requirements.

The industry standard

Our various frame dimensions have become standard worldwide, simply because they were first on the market and because they work in different environments and maintain the required quality. Our own test results also show that the frames have the optimal window sizes for maintaining structural strength and for fitting insert blocks. The frame has welded corners or added strength. The internal dimension is 120.5 mm ± 0.5 mm, depth 60 mm and thickness 10 mm. Standard frames are available both as single frames and combination frames.

Built in flexibility

The comprehensive range of frames, inserts blocks and other components of our transits provides remarkable application flexibility.

In addition, our product range covers insulation collars and special solutions for EMC transits, SR cable and pipe seals, deck and bulkhead glands.
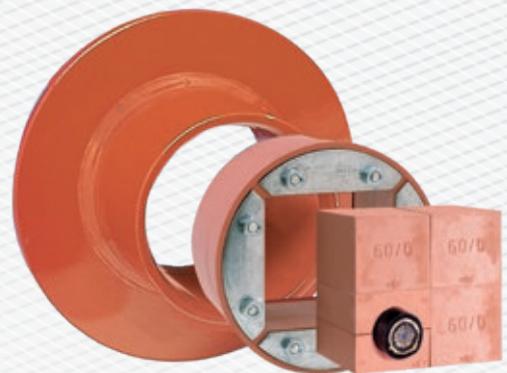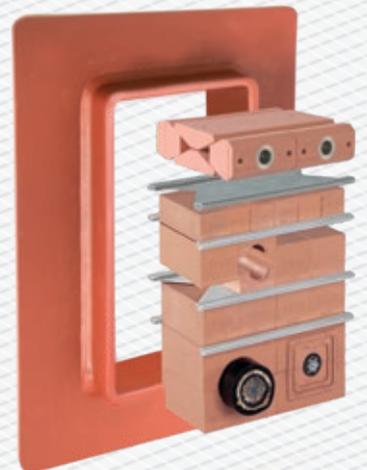
Special products for
special uses

RGPH tested to 40 bar.

MCT Brattberg manufactures a number of special products. High pressure secure cable transits, transits for wave guides and blocks with built-in protection against electromagnetic pulse due to lightning or nuclear blast.

High pressure seals

is an example of our special products. Several types of high pressure seals are available. Often these have been designed in collaboration with a customer. They are used, for example, in the supporting legs of oil rigs or in submarines. An example is the RGPH seal, which is certified up to 40 bar.

The E-series frames

and components provide the same protection as the standard MCT Brattberg system but with added, built-in protection against electromagnetic pulses caused by lightning or nuclear blast. They also give protection against interference, electronic sabotage and static electricity.

All dimensions are exactly the same as for the other MCT Brattberg components.

The E-series are aproved for Grounding and Bonding.

EMC products for Grounding and Bonding.

ATEX and IECEx certified transits

In explosion hazardous environments, it´s important to have Ex equipment. MCT Brattberg has a specific program for this areas with products that are tested and certified according to the ATEX directive and the international IECEx. All dimensions are exactly the same as for the other MCT Brattberg components.

For special products please consult MCT Brattberg.

Products to protect against explosions.

RGB and RGG

RGBO AND RGGO WITH REMOVABLE END

RGB is MCT Brattbergs standard frame for casting into concrete. RGB comes in four different sizes, in varying height and designates RGB-2, RGB-4, RGB-6 and RGB-8. The width dimension is always the same, 120 mm as, well as the depth 60 mm. The frame profiles width are 60 mm and the thickness of the material is 6 mm.

The RGG frame has a standard size flange and pre-drilled holes. The frame is screwed. When mounting through thick walls or floors, the RGG frame can be used together with a pre-drill counterstos to protect edges and keep any insulation in place. RGG has the same dimensions as RGB. The counterstos is available in three different depths to suit different wall thicknesses, see table on page 27.

For installations where cable and / or pipes are already drawn, RGGO is used with openable end.

RGB

RGBO

Size in mm									
	H	**W (width) Combination frames**							
FRAME SIZE	(height)	x 1	x 2	x 3	x 4	x 5	x 6	x n	
RGB/RGG-2	221	240.5	371	501.5	632	762.5	893	W = 110+	
RGB/RGG-4	279.5	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -	130.5 x n	
RGB/RGG-6	338	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -		
RGB/RGG-8	396.5	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -		
RGB/RGG-2+2	332	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -		
RGB/RGG-2+4	390.5	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -		
RGB/RGG-2+6	449	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -		
RGB/RGG-2+8	507.5	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -		
RGB/RGG-4+4	449	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -		
RGB/RGG-4+6	507.5	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -		
RGB/RGG-4+8	566	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -		
RGB/RGG-6+6	566	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -		
RGB/RGG-6+8	624.5	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -		
RGB/RGG-8+8	683	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -	- ,, -		

Size chart in mm

n = number of frames in width.
Tolerances single frame: 3.5 mm.
Thickness of material 6 mm except for internal horizontal and vertical walls in combination frames such as 10 mm.
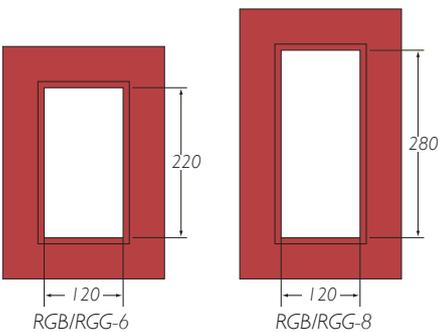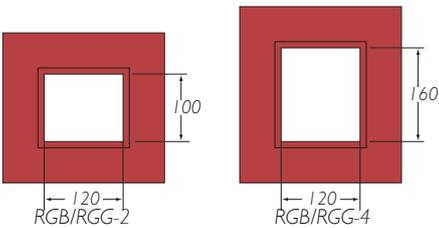

RGB/RGG-6

RGB/RGG-6x2

60

RGB/RGG-6+6x3
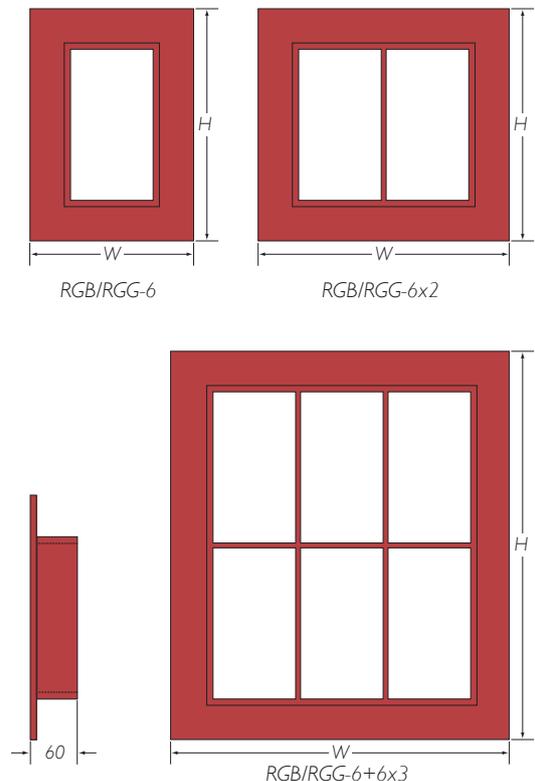
Information about combination frames can be found on page 11.

RGG

RGGO

Standard frames in four different sizes: 2, 4, 6 and 8 which mark different heights. All have the same width.
See below.

RGB/RGG-2 — 120, 100

RGB/RGG-4 — 120, 160

RGB/RGG-6 — 120, 220

RGB/RGG-8 — 120, 280

Weight chart in kilograms

		Weight in kilograms					
		W (width) Combination frames					
MATERIAL	FRAME SIZE	x 1	x 2	x 3	x 4	x 5	x 6
STEEL	RGB/RGG-2	3.1	5.0	6.9	8.8	10.7	12.6
	RGB/RGG-4	3.8	5.9	8.1	10.2	12.4	14.6
	RGB/RGG-6	4.4	6.8	9.2	11.5	13.8	16.3
	RGB/RGG-8	5.0	7.7	10.4	13.1	15.8	18.5
SS EN 10025-S235JRG2	RGB/RGG-2+2	5.0	7.9	10.9	13.9	16.8	19.8
	RGB/RGG-2+4	5.6	9.0	12.4	15.7	19.1	22.4
DIN RST 37-2	RGB/RGG-2+6	6.2	9.9	13.6	17.3	21.0	24.7
BS 4360 gr. 40	RGB/RGG-2+8	6.9	11.0	15.1	19.2	23.3	27.4
NS 17100	RGB/RGG-4+4	6.2	9.9	13.6	17.3	21.,0	24.7
	RGB/RGG-4+6	6.9	11.0	15.1	19.2	23.3	27.4
	RGB/RGG-4+8	7.4	11.8	16.2	20.6	25.0	29.4
	RGB/RGG-6+6	7.4	11.8	16.2	20.6	25.0	29.4
	RGB/RGG-6+8	8.1	13.0	17.9	22.7	27.6	32.4
	RGB/RGG-8+8	8.9	14.2	19.5	24.9	30.2	35.5
STAINLESS STEEL	RGB/RGG-2	3.2	5.1	7.1	9.0	11.0	12.9
	RGB/RGG-4	3.9	6.1	8.3	10.5	12.7	14.9
	RGB/RGG-6	4.5	6.9	9.4	11.8	14.2	16.7
	RGB/RGG-8	5.2	7.9	10.7	13.5	16.2	19.0
DIN 1,4404	RGB/RGG-2+2	5.1	8.1	11.2	14.2	17.2	20.3
ASTM/316 L	RGB/RGG-2+4	5.8	9.2	12.7	16.1	19.6	23.0
AiSi 316 L	RGB/RGG-2+6	6.3	10.1	13.9	17.8	21.6	25.4
BS 970 gr. 316 S11	RGB/RGG-2+8	7.1	11.3	15.5	19.7	23.9	28.1
NS 14450	RGB/RGG-4+4	6.3	10.1	13.9	17.8	21.6	25.4
	RGB/RGG-4+6	7.1	11.3	15.5	19.7	23.9	28.1
	RGB/RGG-4+8	7.6	12.1	16.6	21.1	25.6	30.1
	RGB/RGG-6+6	7.6	12.1	16.6	21.1	25.6	30.1
	RGB/RGG-6+8	8.4	13.3	18.3	23.3	28.3	33.3
	RGB/RGG-8+8	9.1	14.6	20.0	25.5	31.0	36.4
ALUMINIUM	RGB/RGG-2	1.1	1.8	2.5	3.1	3.8	4.4
	RGB/RGG-4	1.4	2.1	2.9	3.6	4.4	5.1
	RGB/RGG-6	1.6	2.4	3.2	4.1	4.9	5.7
	RGB/RGG-8	1.8	2.7	3.7	4.6	5.6	6.5
EN AW6082	RGB/RGG-2+2	1.8	2.8	3.9	4.9	5.9	7.0
DIN ALMG SI 1	RGB/RGG-2+4	2.0	3.2	4.4	5.5	6.7	7,9
A 6082	RGB/RGG-2+6	2.2	3.5	4.8	6.1	7.4	8.7
BS H30/6082 TF	RGB/RGG-2+8	2.4	3.9	5.3	6.7	8.2	9.6
NS 17305	RGB/RGG-4+4	2.2	3.5	4.8	6.1	7.4	8.7
	RGB/RGG-4+6	2.4	3.9	5.3	6.7	8.2	9.6
	RGB/RGG-4+8	2.6	4.2	5.7	7.2	8.8	10.3
	RGB/RGG-6+6	2.6	4.2	5.7	7.2	8.8	10.3
	RGB/RGG-6+8	2.9	4.6	6.3	8.0	9.7	11.4
	RGB/RGG-8+8	3.2	5.0	6.9	8.7	10.6	12.5

RGB and RGBO, RGG and RGGO

PIPE TRANSITS
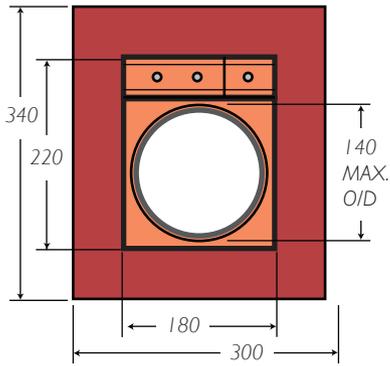
Transit
RGB/RGG-180
RGBO/RGGO-180

Compression
PTG 60 + 120

340
220
140 MAX. O/D
180
300
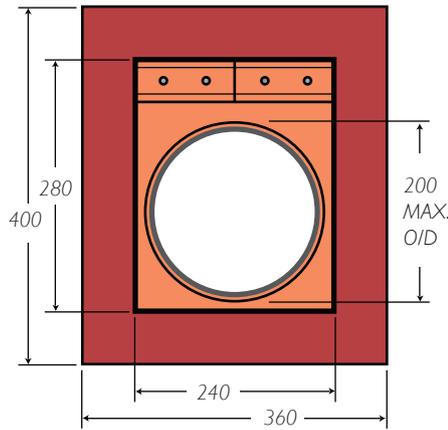
Transit
RGB/RGG-240
RGBO/RGGO-240

Compression
2 x PTG - 120

280
400
200 MAX. O/D
240
360
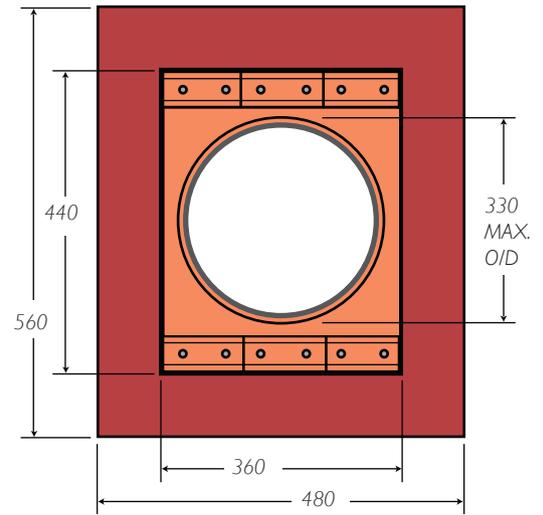
Transit
RGB/RGG-360
RGBO/RGGO-360

Compression
6 x PTG - 120

440
560
330 MAX. O/D
360
480

RGB and RGG-1, 3, 5 & 7

EXTRA SMALL WIDTH
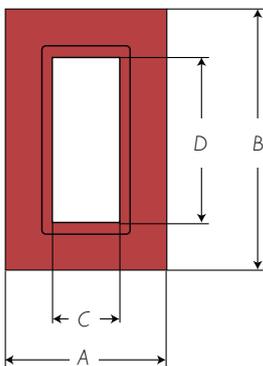
Frames size	Dimensions			
	A	B	C	D
RGB/RGG-1	180	221	60	100
RGB/RGG-3	180	279,5	60	160
RGB/RGG-5	180	338	60	220
RGB/RGG-7	180	396,5	60	280

Multiple Frames
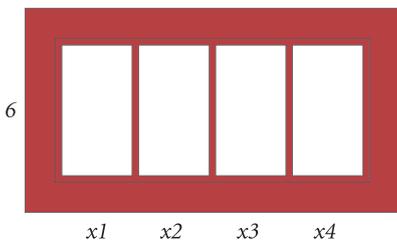
Designation: (frame type) 6x4
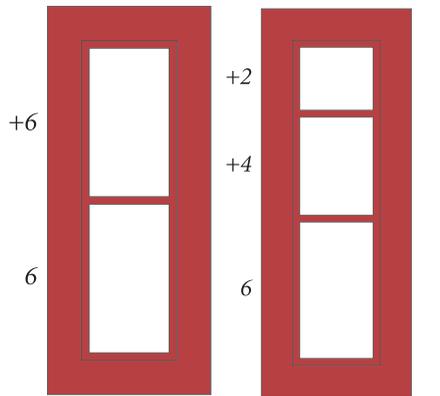
(frame type) 6+6   *(frame type) 6+4+2*
Designation (starting at bottom):

(frame type) 6+4+2x4
Designation (starting at bottom):
NOTE: All multiple frame designations must be preceded by the frame type
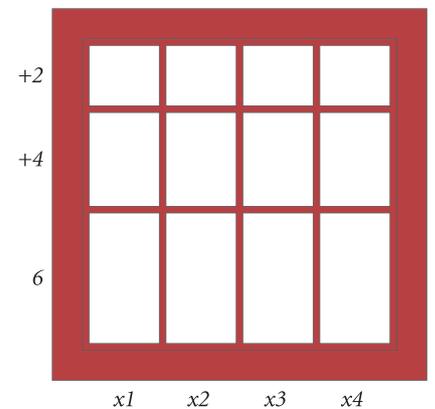
HORIZONTAL MULTIPLE FRAMES

Horizontal multiple frames are described by listing the frame type and size x the desired number of horizontal openings.

VERTICAL MULTIPLE FRAMES

Vertical multiple frames are described by listing the bottom frame type and size + the next frame type and size.

VERTICAL AND HORIZONTAL MULTIPLE FRAMES

List the entire vertical frames x the desired number of horizontal repetitions.

Components

COMPRESSION PLATE

Usually assembled above top row of blocks. The plate bolt is tightened to compress blocks around cables, while providing room for STG endpacking. Comes in GRP, glassfibre reinforced polyester.
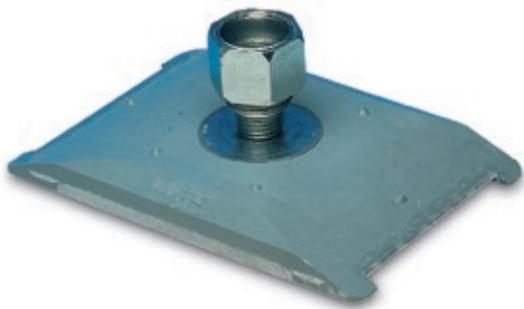
STAYPLATE

To be placed between each row of blocks. Stayplates simplyfies installation, increases stability and anchores blocks within the frame. Plates come in galvanized or stainless steel, and aluminium.

Stayplate

Stayplate 60

LUBRICANT 30 g / 25 ml

For easier insallation and must be used with pressure-tight installation,

STG-ENDPACKING

Installed between compression plate and the top of the frame, completing the seal. Made of Lycron with galvanized or stainless steel fittings.

PTG-PRESSWEDGE

Can be used as an alternative to compression plate and STG. Can also be placed anywhere in the frame. Made of Lycron, with stainless steel fittings.
Must always be installed in combination with a stayplate.
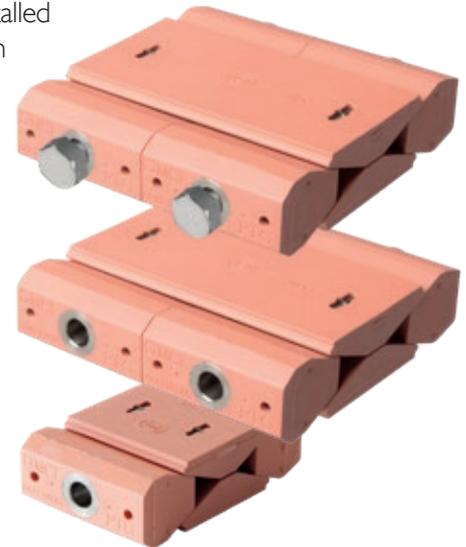
PTG Hex

PTG Allen

PTG Allen 60

Weight in kilograms			
PRESSWEDGE		COMPRESSION PLATE	STAYPLATE
STG	0,6	0,24	0,13
PTG Hex/Allen	0,82	-	0,13
PTG 60	0,41	-	0,02

Accessories

SPACER TOOL

Simplifies insertion of last row of blocks.
20, 30, 40 mm

PACKING TOOL

Compresses insert block
to hold cable/pipes
during partial
installations.

BLOCK SELECTOR

For cable/pipe measurement.

STD insert

AddBlock

HandiBlock

END PACKER PULLER

For re-entry
into system.

QUICK RELEASE SPANNER

For Compression
Plate Installation.

RING SPANNER.

For end packer & RGP installation.

CABLE SEPARATOR

Support cables during
installation.

BLANKING PLATE

Seals frame prior
to block
installation.

Ingress protection
IP65/66

More information about our tools, see our website, mctbrattberg.com

RGP and RGPO

RGP is a Lycron frame for assembly in sleeves, round holes or pipes. It is available in seven sizes (see table) and is packed with MCT insert blocks. The metal parts are galvanized or stainless steel.

RGPO is an openable Lycron frame for installation in holes where cables have already been installed. This is also available in seven sizes.

The RGP plug is a seal for installing in holes or pipes.

RGPO is an openable RGP frame.

Dimensions in mm		
FRAME SIZE	PACKING AREA	DEPTH AND DIAMETER
RGP 50/L60	20 / 20	50 / 71
RGP 50/L30	30 / 30	50 / 34
RGP 70	40 / 40	70 / 72
RGP 100	60 / 60	100 / 83
RGP 125	80 / 80	125 / 83
RGP 150	90 / 90	150 / 83
RGP 200	120 / 120	200 / 83

Weight in kilograms						
RGP 50/L60	RGP 50/L30	RGP 70	RGP100	RGP125	RGP150	RGP 200
0.25	0.11	0.4	0.7	1.0	1.8	3.0

Sleeves for RGP and RGPO Frame

MCT Brattberg standard sleeves are available in seven sizes, for welding or bolting to the structure.

The standard materials are mild steel, stainless steel and aluminium. SFRB is also available in an open version (SFRBO).
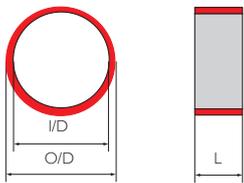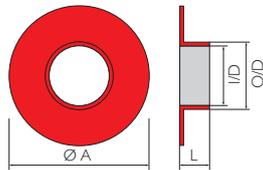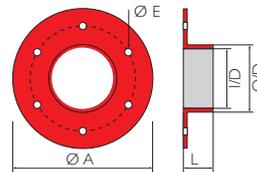
SFRBO   SFR   SFRB   S

TYPE S WITHOUT FLANGE   TYPE SFR WITH ROUND FLANGE   TYPE SFRB WITH ROUND FLANGE AND PRE DRILLED HOLES

Type S without flange			
Type/Dimension	O/D mm	I/D mm	L mm	Weight kg
S 50/L30	63	51	35	0.3
S 50/L60	63	51	70	0.6
S 70	83	71	70	0.8
S 100	114	102	82	1.3
S 125	139	127	82	1,6
S 150	164	152	82	1.9
S 200	214	202	82	2.6

| Type SFR and SFRB with round flange					
Type/Dimension	O/D mm	I/D mm	L mm	A mm	E mm	Weight kg
SFR/SFRB 50/L30	63	51	38	145	9	0,9
SFR/SFRB 50/L60	63	51	73	145	9	1.2
SFR/SFRB 70	83	71	74	185	9	2.1
SFR/SFRB 100	114	102	86	215	9	2.9
SFR/SFRB 125	140	127	86	240	9	3,7
SFR/SFRB 150	164	152	86	264	11	4.2
SFR/SFRB 200	214	202	86	315	11	5.1

Drilled holes see page 31

Planning the packing space

The space in the frame that can be used for the installation of cables/pipes is called the packing space. In RGB and RGG frames the upper 40 mm of space is always taken up by the Endpacking.

In RGP frames no compression plate or final seal is required to hold the insert blocks in place.

The packing space then consists of the whole of the frame's inner space. Tables that will help you determine which blocks you will need can be found, for standard blocks, on page 21 (the Standard system), 22 (AddBlocks) and 24 (HandiBlock).

RGB

RGP

RGB/RGG-2   RGB/RGG-4   RGB/RGG-6   RGB/RGG-8
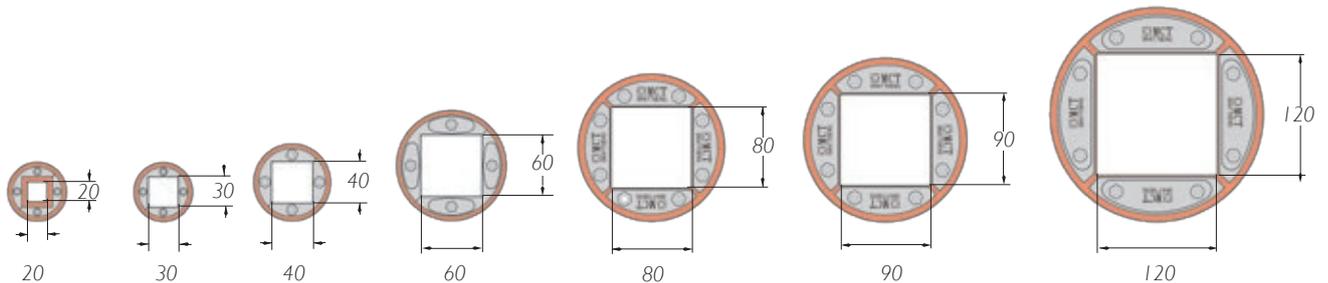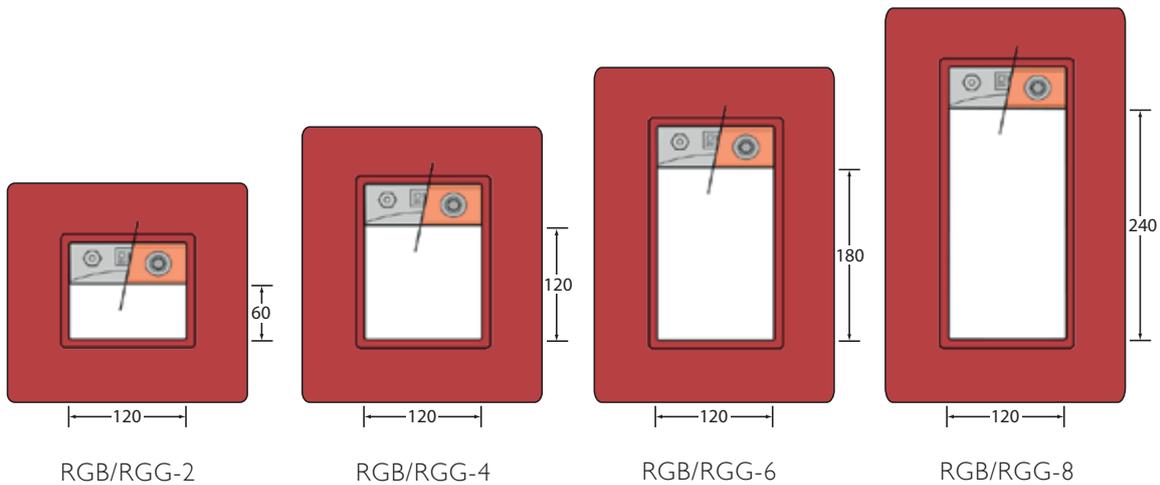
RGP 50/L60   RGP 50/L30   RGP 70   RGP 100   RGP 125   RGP 150   RGP 200

RGB maximum number of cables and pipes							
	Block sizes						
	15	20	30	40	60	90	120
Frame sizes	Maximum number of cables and pipes						
RGB/RGG-2	32	18	8	3	2	-	-
RGB/RGG-4	64	36	16	9	4	1	1
RGB/RGG-6	96	54	24	12	6	2	1
RGB/RGG-8	128	72	32	18	8	2	2

RGP maximum number of cables and pipes							
	Block sizes						
	15	20	30	40	60	90	120
Frame sizes	Maximum number of cables and pipes						
RGP 50/L30	4	1	1	-	-	-	-
RGP 50/L60	1	1	-	-	-	-	-
RGP 70	4	4	1	1	-	-	-
RGP 100	16	9	4	1	1	-	-
RGP 125	25	16	4	1	1	-	-
RGP 150	36	16	9	4	1	1	-
RGP 200	64	36	16	9	4	1	1
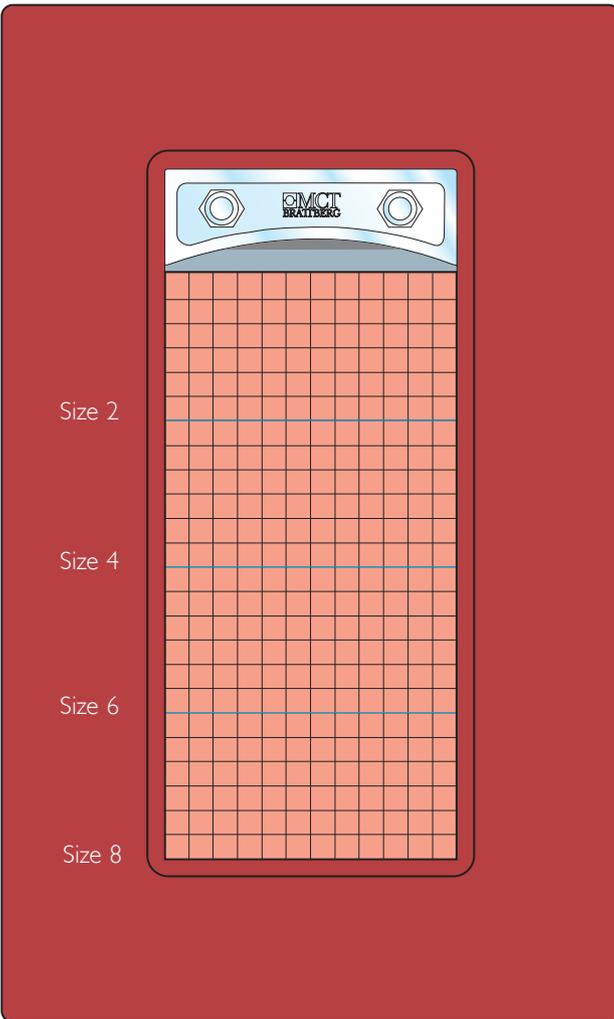
A couple of examples of pack plans (RG Plan) are shown here. RGB to the left and RGP below. The largest cables are placed at the bottom.
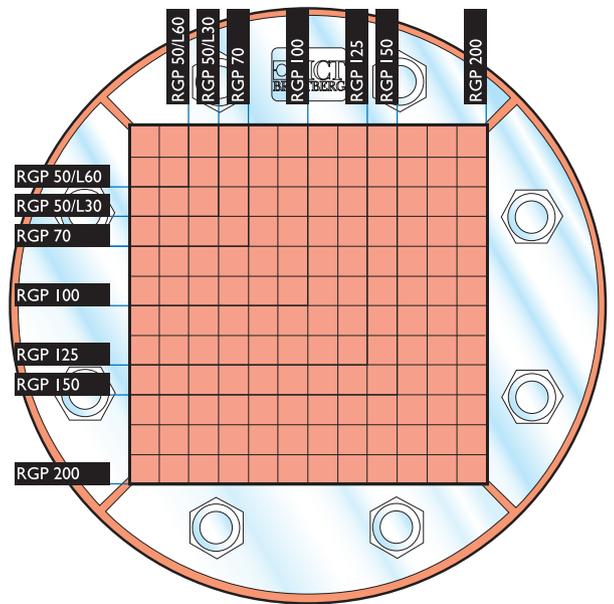
| Combination frame width compared with width of cable tray						
Cable type		Cable tray width in mm				
		150	200	300	400	600
Signal	Frame size	6	6x2	6x3	6x4	6x5
Power		4	4x2	4x3	4x4	4x5
Combi-nation		6	6x2	6x3	6x4	6x5

Packing Plan

RGB, RGG and RGP

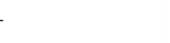The correct frame size can be determined by using this plan.
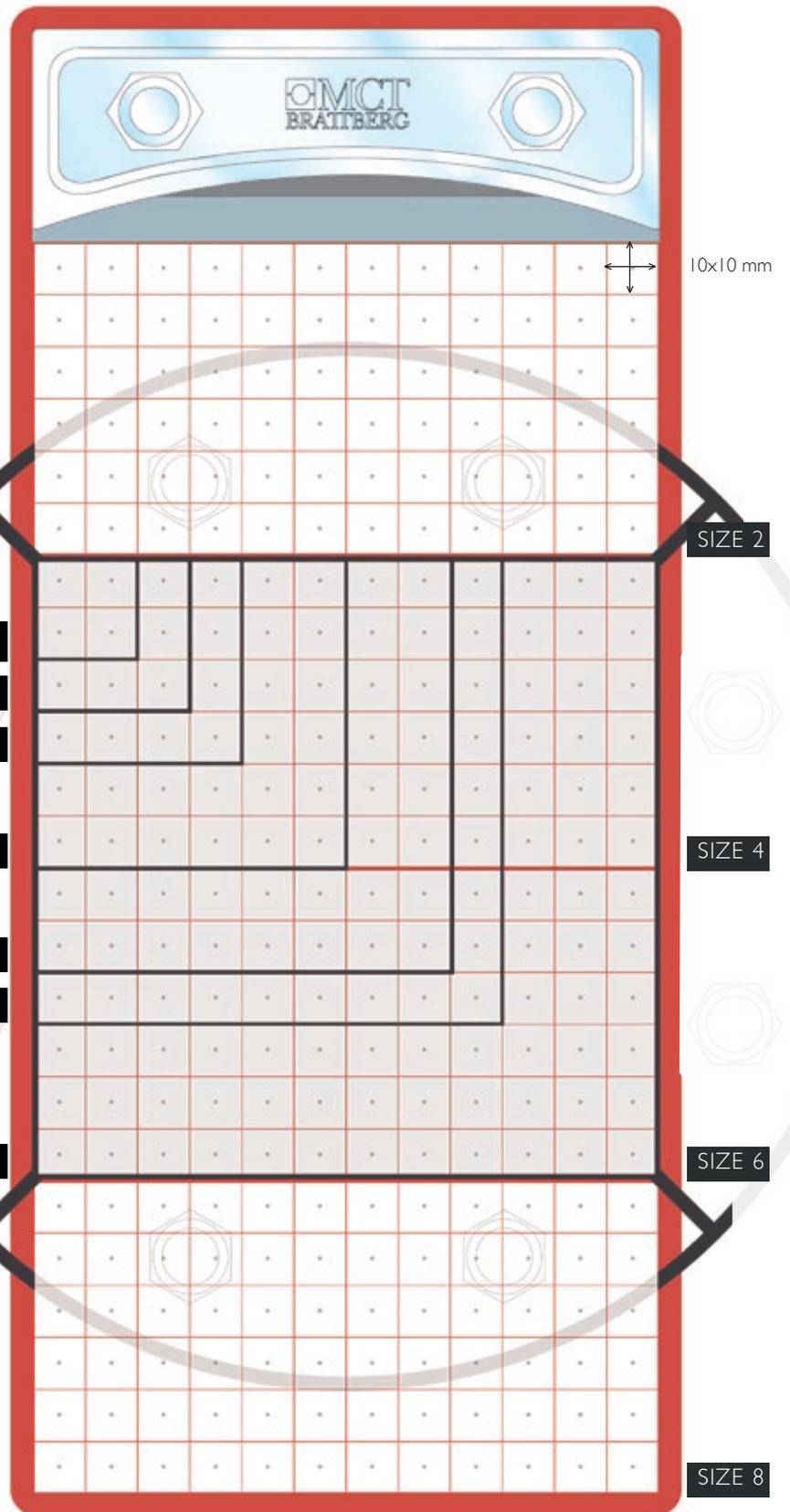The notes to the right side of the plan represent the available packing space for Frame sizes 2, 4. 6 and 8.

It is not necessary to show stay plates, compression plates or endpackings since sufficient space for these is already reserved in the tables.

The notes to the left side of the plan Represent the available packing space for the different RGP frames.

Dimensions of Standard insert blocks, Add-blocks, Plugs and U-blocks, see pages 20-24.

10x10 mm

SIZE 2

RGP 50/L60

RGP 50/L30

RGP 70

STG
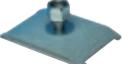
Compression plate

PTG Allen

RGP 100

SIZE 4

PTG Hex

RGP 125

RGP 150

Stayplate

Lubricant

Blocks

RGP 200

SIZE 6

SIZE 8

RGPlan

WEB-BASED DESIGN PROGRAMME

Configure cable/pipe penetrations quickly and easily with our WEB-Based Design Programme. Its faster and simpler than time-consuming manual methods. It´s perfect solution for busy engineers/designers.

Just input the transit requirements and the RG Plan automatically configures the seal, along with all necessary components, blank blocks, stayplates and compression systems. The program itself now offers many unique features, multiple transit, calculation and a simple format to deliver well designed transits.

WEB-BASED DESIGN PROGRAMME
gives a lot of opportunities, including following:

- Create a favorite list of your most used cables for easy access.
- Import new cables from Excel buy using a cable list template.
- Categorize and highlight placed cables for easy overview, for example to separate high voltage cables and sensitive data cables.
- Add team members to a project to allow them to edit and configure the transits within the project.
- Every progress you make is autosaved in realtime.

WEB-BASED DESIGN PROGRAMME
The service is free of charge and no download is required.
rgplan.mctbrattberg.com
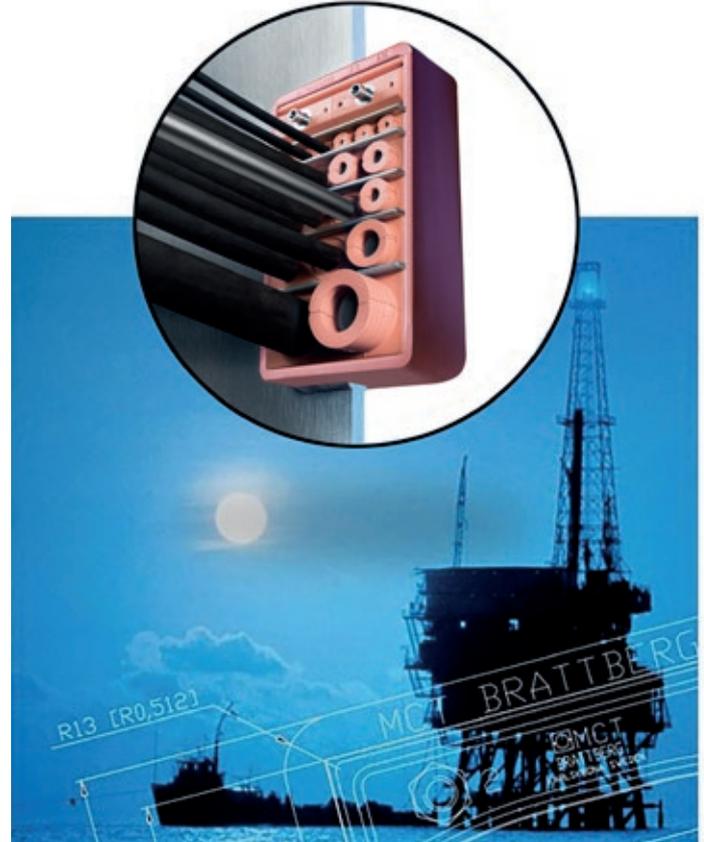
Standard Insert Blocks

Our range of blocks accomodates cables beween 3,5 -101,5 mm in diameter. It is important that the insert block is the right size, with respect to the cable, to ensure a proper seal.

Measure the cable diameters carefully and choose insert blocks accordingly. With the sizing chart on next page you can choose the correct size of insert blocks.
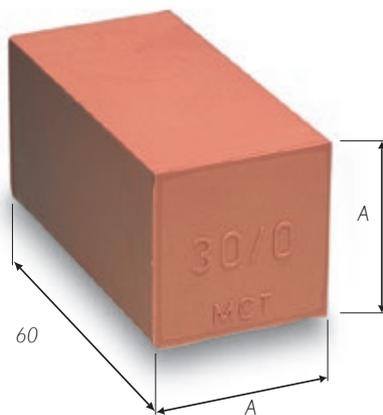
Blocks are referred to by their width (A) and hole diameter (B). Thus a block with a width of 15 mm and a hole diameter of 4 mm is referred to as 15/4. This designation is moulded into the block.

Right   *Wrong*   *Wrong*
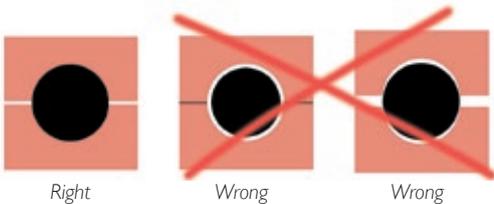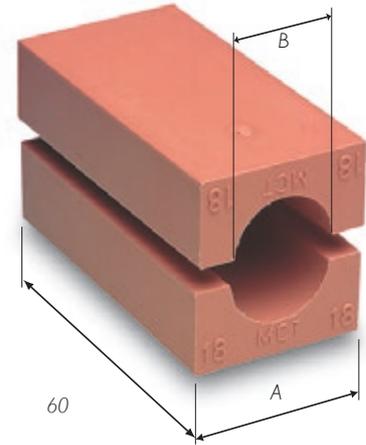
Spare blocks

The space that is not used in the frame is filled with solid spare blocks, which can be replaced at a later date with transits for new cables.
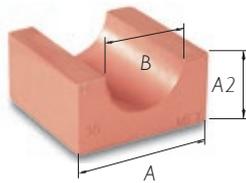
Spare blocks are denoted A/0. A= width/height, 0 = solid. A spare block with width and height 15 mm is denoted as 15/0. The length measurement of all spare blocks is 60 mm.

BLOCK SIZE Width (A) = Height (A)	BLOCK DESIGNATION
5 x 5 Only in strips of 24 pcs	24 x 5/0
10 x 10 Only in strips of 12 pcs	12 x 10/0
15 x 15	15/0
20 x 20	20/0
30 x 30	30/0
40 x 40	40/0
60 x 60	60/0
90 x 30	90 x 30/0

Other block sizes can be manufactured on request.

Size in mm					
CABLE DIAM.	**A**				**B**
	15	20	30	40	
3.5-4.5	15/4	20/4			4
4.5-5.5	15/5	20/5			5
5.5-6.5	15/6	20/6			6
6.5-7.5	15/7	20/7			7
7.5-8.5	15/8	20/8			8
8.5-9.5	15/9	20/9			9
9.5-10.5		20/10			10
10.5-11.5		20/11			11
11.5-12.5		20/12	30/12		12
12.5-13.5		20/13	30/13		13
13.5-14.5		20/14	30/14		14
14.5-15.5			30/15		15
15.5-16.5			30/16		16
16.5-17.5			30/17		17
17.5-18.5			30/18		18
18.5-19.5			30/19		19
19.5-20.5			30/20		20
20.5-21.5			30/21		21
21.5-22.5			30/22	40/22	22
22.5-23.5			30/23	40/22	23
23.5-24.5			30/24	40/24	24
24.5-25.5				40/24	24

CABLE DIAM.	**A**			**B**
	40	60	90	
25.5-27.5	40/26			26
27.5-29.5	40/28			28
29.5-31.5	40/30			30
31.5-33.5	40/32	60/32		32
33.5-35.5	40/34	60/34		34
35.5-37.5		60/36		36
37.5-39.5		60/38		38
39.5-41.5		60/40		40
41.5-43.5		60/42		42
43.5-45.5		60/44		44
45.5-47.5		60/46		46
47.5-49.5		60/48		48
49.5-51.5		60/50	90/50	50
51.5-53.5		60/52	90/52	52
53.5-55.5		60/54	90/54	54

CABLE DIAM.	**A**		**B**
	90	120	
55.5-57.5	90/56		56
57.5-59.5	90/58		58
59.5-61.5	90/60		60
61.5-63.5	90/62		62
63.5-65.5	90/64		64
65.5-67.5	90/66		66
67.5-69.5	90/68		68
69.5-71.5	90/70		70
71.5-73.5		120/72	72
73.5-75.5		120/74	74
75.5-77.5		120/76	76
77.5-79.5		120/78	78
79.5-81.5		120/80	80
81.5-83.5		120/82	82
83.5-85.5		120/84	84
85.5-87.5		120/86	86
87.5-89.5		120/88	88
89.5-91.5		120/90	90
91.5-93.5		120/92	92
93.5-95.5		120/94	94
95.5-97.5		120/96	96
97.5-99.5		120/98	98
99.5-101.5		120/100	100

Blocks are referred to by their width (A) and hole diameter (B). Thus a module with a width of 15 mm and a hole diameter of 4 mm is referred to as 15/4.

Other block sizes can be manufactured on request.

| Weight in grams per half									
BLOCK	**WEIGHT**	**BLOCK**	**WEIGHT**	**BLOCK**	**WEIGHT**	**BLOCK**	**WEIGHT**	**BLOCK**	**WEIGHT**
24 × 5/0	58	20/6	17	30/19	28	60/42	104	120/72	494
12 × 10/0	113	20/7	17	30/20	27	60/44	98	120/74	485
15/0	20	20/8	16	30/21	25	60/46	91	120/76	472
20/0	38	20/9	15	30/22	24	60/48	84	120/78	462
30/0	84	20/10	14	30/23	22	60/50	77	120/80	448
40/0	150	20/11	13	30/24	21	60/52	59	120/82	437
60/0	338	20/12	13	40/22	57	60/54	61	120/84	425
90×30/0	279	20/13	12	40/24	54	90/50	287	120/86	415
15/4	10	20/14	11	40/26	50	90/52	279	120/88	403
15/5	10	30/12	36	40/28	47	90/54	273	120/90	385
15/6	10	30/13	36	40/30	42	90/56	262	120/92	368
15/7	10	30/14	35	40/32	37	90/58	255	120/94	360
15/8	9	30/15	34	40/34	32	90/60	243	120/96	351
15/9	8	30/16	33	60/32	131	90/62	239	120/98	332
20/4	18	30/17	31	60/34	127	90/64	229	120/100	313
20/5	18	30/18	30	60/36	122	90/66	220	120/108	243
				60/38	116	90/68	211		
				60/40	110	90/70	204		

AddBlock

There are eleven different sizes of AddBlock.
By tearing off the wing-like inserts, which are of
varying thickness, and inserting them in the main
block it is possible to accommodate 66 different
cable and pipe dimensions, from 3.5 mm to
69.5 mm. The inserts are fitted with a locating
ridge that fits exactly into furrows in the main
block. These stop the block from "telescoping".

A seal using AddBlocks is as secure and tight
as one using standard blocks. Both types can be
combined in a transit, which makes the MCT
Brattberg seal system very flexible.

The AddBlocks basic dimension is given at bottom slot center, and that's the maximum cable dimension the block is designed for.

Dimensions are also clearly marked on the four insert sheets. Simply select, tear off and insert.
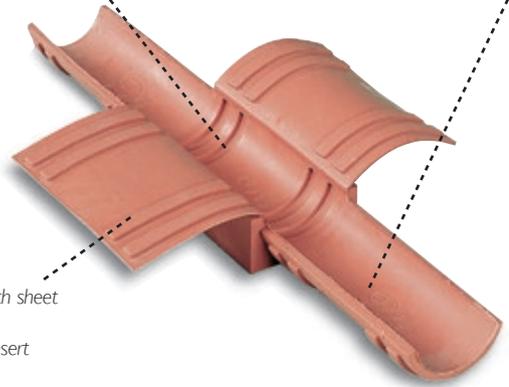
On the bottom of each sheet you'll find four locking devices to keep the insert in place, making each AddBlock thoroughly secure.

Eleven blocks and 66 dimensions

AddBlocks are all the same length as standard blocks,
60 mm. The width of standard blocks
(A measurement, see table) are 20, 30, 40, 60 or 90 mm.
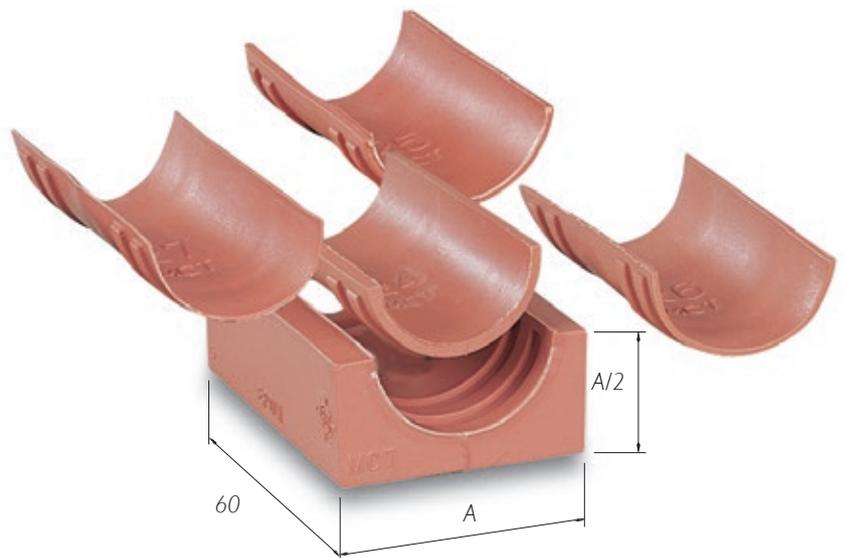
ADDBLOCK DIMENSION	CABLE OR PIPE DIMENSION	WEIGHT PER HALF (G)
20/4 - 8	3.5 - 8.5	23
20/9 - 13	8.5 - 13.5	23
30/14 - 18	13.5 - 18.5	45
30/19 - 23	18.5 -23.5	43
40/24 - 28	23.5 - 28.5	71
40/29 - 33	28.5 - 33.5	62
60/34 - 38	33.5 -38.5	150
60/39 - 43	38.5 - 43.5	136
60/44 - 48	43.5 - 49.5	128
90/50 - 58	49.5 - 59.5	348
90/60 - 68	59.5 - 69.5	318

Plugs and Wraps

The plug's main purpose is to prepare coming installations by creating a spare block together with an AddBlock. Once the cable penetration is to be done, the plug is removed and the AddBlock is reused.

Wrap

Plug

Plug
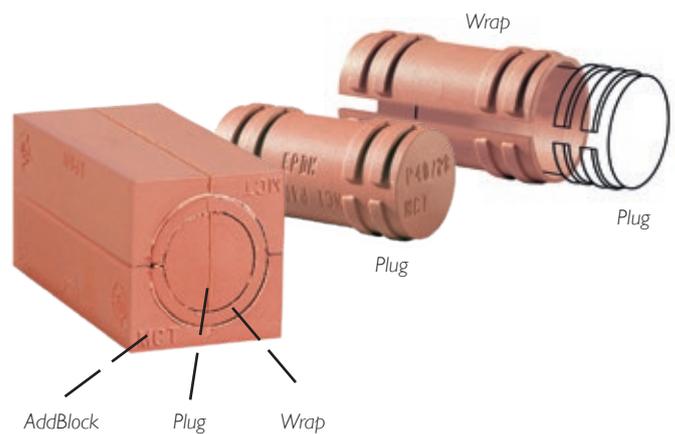
AddBlock *Plug* *Wrap*

In the table you see which plug, or combination of plug and wrap-around casing, to use when turning an AddBlock into a spare block.

ADDBLOCK	PLUG	WRAP
20/4 - 8	P20/8	
20/9 - 13	P20/8 +	W20/8-13
30/14 - 18	P30/18	
30/19 - 23	P30/18 +	W30/18-23
40/24 - 28	P40-28	
40/29 - 33	P40-28 +	W40/28-33
60/34 - 38	P60/38	
60/39 - 43	P60/38 +	W60/38-43
60/44 - 48	P60/38 + W60/38-43 and W60/43-48	

HandiBlock

The HandiBlock is designed to facilitate installation and minimize errors, allowing correction of errors and consequently minimization of wastage.

With HandiBlock the transit can always be pre-packed. If a cable or pipe is missing during assembly, the block is quickly rebuilt with a HandiPlug to a closed block and the transit can be completed at a later time.

HandiBlock is available in four sizes to fit cables and pipes or tubing from Ø 4 to 54 mm. A HandiBlock consists of two compact MainBlocks with grooves on the inside and two InsertStrips consisting of many compressed rings in different sizes. Each ring has clear markings for different cable sizes. It helps the technican to quickly and safely choose the right size of block, insert and ring. HandiBlock's design creates a seal as in compression do not deform the parts of the block. This means that all parts can be reused when repacking.

HandiBlock   InsertStrip

MainBlock

HandiPlug

60mm   40mm   30mm   20mm

HB 60
Cable/pipe
Ø 32-54 mm

HB 40
Cable/pipe
Ø 21-35 mm

HB 30
Cable/pipe
Ø 11-24 mm

HB 20
Cable/pipe
Ø 4-15 mm

Every compression ring has a clear marking to indicate different cable/pipe dimensions
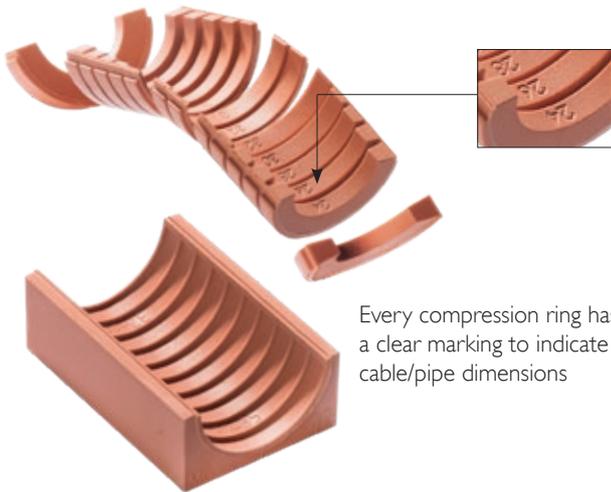
Extra fire protection! The part of the InsertStrip that protrudes from the MainBlock, acts as a small but effective heat shield.

Weight in grams					
Size in mm	HandiBlock complete with Plug	HandiBlock without Plug	Plug	Mainblock	Insert-Strip
20	37	32	5	22	10
30	90	73	17	46	27
40	150	117	33	72	44
60	385	300	85	155	144

U-Blocks

The U-Block is used to convert the external dimensions of Insert Blocks, AddBlocks and HandiBlocks to the next modular size.

For example a 30/15 Insert Block can be enlarged by placing it into a U40, giving the new size of 40/15.
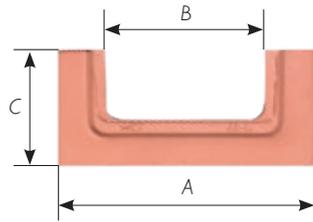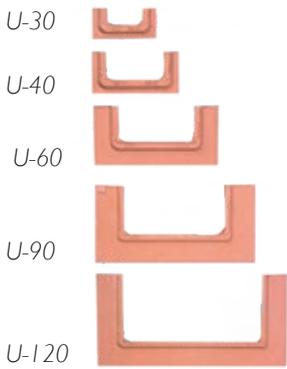
Dimensions in mm			
U-BLOCK	**A**	**B**	**C**
U-30	30	20	15
U-40	40	30	20
U-60	60	40	30
U-90	90	60	45
U-120	120	90	45
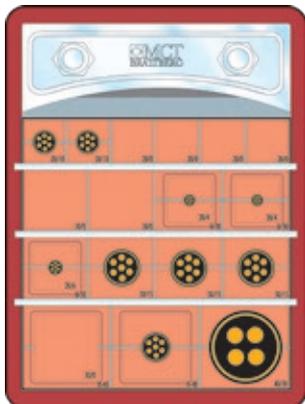
Regardless of cable diameter, you can retain the outer measurement of the block in any row.

With U-Blocks, you can easily center the cable or pipe in your RGP installation.
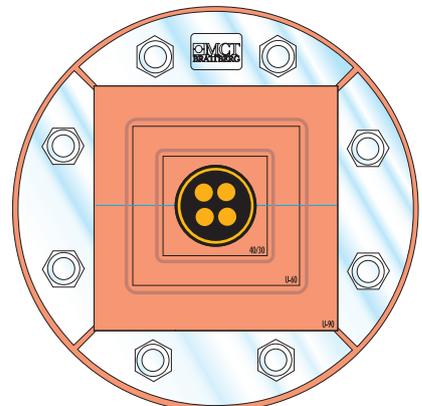
Built-in

RGB frames can be cast directly into concrete walls or floors (figures 1 and 2). Alternatively the frames can be cast into a loose section that is built in later. When the demands for fire safety are extremely high, frames can be mounted back-to-back (fig. 3). Such an installation can also be pressure tested.

For there to be sufficient space for the stay plate and compression plate there must be 5 mm of clearance between the frame's inside and the cast hole (fig. 4). MCT Brattberg's expanded polystyrene casting form simplifies fixing when casting and provides the necessary clearance (fig. 5).

Fig. 1

Fig. 2

Fig. 3

frame

Stay plate

120

5 mm

Fig. 4

130

120

60

130
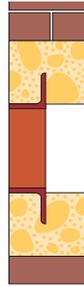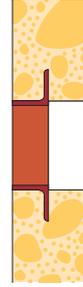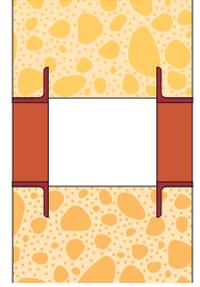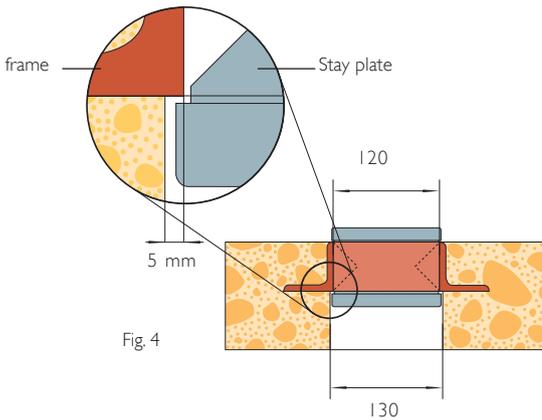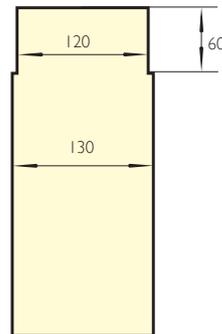
Polystyrene
casting form

Fig. 5

MCT Brattberg's expanded polystyrene casting form.
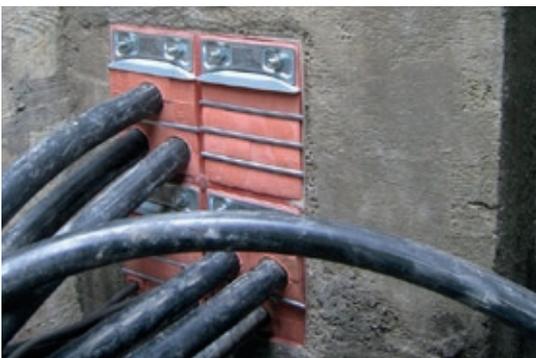
RGG frames and the flanges of the **Counter frame** are screwed into the wall (fig. 6). A Lycron sealing strip should be used between the wall and the flange to provide a gas tight seal. The galvanised counter frame is available with three different standard depths, which are suitable for the most common wall thicknesses, see below.

RGG and **RGGO** frames can also be bolted in place with the aid of, for example, expansion bolts. A Lycron sealing strip or sealant is used between the frame and the wall to provide a gas tight seal. There are two ways of bolting the frames in position, (figs. 7 and 8). Where practically possible,
fig. 7 should always be employed.

Counter frame

RGG frame

Lycron sealing strip
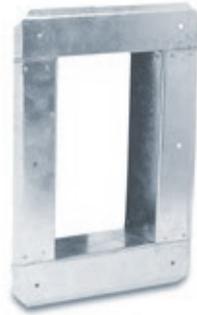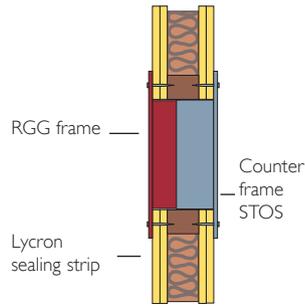
Counter frame STOS
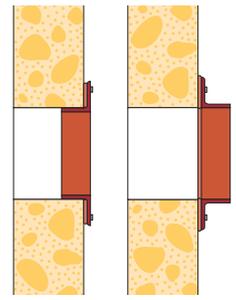
Fig.6   Fig. 7   Fig. 8

Wall thickness (mm)		
Counter frame/type	Min	Max
1	80	110
2	110	150
3	150	190
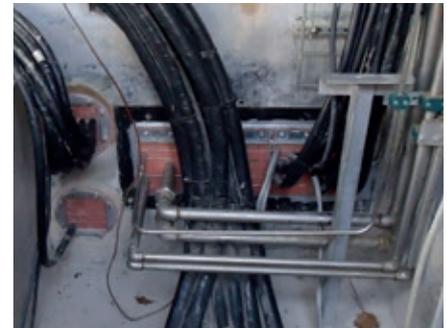
RGP and **RGPO** frames are installed on one side of the wall when normal demands are made for fire safety, (see fig. 9.) When the satety demands are particularly high two RGP frames are installed back-to-back (fig.10).
RGP can be installed in drilled or cast holes, or in a pipe that is cast in or bolted. Casting is made easier if MCT Brattberg casting forms are used, see picture.
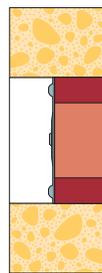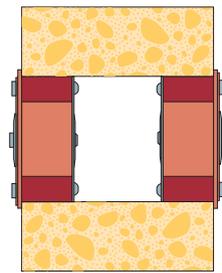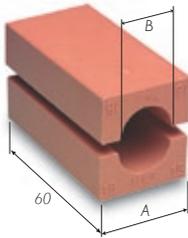

Fig. 9   Fig. 10

MCT Brattberg's casting form.

Installation Guide
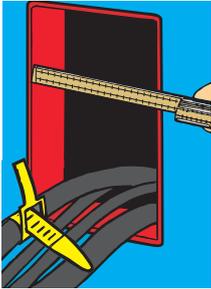
1 Measure the opening and check that the measurement is within the tolerance range 120.5 mm +/- 0.5 mm. Check that the frame is clean and pull through the cables. Measure the diameter of the cables and choose suitable blocks. Lubricate the inner faces of the frame.

2 Insert Block. The blocks are identified by their width (A) and hole diameter (B). A block that is 30 mm wide and has a hole diameter of 18 mm is marked 30/18. This marking is cast into the block.

OK
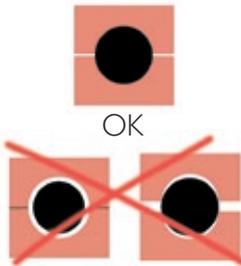
3 The diagram marked OK shows how the cable should look when correctly fitted.

4 Pack the frame. Place stayplates between each row of blocks

Pressure-tight installation

Check that the frame is clean and that the inside is well lubricated. All Lycron parts must be lubricated carefully with MCT Brattberg lubricant.
Place the compression plate in the centre so that the Lycron rubber is pushed upwards between the compression plate and the frame. The seal must not be subjected to pressure for at least 48 hours after installation. This is to allow the pressure to equalise throughout the penetration.
It will take more time for the pressure to equalise at temperatures below 20°C.

Note: If the installation is subjected to pressure, all components must be replaced after removal and refitting.

STG ENDPACKING

5 Pack the frame. Place stayplates between each row of blocks.

6 Insert the top row of blocks.

7 Tighten the bolt in the compression plate anticlockwise until there is a gap of 32-33 mm between the top of the plate and the inside of the frame.
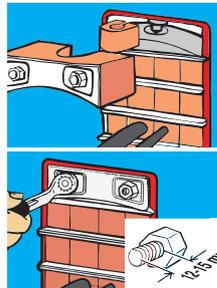
8 Insert the STG end-packing with the tongue around the compression bolt. Tighten the nuts in the end-packing until 12-15 mm of thread is visible.

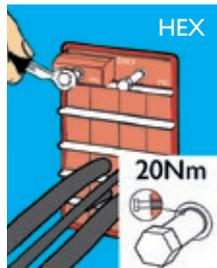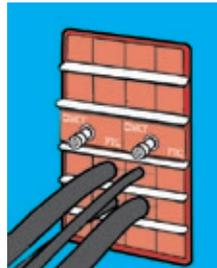## PTG PRESSWEDGE, ALLEN AND HEX

5 Place the last two stay-plates in the frame before the last row of blocks. Then fit the PTG presswedge over the stay-plates.

ALLEN
20Nm
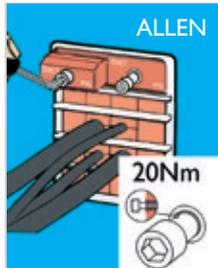
6 Insert the final row of blocks. Tighten the nuts in the PTG to the end or 20 Nm.

HEX
20Nm

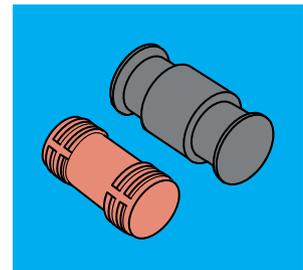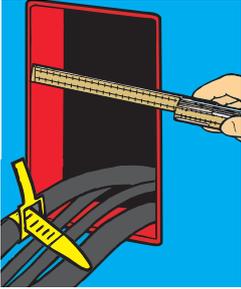**7** Insert the final row of blocks. Tighten the nuts in the PTG to the end or 20 Nm.

8 The PTG presswedge can be placed anywhere in the frame.

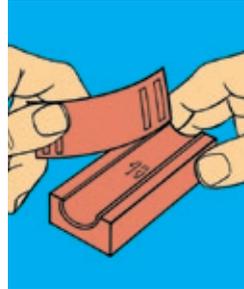Plugs for AddBlock and HandiBlock see page 23 and 24.

ADDBLOCK

Measure the opening and check that the measurement is within the tolerance range 120.5 mm +/- 0.5 mm. Check that the frame is clean and pull through the cables. Measure the diameter of the cables and choose suitable blocks. Lubricate the inner faces of the frame.
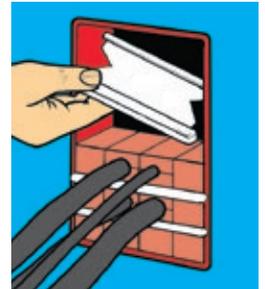
Tear off attached sheet to fit the dimension selected.

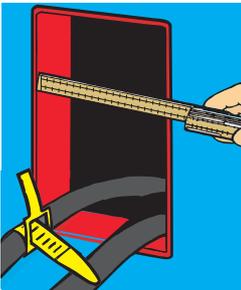Place sheet into centre slot and affix it with the unique locking device.

Tear off superfluous sheets.

Pack the frame. Place stayplates between each row of blocks. Continue on left page, picture 4.

U-BLOCK

Measure the opening and check that the measurement is within the tolerance range 120.5 mm +/- 0.5 mm. Check that the frame is clean and pull through the cables. Measure the diameter of the cables and choose suitable blocks. Lubricate the inner faces of the frame.

Select a suitable block for the largest cable in the row.

Select a suitable standard Block or AddBlock for the small cable. Then create a base using U-Blocks. The external measurements should be the same as the previous block.
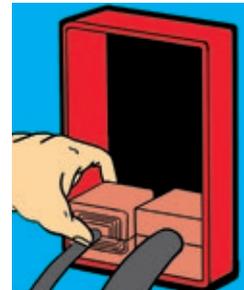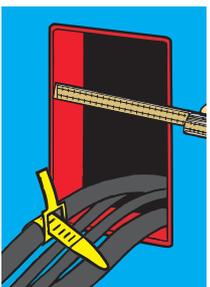
Start packing the frame.

Insert stayplates between each row of insert blocks. Continue on left page picture 4.

HANDIBLOCK

Ø 4-15 mm   Ø 11-24 mm

Ø 21-35 mm   Ø 32-54 mm

Measure the opening and check that the measurement is within the tolerance range 120.5 mm +/- 0.5 mm. Check that the frame is clean and pull through the cables. Measure the diameter of the cables and choose suitable blocks. Lubricate the inner faces of the frame.
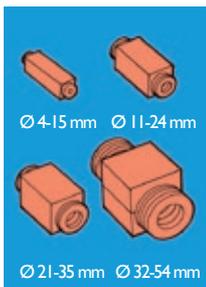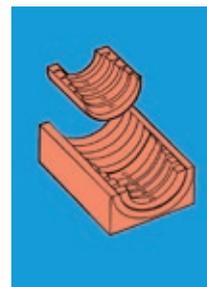
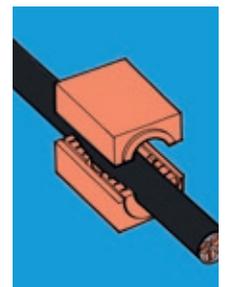Select the HandiBlock that fits the cable / tube.

Select the two compression rings closest to the cable diameter. Remove all compression rings smaller than the selected.

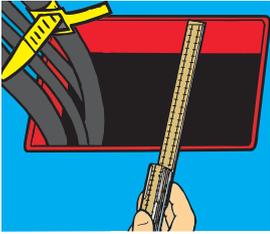If the insert gets longer than the block, remove the current rings in the middle.

Place the two inserts in the main block so that the outermost rings are at the outer edge of the main block.

Build the second block half the same way. Insert the cable/tube and lay over the block half. Continue on left page picture 4.
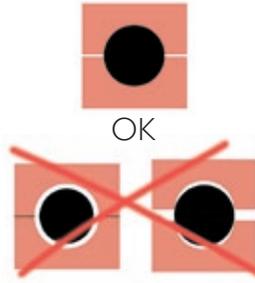
Horizontal Installation Guide

1 Measure the opening and check that the measurement is within the tolerance range 120.5 mm +/- 0.5 mm. Check that the frame is clean and pull through the cables. Measure the diameter of the cables and choose suitable blocks. Lubricate the inner faces of the frame.
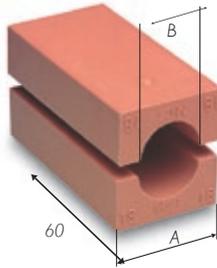
2 The blocks are identified by their width (A) and hole diameter (B). A block that is 30 mm wide and has a hole diameter of 18 mm is marked 30/18. This marking is cast into the block.

OK

**3** The diagram marked OK shows how the cable should look when correctly fitted.

4 To prevent the blocks from falling through during horizontal installation, fit all the stayplates and the compression plate first. Check the RG plan to make sure the cables are positioned correctly.

5 Insert the outer blocks first (A, B, C, etc). Then insert the rest of the blocks. Note: block A must be rotated 90°, see diagram.

6 Pack the frame. Tighten the bolt in the compression plate anticlockwise until there is a gap of 32-33 mm between the top of the plate and the inside of the frame.
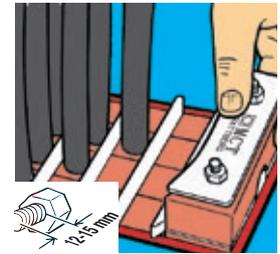
7 Insert the STG endpacking with the tongue around the compression bolt. Tighten the nuts in the endpacking until 12-15 mm of thread is visible.
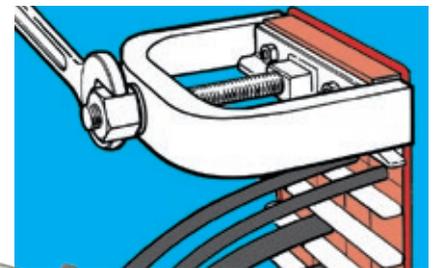
Disassembly Guide

STG

1 Remove the nuts and the hardware from the face of the endpacking.

2 Attach the endpacking puller to the bolts with the nuts from the endpacking.

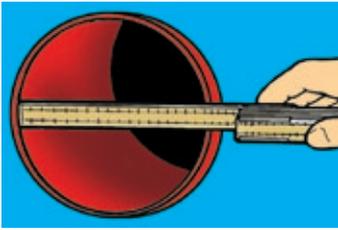**3** Tighten the bolt on the puller and the endpacking slides out.
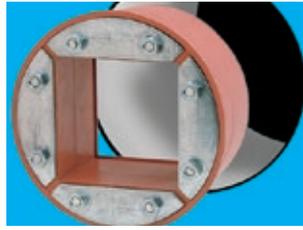

4 Remove the endpacking.

RGP Installation

1

Measure the pipe/drilled hole to ensure that the size conforms to tolerance standards.
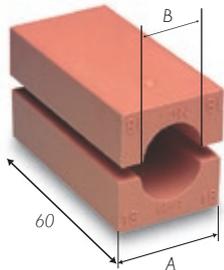

2

Insert the RGP frame in the opening. No lubricant should be applied to the hole or to the outside of the frame.


3

Place the frame in correct position in the hole. Check that the frame is clean and pull through the cables. Place the largest cables at the bottom of the frame. Measure the diameter of the cables and choose suitable blocks.

4

Insert Block. The blocks are identified by their width (A) and hole diameter (B). A block that is 30 mm wide and has a hole diameter of 18 mm is marked 30/18. This marking is cast into the block.
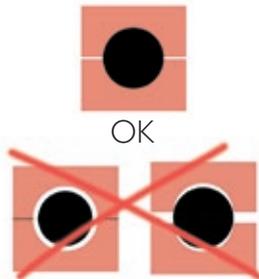
5

The diagram marked OK shows how the cable should look when correctly fitted.

6

Begin packing.

7

Tighten the nuts in diagonal order until 12-15 mm of thread is visible.

Tolerances for pipes and drilled holes	
Pipes	Inner Ø
RGP 50	50-51
RGP 70	70-71
RGP 100	100-102
RGP 125	125-127
RGP 150	150-152
RGP 200	200-202

PRESSURE-TIGHT INSTALLATION RGP

All contact surfaces between the pipe and the RGP plug must be cleaned carefully prior to installation. Do not use any lubricant on these surfaces. All blocks must be lubricated carefully with MCT Brattberg lubricant. The penetration must not be subjected to pressure for at least 48 hours after installation. This is to allow the pressure to equalise throughout the penetration.
It will take more time for the pressure to equalise at temperatures below 20°C.

Note: If the installation is subjected to pressure, all components must be replaced after removal and refitting.

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