

Installation guide



Lubricate the inside of the frame from the corners as well lubricated

Take measures of the cables diameter and select the appropriate "color" lubricating grease. Lubrication will help you to select the correct size.



Use HRT-2000 or HRT-3000 and corner greases in the corners of the frame

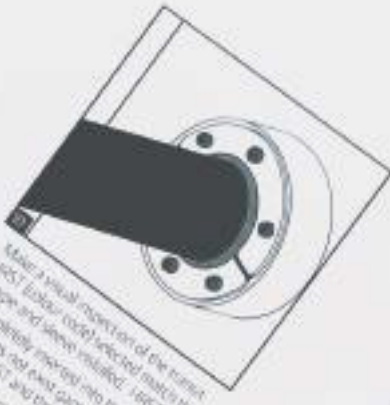
**INSTALLATION GUIDE**



Remove the cable jacket that will be cut away through about 100mm of the bottom cable. The jacket will be cut away and discarded.

**RECTANGULAR SYSTEM** standard installation guide

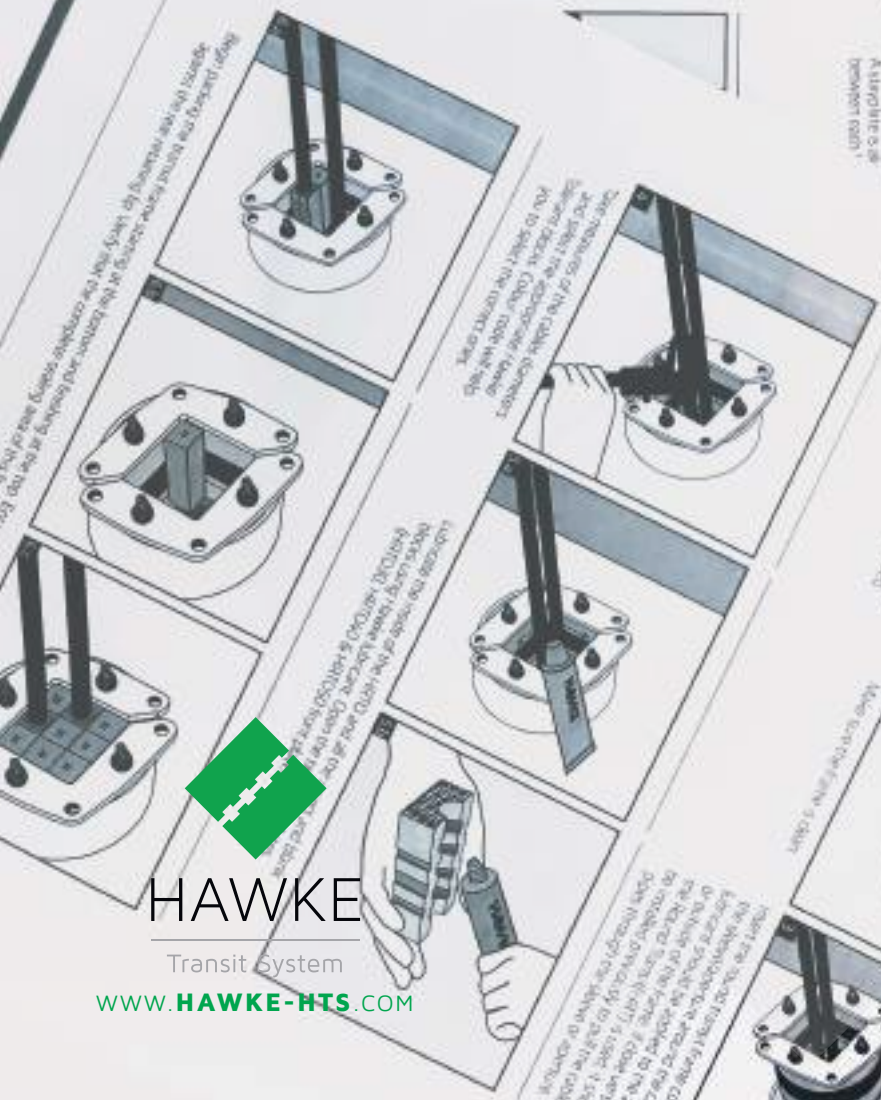
**INSTALLATION**



Make a visual inspection of the correct HRT (cable) size selected into the sleeve. The sleeve must be completely inserted into the sleeve. Does not exist gaps between HRT and the cable.

DESCRIPTION	SLAVE SIZE
HRT-30/4/ES	30
HRT-30/7/ES	30
HRT-30/10/ES	30
HRT-40/4/ES	40
HRT-40/7/ES	40
HRT-40/10/ES	40

01-0018



Use the correct size of the sleeve and the correct size of the cable. The sleeve must be completely inserted into the sleeve. Does not exist gaps between HRT and the cable.

Take measures of the cable diameter and select the appropriate "color" lubricating grease. Lubrication will help you to select the correct size.

Lubricate the inside of the frame and all the corners with HRT-2000 or HRT-3000 and corner greases in the corners of the frame.



Apply the cable puller (not included)

The diameter of the cable diameter with a cable puller and select the appropriate "color" lubricating grease. Lubrication will help you to select the correct size. Only use HRT-2000 or HRT-3000.

**INSTALLATION GUIDE**



Apply the cable puller (not included) to the cable. The cable puller must be completely inserted into the sleeve. Does not exist gaps between HRT and the cable.

**HRT / HRT ROUND SYSTEM** standard installation



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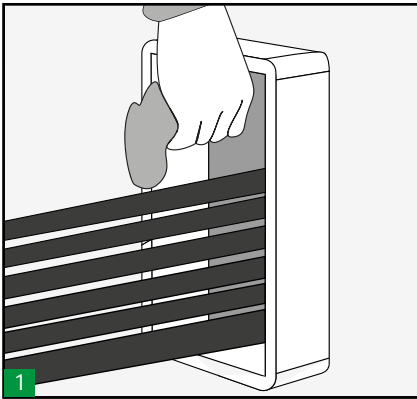
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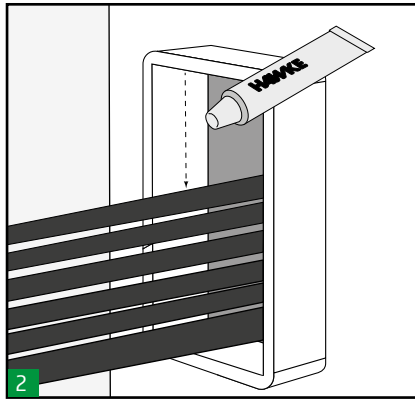
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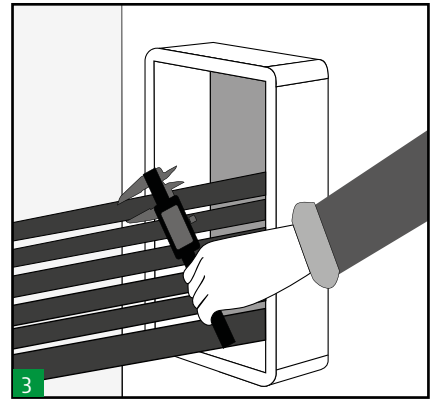
→ **RECTANGULAR SYSTEM** standard installation guide:



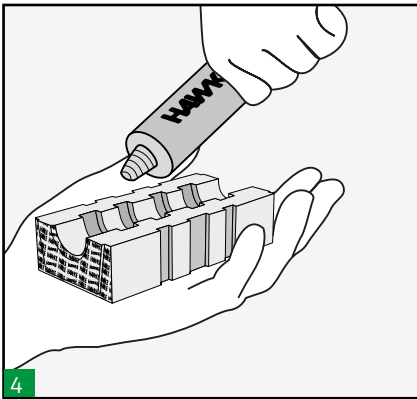
1 Make sure the frame is clean, then pull cables or pipes through, placing the largest at the bottom. (Note: Use open ended frame to fit around existing cables/pipes)



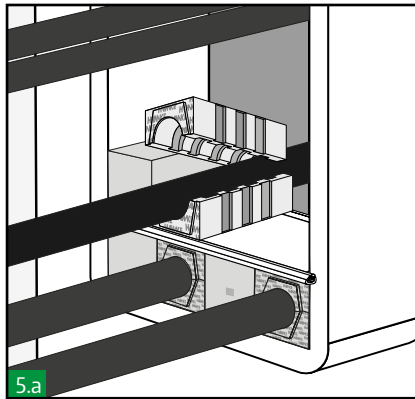
2 Lubricate the inside of the frame. Ensure the corners are well lubricated.



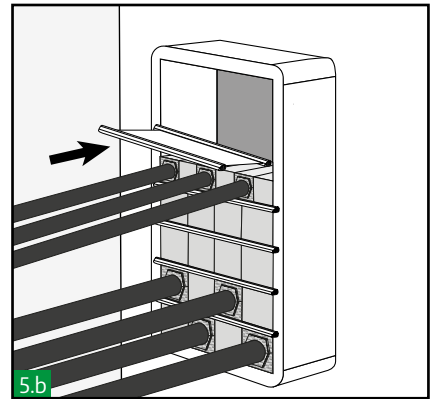
3 Take measures of the cables diameters and select the appropriate Hawke Tolerant blocks. Colour code will help you to select the correct ones.



4 Lubricate all the insert and blank blocks using Hawke lubricant.

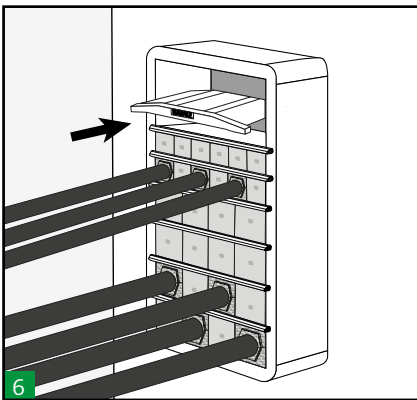


5.a



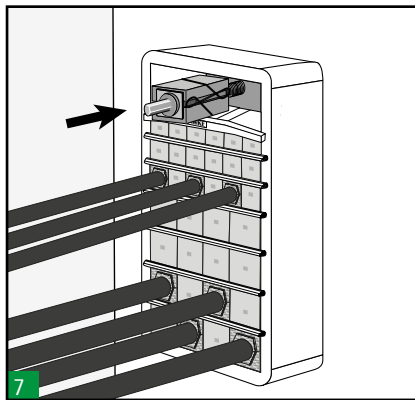
5.b

Begin packing the frame. Colour code will help you to install the blocks correctly. A stayplate is always inserted between each layer of blocks. Blocks should not protrude out of the stayplates retaining lips.



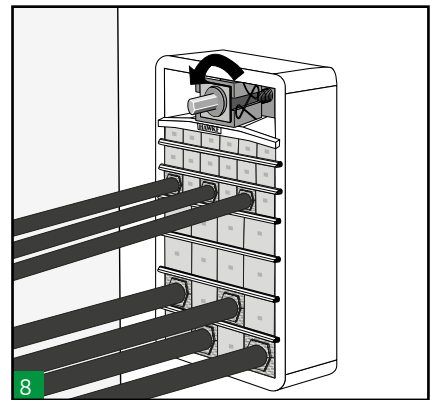
6

Insert the last stayplate and the compression plate before the last row of blocks (or earlier if required). Check frame packing space. Verify that the complete sealing area of this frame size (see table) will be filled with blocks.



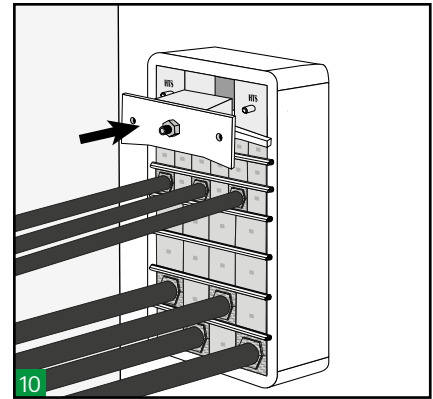
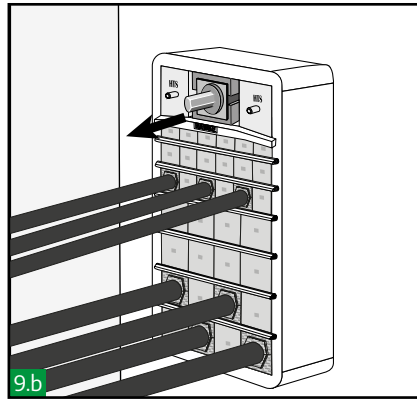
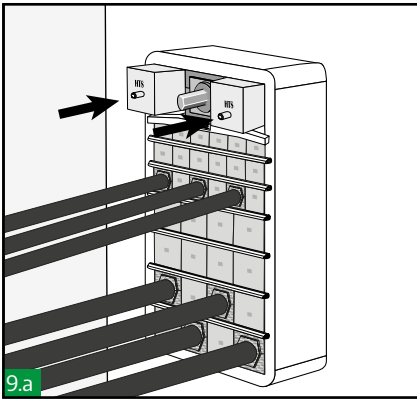
7

Pack the last row between the last stayplate and the compression plate. Insert the compression tool on the top, in the centre of the compression plate.



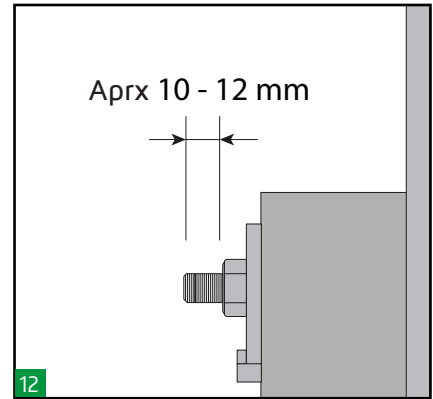
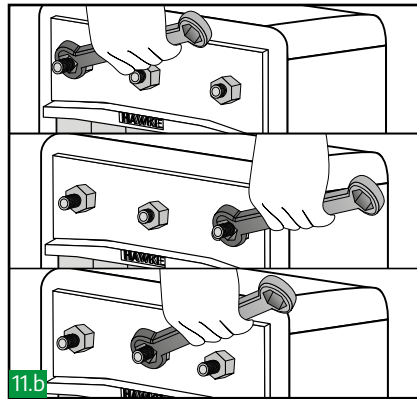
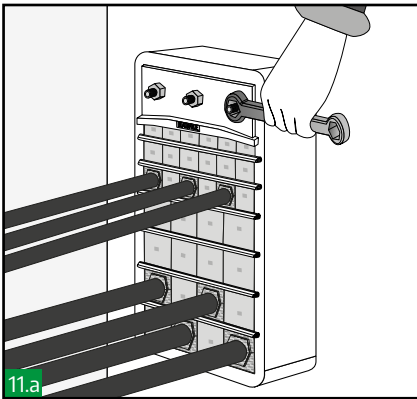
8

Tighten the compression tool until there is sufficient room to fit the outer blocks of the endpacker.



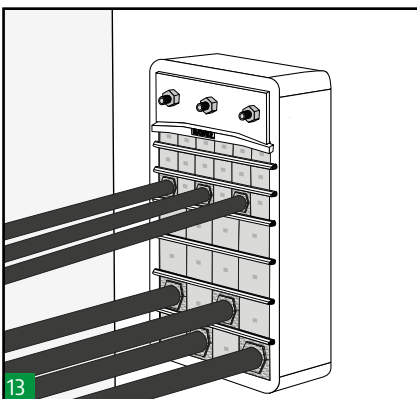
Insert the outer blocks of the endpacker. Then, untighten the compression tool and remove it.

Insert the centre piece of the endpacker along with the front plate.



Tighten the nuts on the endpacking alternately following the above sequence to compress and complete the seal. Use a ratchet spanner for an easier installation.

Approximately 10-12 mm of thread should protrude on each bolt to ensure the sealing.

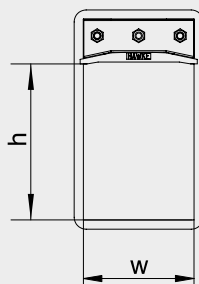


Make a visual inspection of the transit. Hawke's unique colour coding system enables the installation to be visually inspected after completion and ensures correct matching of the block halves.

**Notes**

Leave the system at least 24 hours before applying pressure. For disassembly see disassembly instructions.

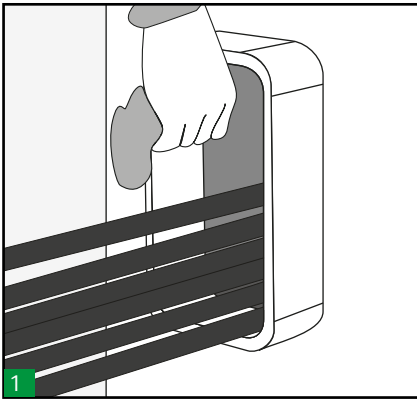
**Sealing Area**



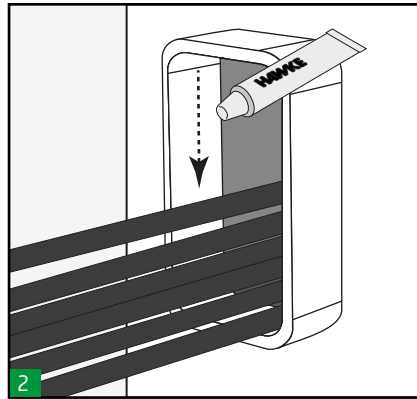
APERTURE SIZE	SEALING AREA (w x h)
1	60 x 60
2	120 x 60
3	60 x 120
4	120 x 120
5	60 x 180
6	120 x 180
7	60 x 240
8	120 x 240



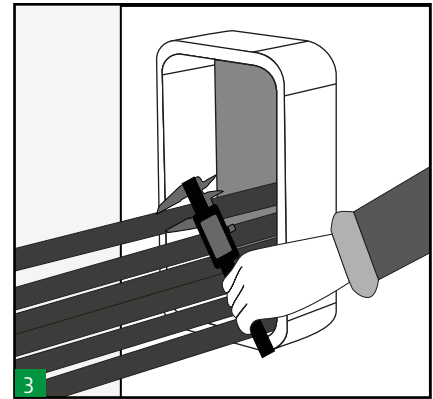
→ **HMCX SYSTEM** standard installation guide:



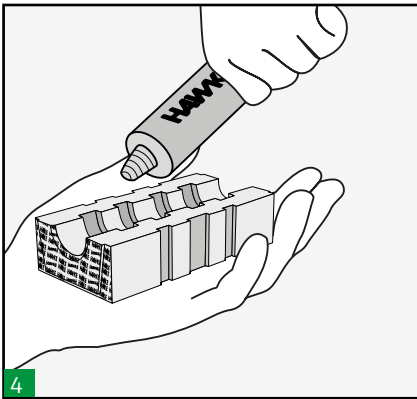
1 Make sure the frame is clean, then pull cables or pipes through, placing the largest at the bottom.  
(Note: Use open ended frame to fit around existing cables/pipes)



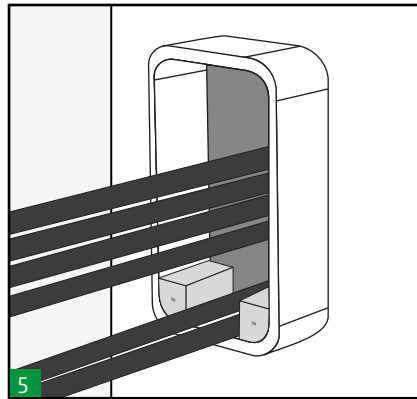
2 Lubricate the inside of the frame. Ensure the corners are well lubricated.



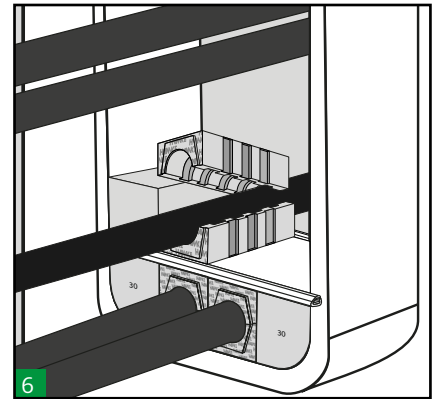
3 Take measures of the cables diameters and select the appropriate Hawke Tolerant blocks. Colour code will help you to select the correct ones.



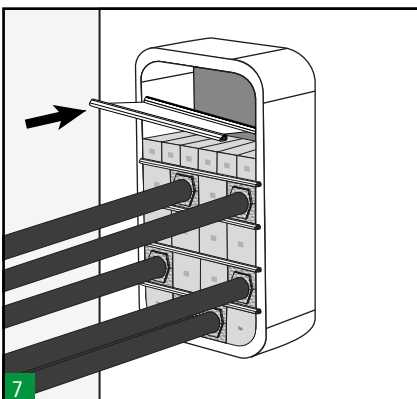
4 Lubricate all the insert and blank blocks using Hawke lubricant.



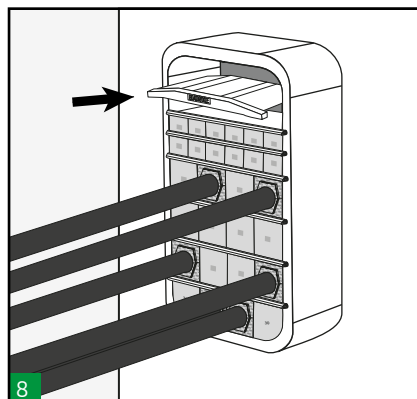
5 Insert HF200/R20 or HF300/R20 round corner blocks in the bottom corners of the frame.



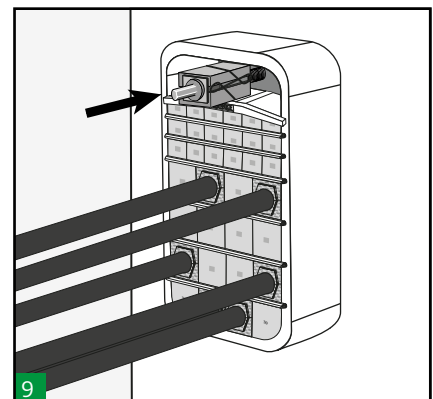
6 Begin packing the frame. Colour code will help you to install the blocks correctly.



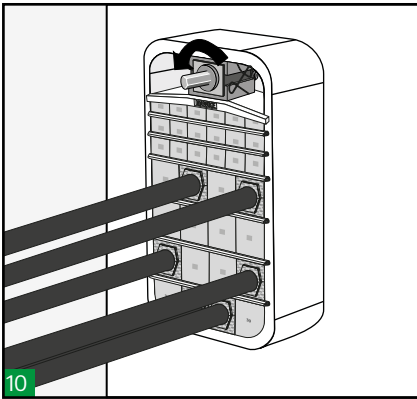
7 A stayplate is always inserted between each layer of blocks. Blocks should not protrude out of the stayplates retaining lips.



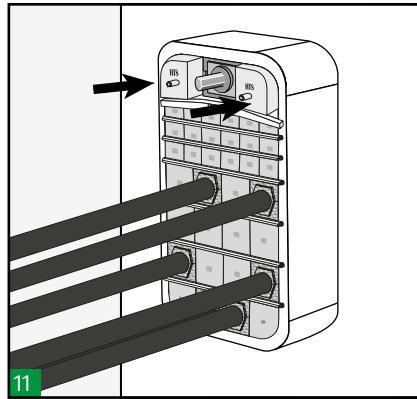
8 Insert the last stayplate and the compression plate before the last row of blocks (or earlier if required). Check frame packing space. Verify that the complete sealing area of this frame size (see table) will be filled with blocks.



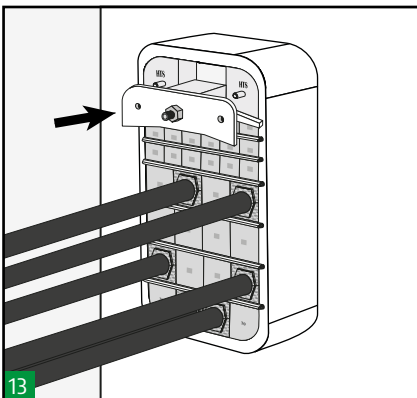
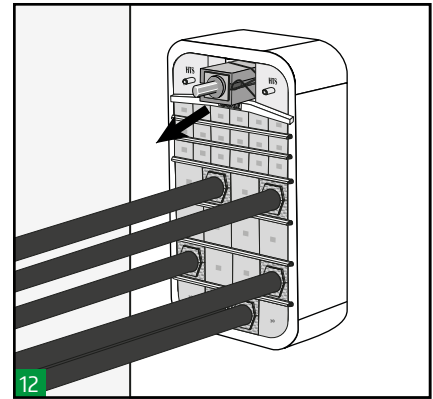
9 Pack the last row between the last stayplate and the compression plate. Insert the compression tool on the top, in the centre of the compression plate.



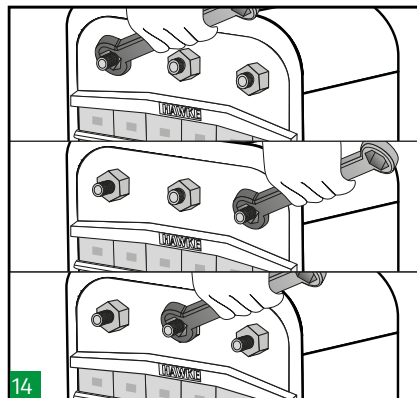
10 Tighten the compression tool until there is sufficient room to fit the outer blocks of the endpacker.



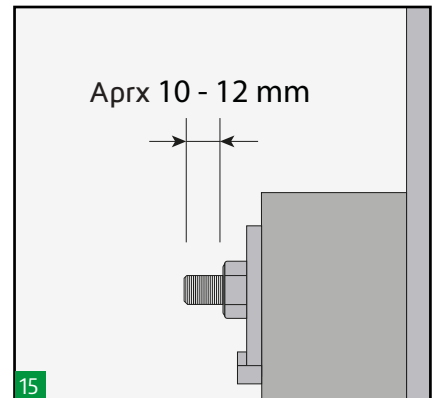
11 Insert the outer blocks of the endpacker. Then, untighten the compression tool and remove it.



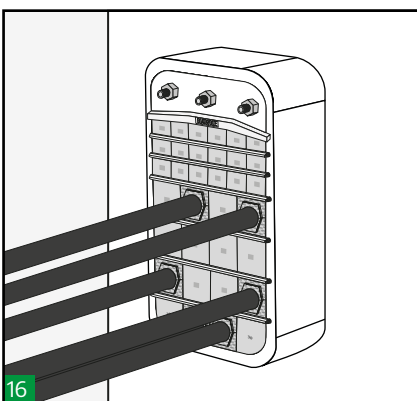
13 Insert the centre piece of the endpacker along with the front plate.




14 Tighten the nuts on the endpacking alternately following the above sequence to compress and complete the seal. Use a ratchet spanner for an easier installation.



15 Approximately 10-12 mm of thread should protrude on each bolt to ensure the sealing.

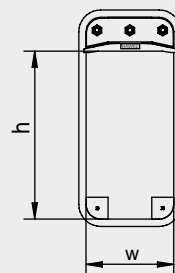


16 Make a visual inspection of the transit. Hawke's unique colour coding system enables the installation to be visually inspected after completion and ensures correct matching of the block halves.

 **Notes**

Leave the system at least 24 hours before applying pressure. For disassembly see disassembly instructions.

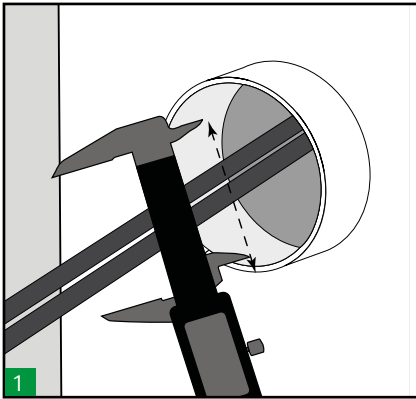
 **Sealing Area**



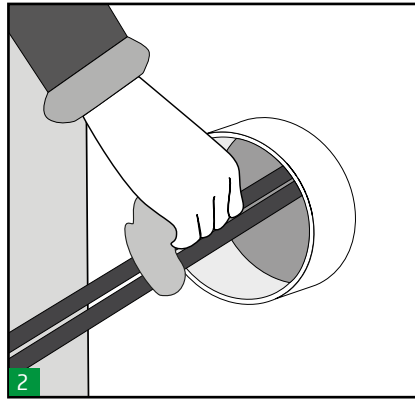
SIZE	SEALING AREA (w x h)
2	120x60
4	120x120
6	120x180
8	120x240

HTS-EN-A1002-Rev00-07/18

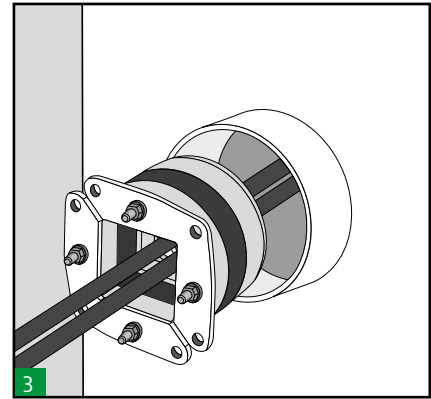
→ **HRTO / HRT ROUND SYSTEM** standard installation guide:



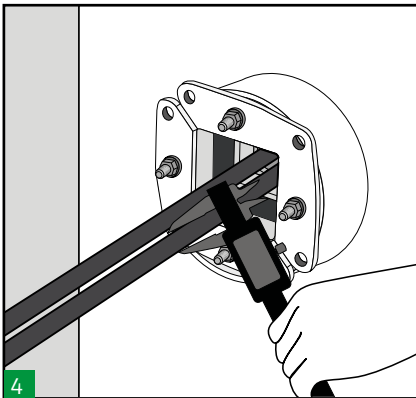
1 Measure the inside of pipe/aperture to ensure that it is within the tolerance of the round transit frame to be used.



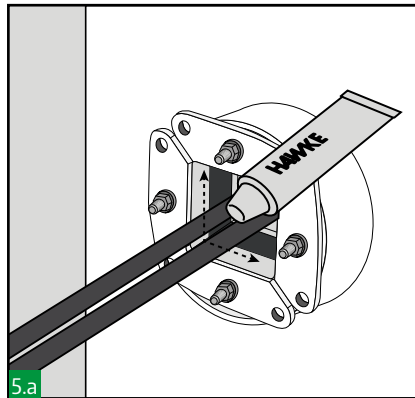
2 Make sure the frame is clean



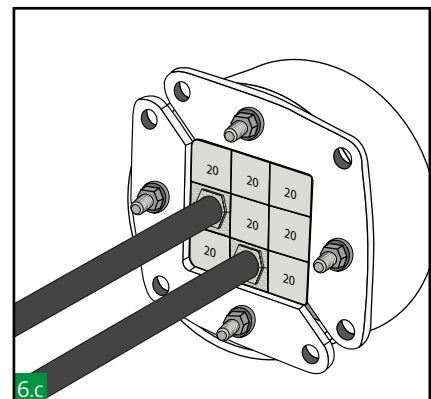
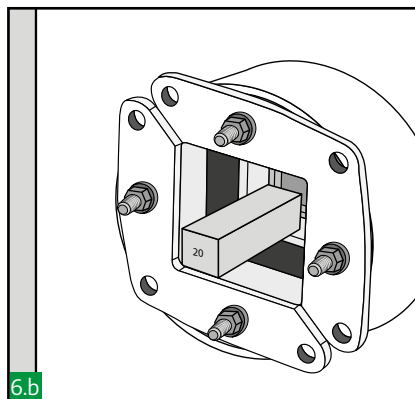
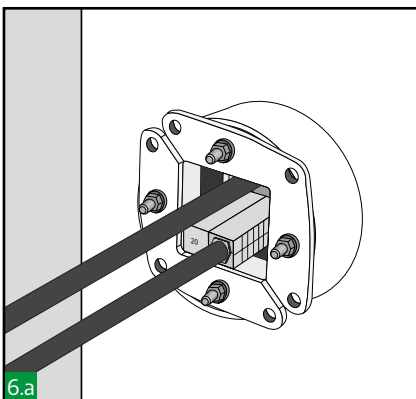
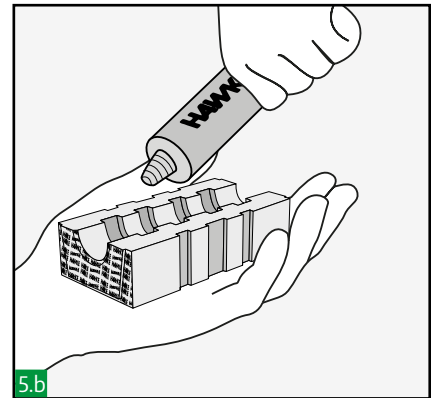
3 Insert the round transit frame completely in the sleeve/aperture around the cables. No lubricant should be applied to the aperture or outside of the frame. If close version of the Round Transit(HRT) is used, it should be installed previously to pull the cables/ pipes through the sleeve or aperture.



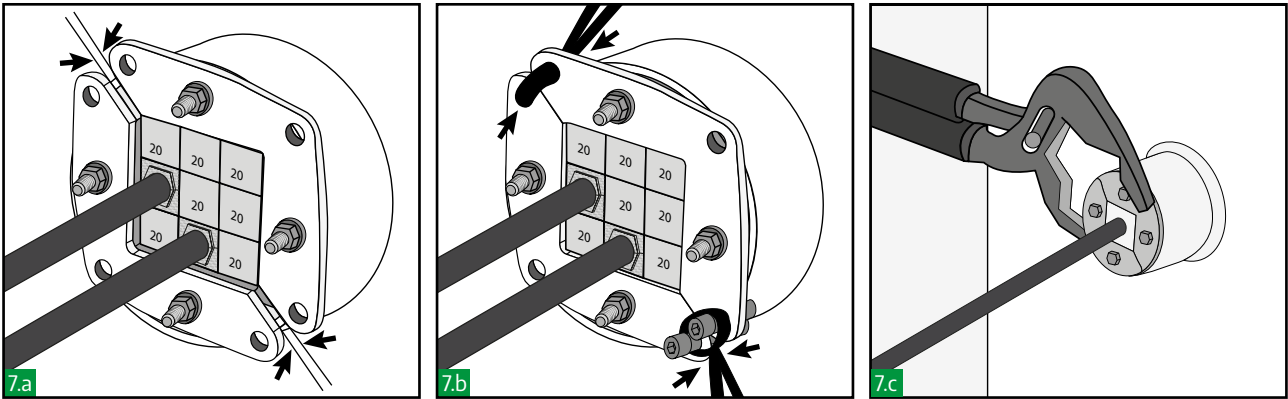
4 Take measures of the cables diameters and select the appropriate Hawke Tolerant blocks. Colour code will help you to select the correct ones.



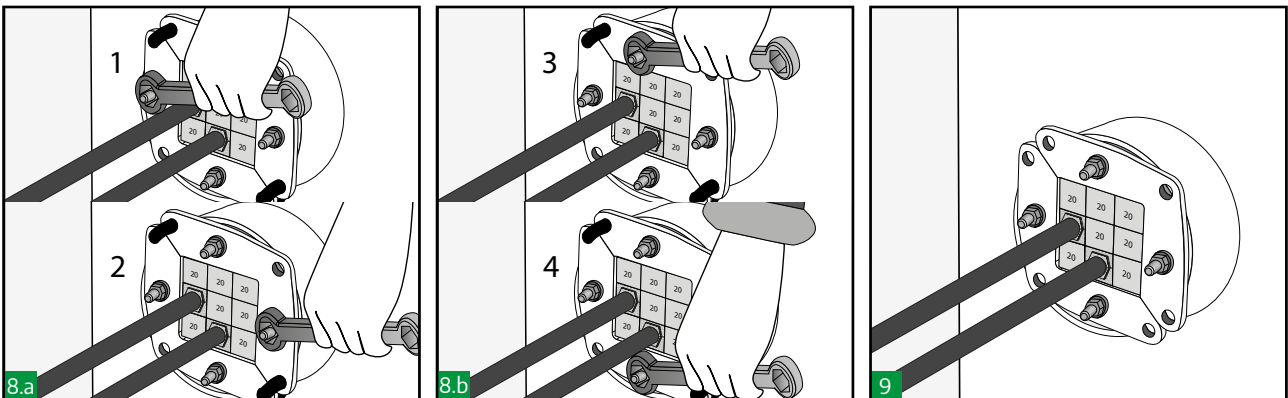
5.a Lubricate the inside of the HRTO and all the insert and blank blocks using Hawke lubricant. Open the two front plates. (HRTO30, HRTO40 & HRTO50 front plates are fixed)



Begin packing the transit frame starting at the bottom and finishing at the top. Ensure that the blocks are pushed firmly against the rear retaining lip. Verify that the complete sealing area of this frame size (see table) is filled with blocks.

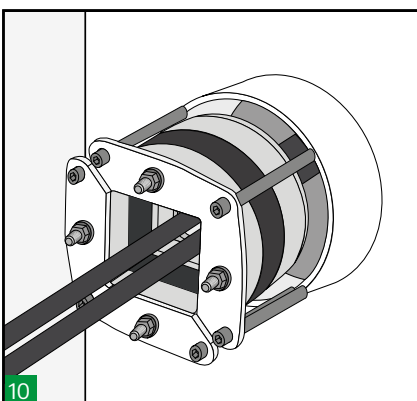


Slide the two front plates together and keep it fixed. Ensure all the blocks are located inside the front retaining lip. For an easier installation, cable ties, bolts or adjustable pliers can be used to close this plates.



Tighten the nuts approximately 2mm each time following alternate tightening sequence, applying equal pressure to both plates. A minimum of 10 mm of thread should protrude on each bolt. Use a ratchet spanner for an easier installation.

Make a visual inspection of the transit. Hawke's unique colour coding system enables the installation to be visually inspected after completion and ensures correct matching of the block halves.

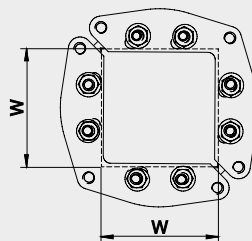


Extraction is achieved by releasing the compression, i.e. by reversing steps 5 and 6 and screwing M8 bolts (not supplied) into the threaded holes at each corner of the front plates. This releases the assembly from the aperture and allows the system to be disassembled.

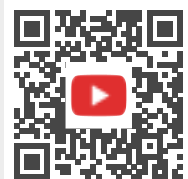
**Notes**

Leave the system at least 24 hours before applying pressure. For disassembly see disassembly instructions.

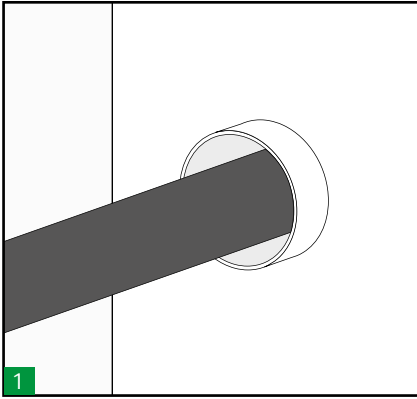
**Sealing Area**



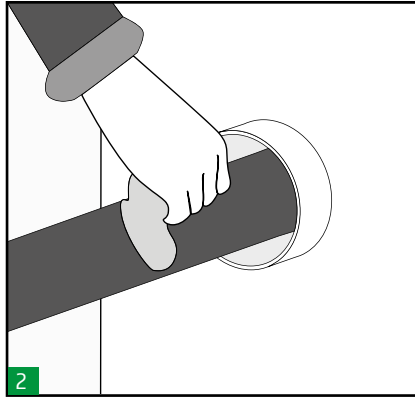
TYPE	SEALING AREA (mm)
HRTO-30	15x15
HRTO-40	20x20
HRTO-50	30x30
HRTO-70	40x40
HRTO-100	60x60
HRTO-125	80x80
HRTO-150	90x90
HRTO-200	120x120



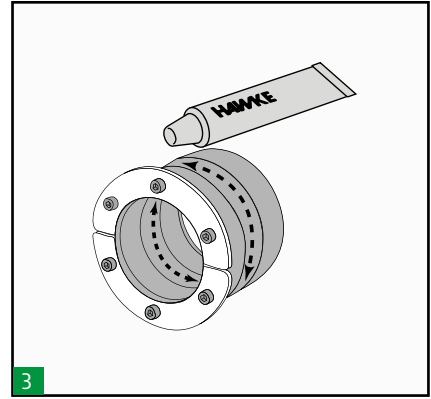
→ **HRST ROUND SYSTEM** standard installation guide:



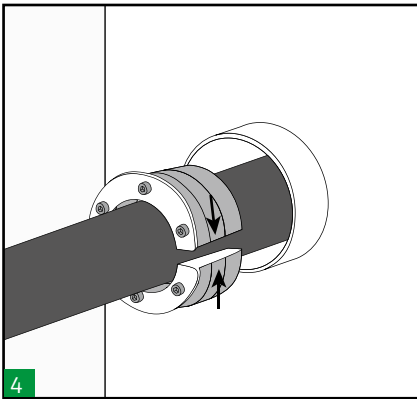
Check the inside diameter of the sleeve and the outside diameter of the cable/pipe to verify that it is within the range of selected HRST. Hawke HRST colour code will help for a correct selection.



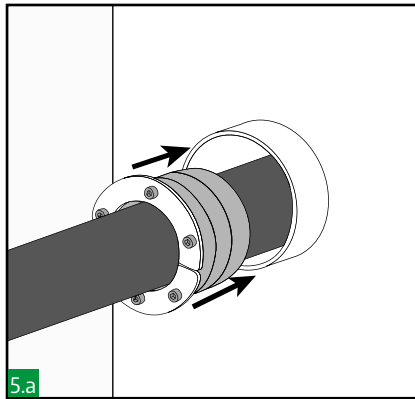
Make sure the pipe is properly centered in the sleeve. Make sure the sleeve and the cable/pipe are clean.



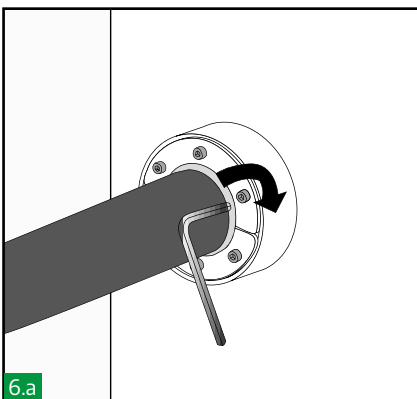
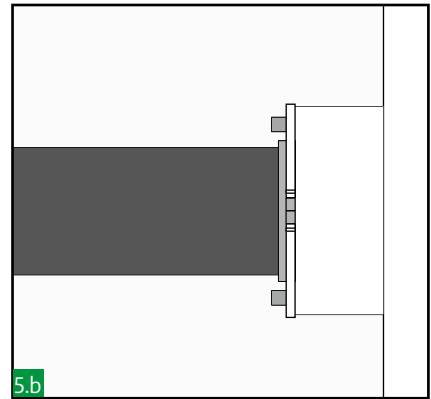
Lubricate the inside of the HRST to be in contact with the cable/ pipe and lightly lubricate the outside in contact with the sleeve.



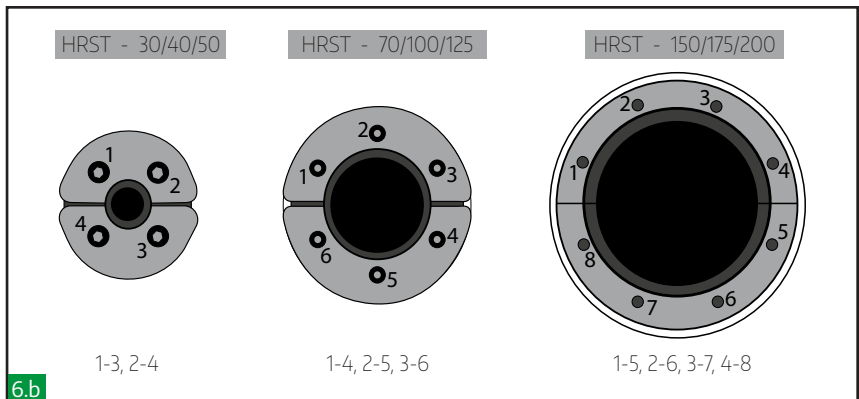
Open the HRST and install around the cable/pipe.

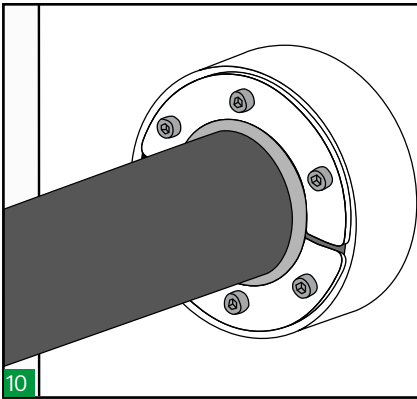


Insert the HRST into the sleeve. Check the HRST is completely inserted into the sleeve, front plates should be in contact with the sleeve.



Tighten the bolts. Tightening must be done in one revolution step for each bolt following next sequence until the system is enough compressed to seal the cable/pipe.





Make a visual inspection of the transit. HRST (colour code) selected match the pipe and sleeve installed, HRST is completely inserted into the sleeve, does not exist gaps between HRST and the cable/pipe.

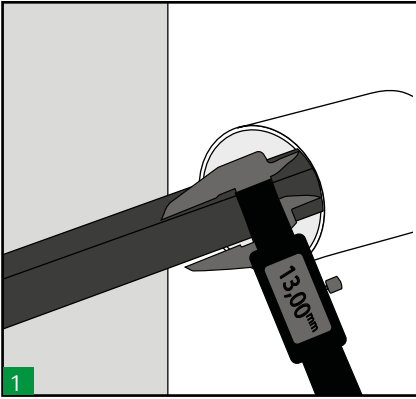
DESCRIPTION	SLEEVE SIZE NEEDED	SEALING FROM (mm)	SEALING TO (mm)	COLOUR
HRST-30/4	30	4	10	White
HRST-30/7	30	7	14	Red
HRST-30/10	30	10	17	Blue
HRST-40/4	40	4	10	Purple
HRST-40/7	40	7	14	Yellow
HRST-40/10	40	10	17	Green
HRST-40/17	40	17	24	Pink
HRST-50/4	50	4	10	Red
HRST-50/10	50	10	17	White
HRST-50/17	50	17	24	Blue
HRST-50/24	50	24	30	Orange
HRST-70/26	70	26	33	Purple
HRST-70/33	70	33	39	Yellow
HRST-70/39	70	39	45	Green
HRST-70/45	70	45	50	Pink
HRST-100/48	100	48	55	Red
HRST-100/55	100	55	61	White
HRST-100/61	100	61	66	Blue
HRST-100/66	100	66	71	Orange
HRST-125/64	125	64	71	Purple
HRST-125/71	125	71	79	Yellow
HRST-125/79	125	79	86	Green
HRST-125/86	125	86	93	Pink
HRST-125/93	125	93	98	Orange
HRST-150/93	150	93	102	Red
HRST-150/102	150	102	108	White
HRST-150/108	150	108	115	Blue
HRST-150/115	150	115	120	Orange
HRST-175/118	175	118	125	Purple
HRST-175/125	175	125	132	Yellow
HRST-175/132	175	132	138	Green
HRST-175/138	175	138	145	Pink
HRST-200/136	200	136	143	Red
HRST-200/143	200	143	150	White
HRST-200/150	200	150	157	Blue
HRST-200/157	200	157	164	Orange
HRST-200/164	200	164	170	Yellow

\*All dimensions are nominal values

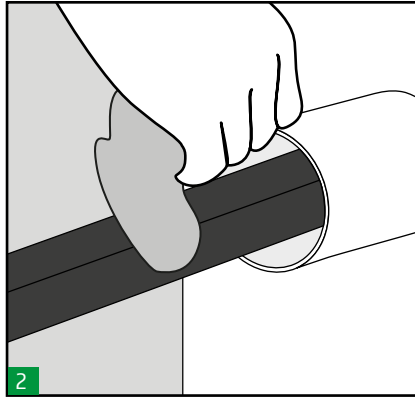
◆ → **Notes**  
Leave the system at least 24 hour before applying pressure.

◆ → **Sealing Range**  
Check cable/pipe sealing range in HRST catalogue page

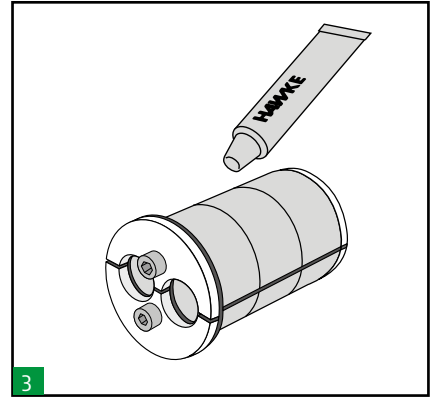
→ **HRST MULTIHOLE ROUND SYSTEM** standard installation guide:



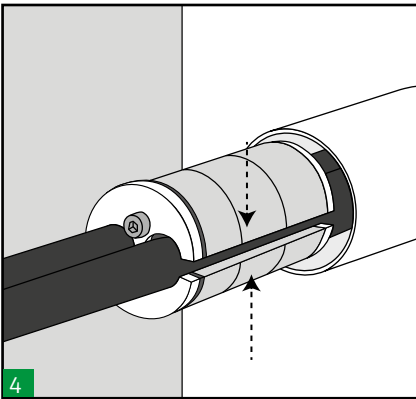
1 Check the inside diameter of the sleeve and the outside diameter of the cables to verify that it is within the range of selected HRST.



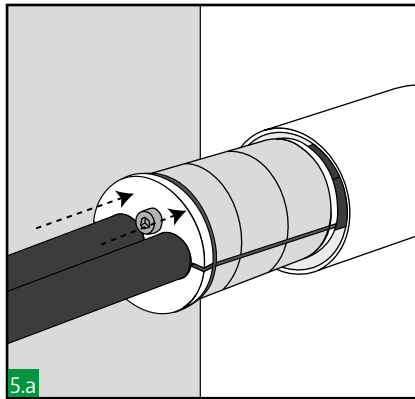
2 Make sure the sleeve and the cables are clean.



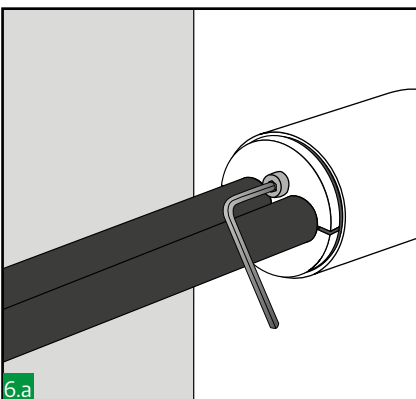
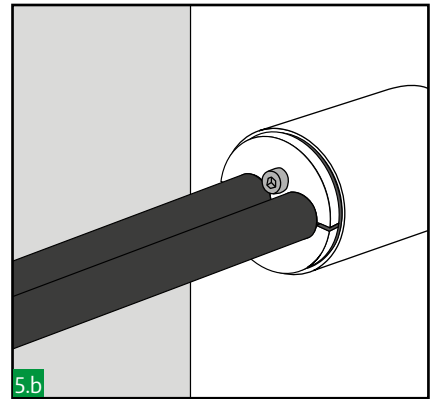
3 Lubricate the inside of the HRST to be in contact with the cables and lightly lubricate the outside in contact with the sleeve.



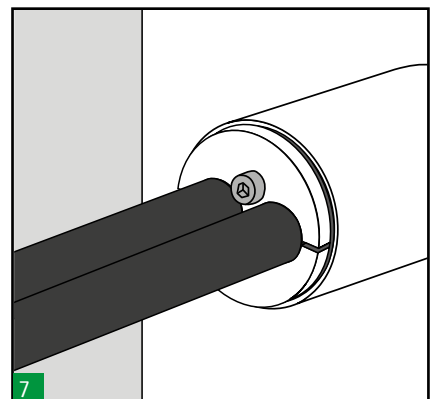
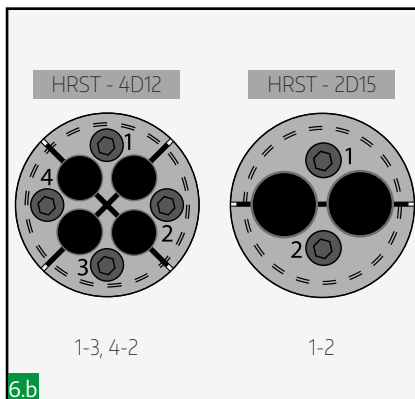
4 Open the HRST and install around the cables.



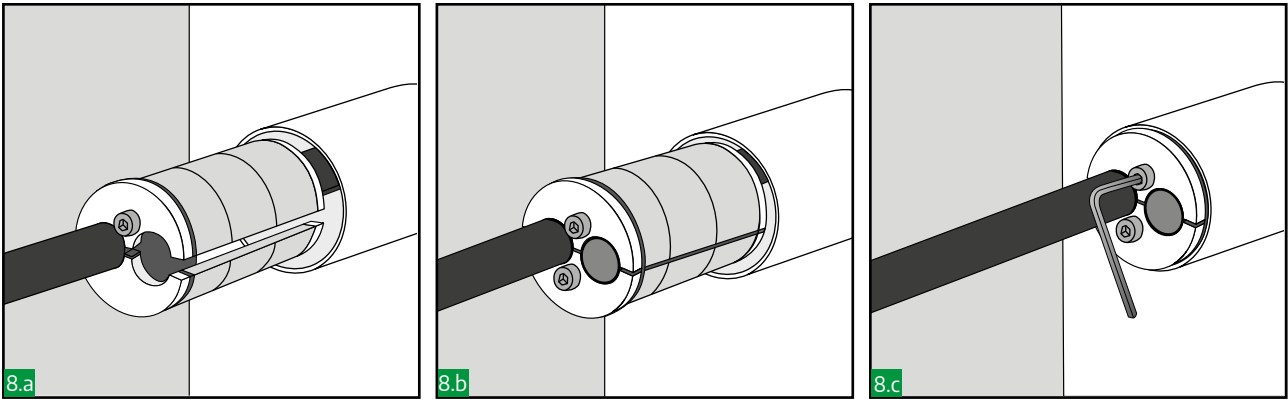
5.a Insert the HRST into the sleeve. Check the HRST is completely inserted into the sleeve, front plates should be in contact with the sleeve.



6.a Tighten the bolts. Tightening must be done in one revolution step for each bolt following next sequence until the system is enough compressed to seal the cables.



7 Make a visual inspection of the transit. HRST selected match the cables and sleeve installed, HRST is completely inserted into the sleeve, does not exist gaps between HRST and the cable/pipe.



In case of any HRST hole are not occupied by cables always complete with Hawke HRST plugs.

DESCRIPTION	SLEEVE SIZE NEEDED	NUMBER OF CABLES	SEALING FROM (mm)	SEALING TO (mm)	A (mm)	B (mm)	NUMBER OF BOLT	BOLT SIZE	WEIGHT (kg)
HRST 40 2D15	40	2	10	15	40	46	2	M5	0,17
HRST 40 4D12	40	4	8	12	40	46	4	M5	0,16



**Notes**

Leave the system at least 24 hour before applying pressure.

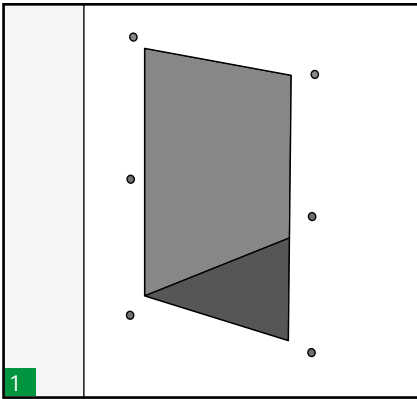


**Sealing Range**

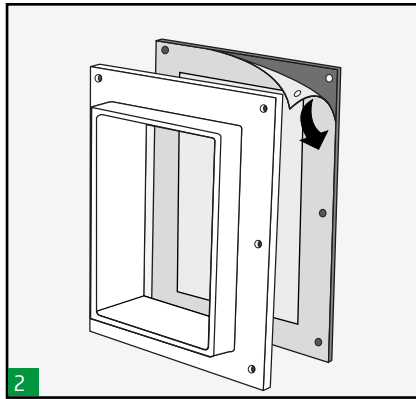
Check cable/pipe sealing range in HRST catalogue page xx



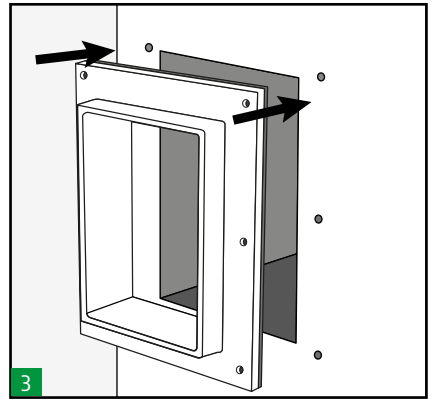
**H-DM CABINET SEAL SYSTEM** standard installation.



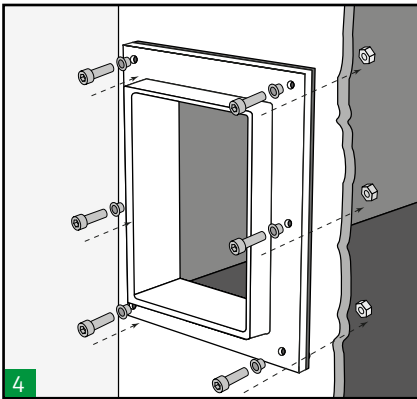
1 Cut a rectangular opening for the frame according to H-DH frame size to be used.(See table).



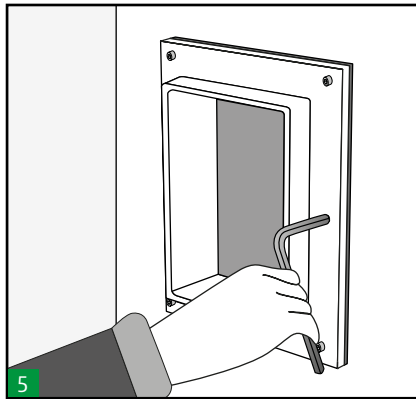
2 Remove the protection and stick the gasket on the aluminium frame.



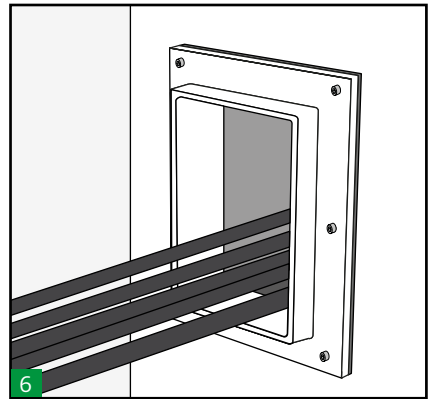
3 Install the frame in the opening with the gasket side towards the enclosure.



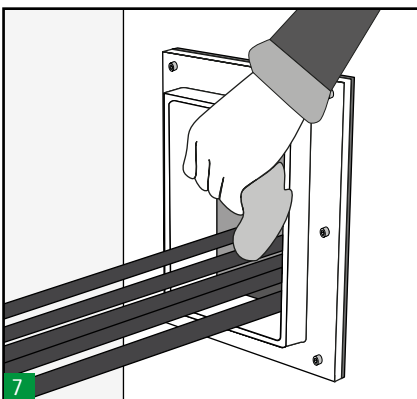
4 Insert bolts washers and nuts to the frame/ enclosure.



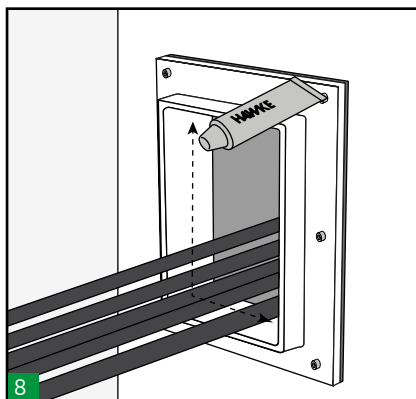
5 Screw the frame to the cabinet.



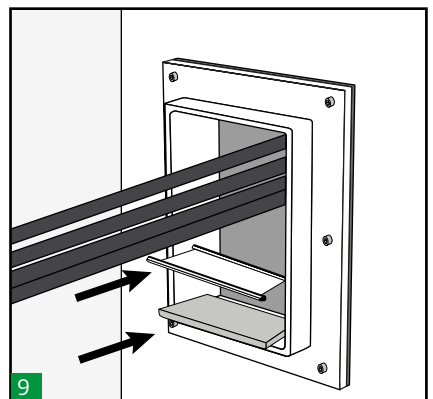
6 Pull cables or pipes through, placing the largest at the bottom.



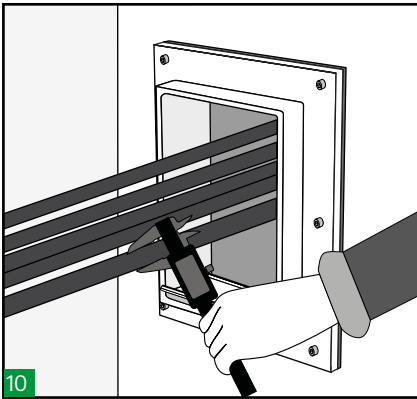
7 Make sure the frame is clean.



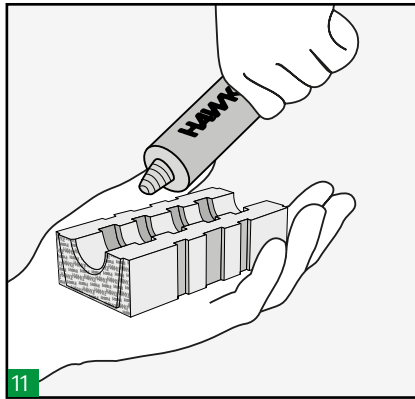
8 Lubricate the inside of the frame. Make sure the corners are well lubricated.



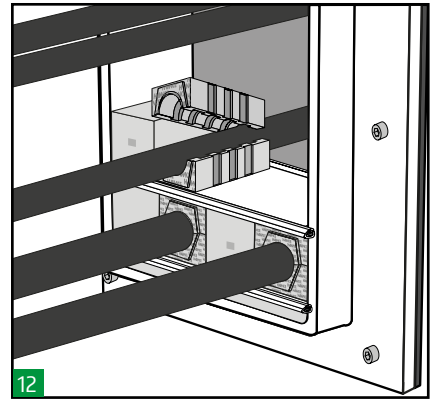
9 Before starting the sealing, place a 5mm strip with a stayplate at the bottom of the frame. These are included with compression system.



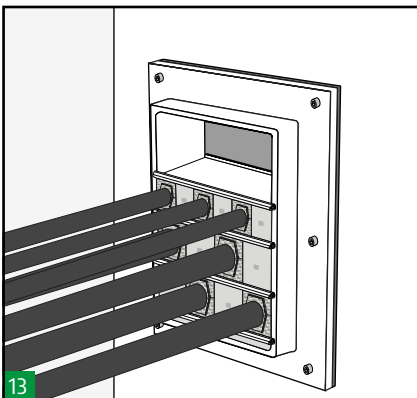
10 Take measures of the cables diameter with a caliber and select the appropriate Hawke tolerant blocks. Color code will help you to select the correct ones.  
Only use H-DM black blocks.



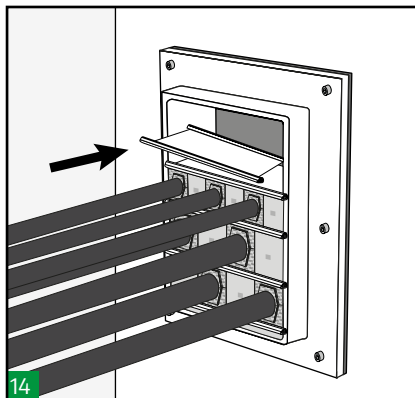
11 Lubricate all the insert and blank blocks, using Hawke lubricant.



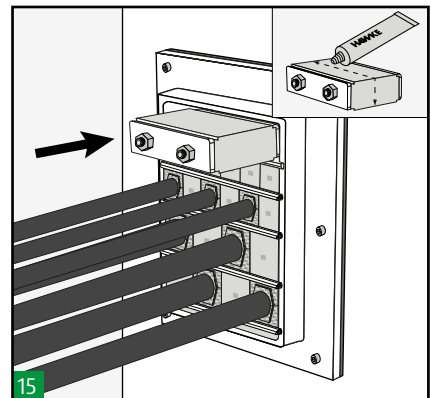
12 Keep sealing the transit from the bottom to the top using insert and blank blocks, as required.



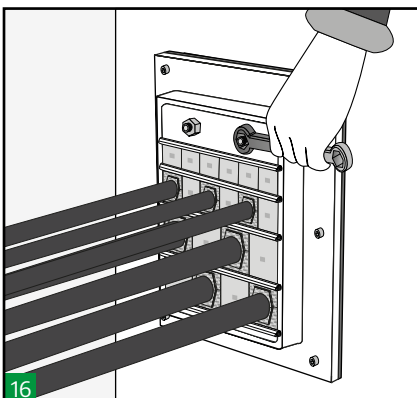
13 A stayplate is always inserted between each layer of blocks.



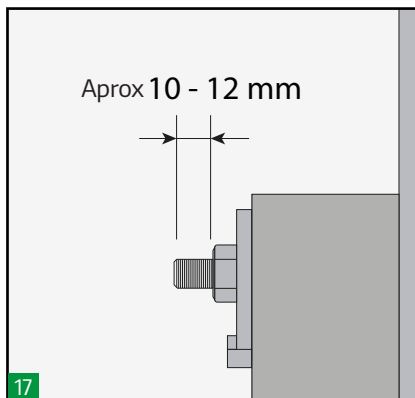
14 Insert the last stayplate before the last row of blocks (or earlier if required). Verify that the complete sealing area of this frame size (see table) will be filled with blocks. Note: 5mm strip supplied with the compression system should be not considered as part of the sealing area.



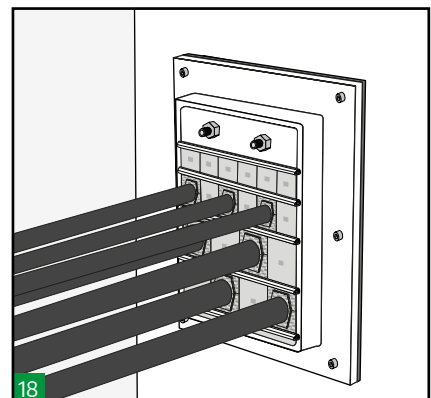
15 Pack the last row between the two last stayplates. Lubricate and insert H-DM endpacker at the top of the frame.



16 Tighten the nuts on the endpacker in alternate order to compress and complete the seal.

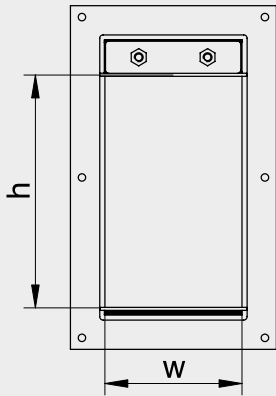


17 Approximately 10-12 mm of thread should protrude on each bolt.



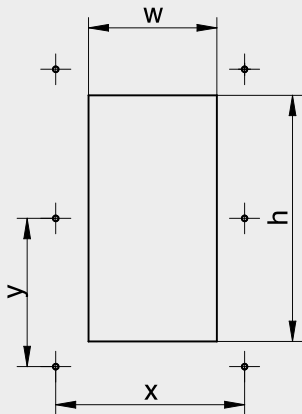
18 Make a visual inspection of the transit. Hawke's color coding enables the installation to be visually inspected after completion and ensures correct matching of the blocks halves.

◆ → Sealing Area



DESCRIPTION	SEALING AREA (mm)
H-DM 1	60x60
H-DM 4	120x120
H-DM 5	60x180
H-DM 6.3	120x200
H-DM 6+6	2x (120x180)

◆ → Hole dimension

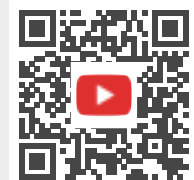


DESCRIPTION	HOLE DIMENSIONS		BOLTS POSITION		
	w (mm)	h (mm)	Φ (mm)	y (mm)	x (mm)
H-DM 1	77	117	6	100	140
H-DM 4	137	177	6	160	100
H-DM 5	77	235	6	100	126
H-DM 6.3	137	257	6	160	140
H-DM 6+6	137	458	6	160	120

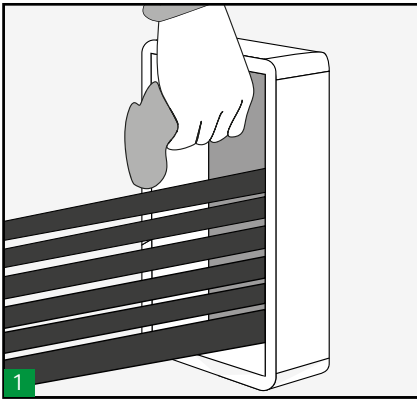
\*All dimensions are nominal values

◆ → Notes

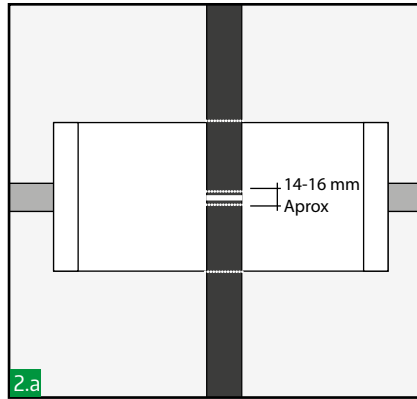
Leave the system at least 24 hour before applying pressure.  
For disassembly see disassembly installation instructions.



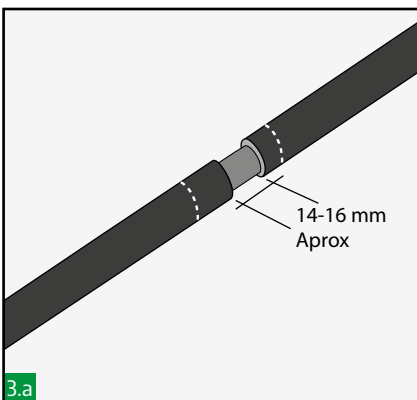
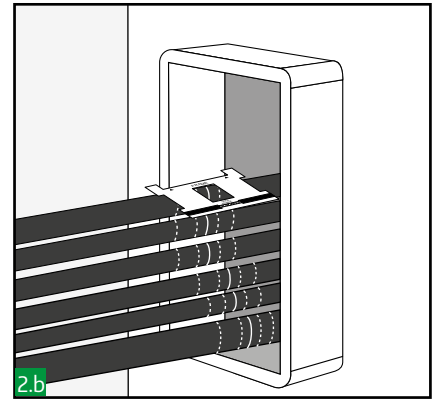
**RECTANGULAR EMC SYSTEM** installation guide:



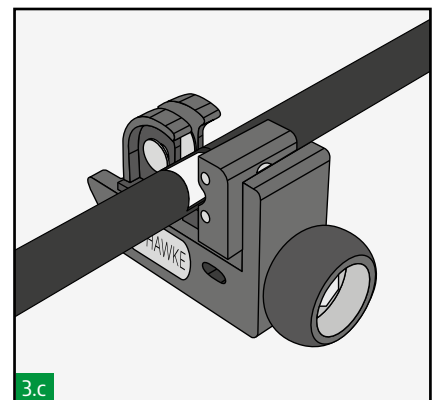
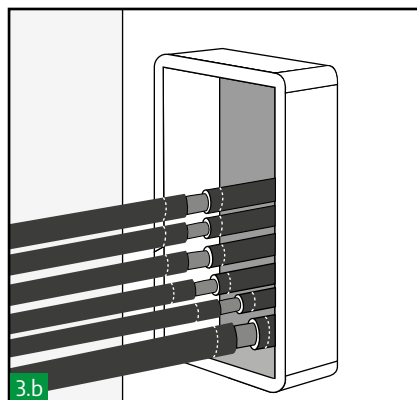
1 Make sure the frame is clean, then pull cables or pipes through, placing the largest at the bottom. (Note: Use open ended frame to fit around existing cables/pipes)



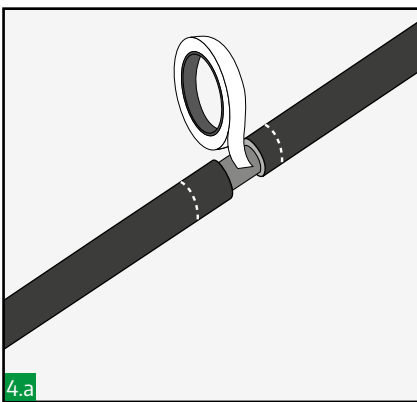
2.a Mark each cable in the centre of the frame and 7-8mm either side of this point. Also recommendable to mark the cable in both ends of the frame. EMC marking tool could help you to reduce time and ensure a correct marking.



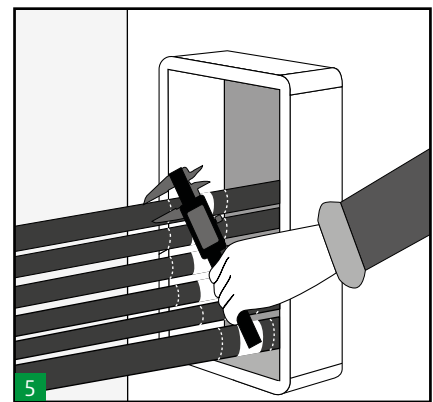
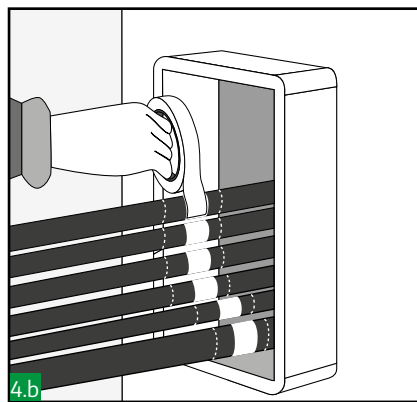
3.a Cut and remove cable sheath between two central marks, to expose the cables conductive screen.



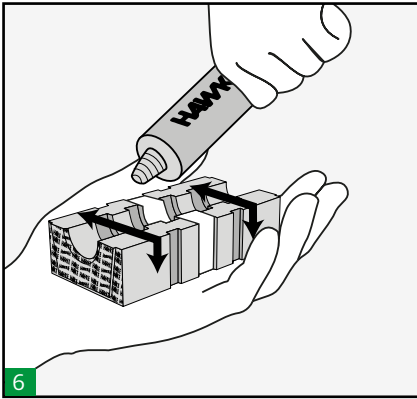
3.c EMC cable sheath remove tool could help you to reduce time and ensure a correct cutting.



4.a Using copper tape provided tightly wrap around the exposed screen until the cable outer diameter is regained. Repeat this step for all cables.

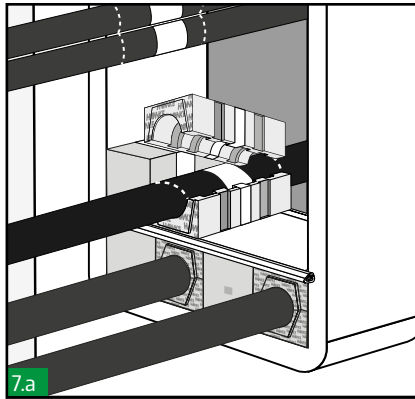


5 Take measures of cables diameters and select the appropriate Hawke tolerant blocks.

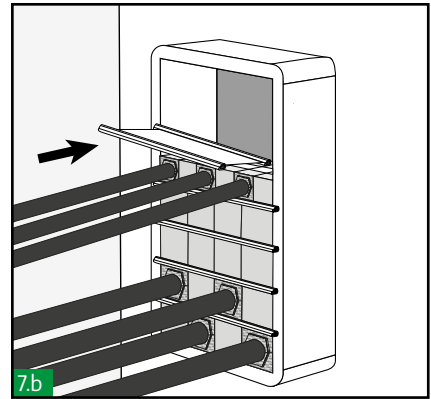


6

Very slightly lubricate all the insert and blank blocks using Hawke lubricant taking care not to contaminate the copper on blocks and cables.

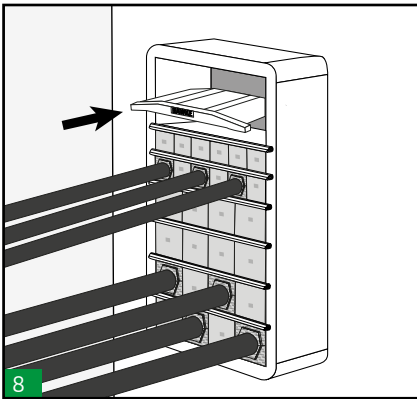


7a



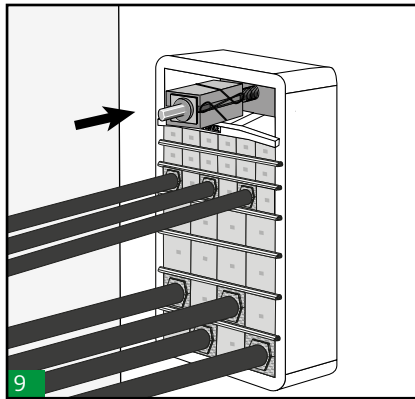
7b

Begin packing the frame from the bottom to the top. A stayplate is always inserted between each layer of blocks. Blocks should not protrude out of the stayplates retaining lips. Ensure when fitting cables into blocks that copper tape on blocks and cable align. Marks in the cable will help to guarantee it.



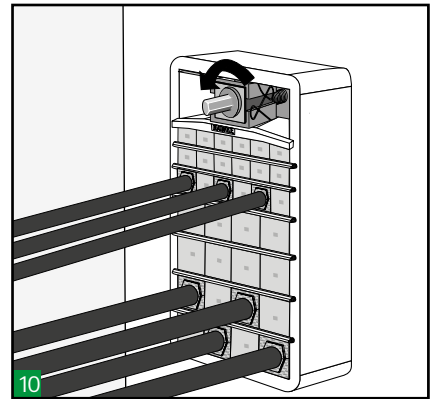
8

Insert the last stayplate and the compression plate before the last row of blocks (or earlier if required). Check frame packing space. Verify that the complete sealing area of this frame size (see table) will be filled with blocks.



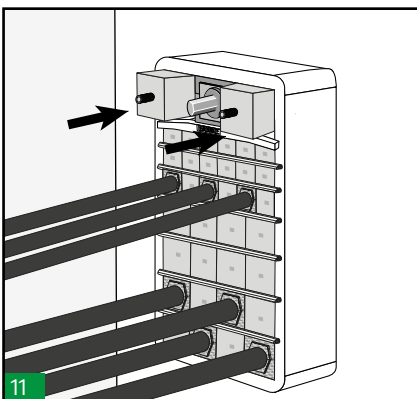
9

Pack the last row between the last stayplate and the compression plate. Insert the compression tool on the top, in the centre of the compression plate.



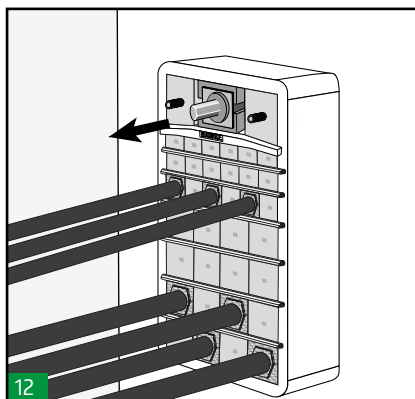
10

Tighten the compression tool until there is sufficient room to fit the outer blocks of the endpacker.

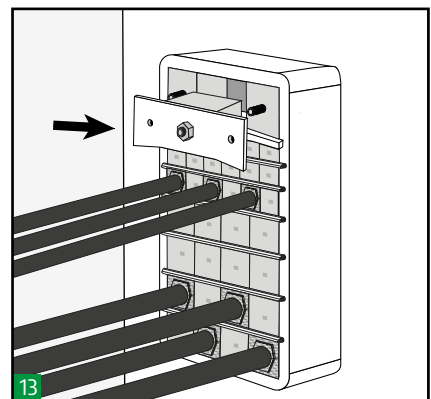


11

Insert the outer blocks of the endpacker. Then, untighten the compression tool and remove it.

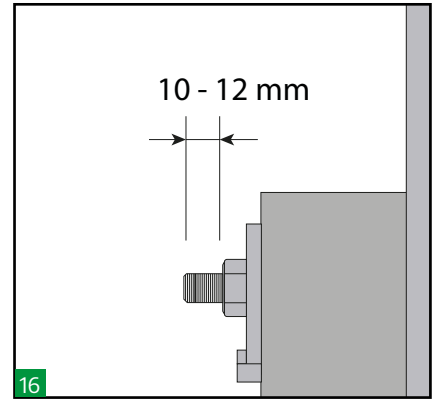
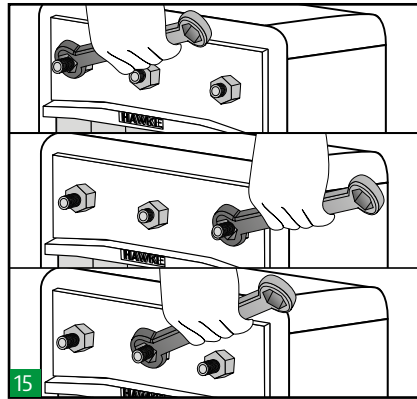
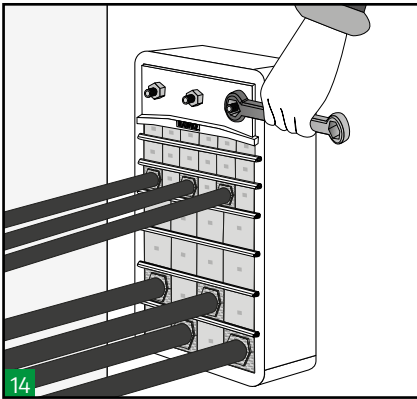


12



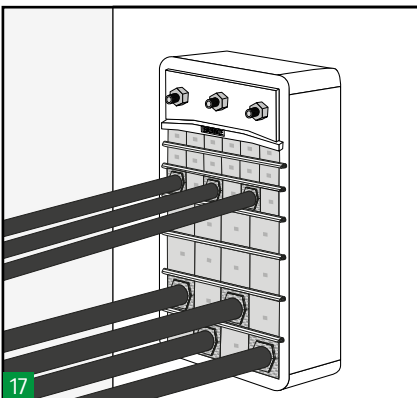
13

Insert the centre piece of the endpacker along with the front plate.



Tighten the nuts on the endpacking alternately following the above sequence to compress and complete the seal. Use a ratchet spanner for an easier installation.

Approximately 10-12 mm of thread should protrude on each bolt to ensure the sealing.

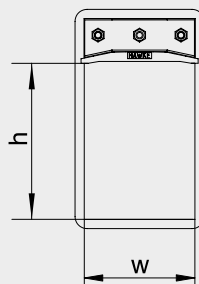


Make a visual inspection of the transit. Hawke's unique colour coding system enables the installation to be visually inspected after completion and ensures correct matching of the block halves. Check that marks in all the cables are visible to be guarantee blocks and cable copper tapes are aligned.

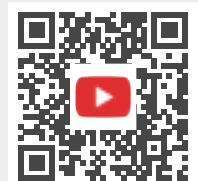
**Notes**

Leave the system at least 24 hour before applying pressure. For disassembly see disassembly installation instructions.

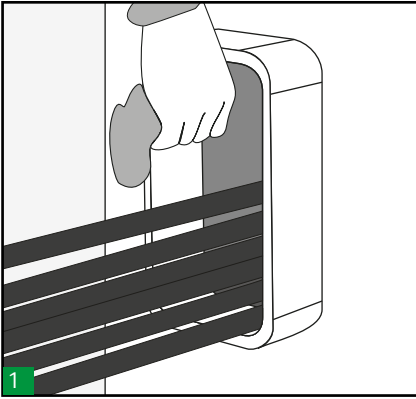
**Sealing Area**



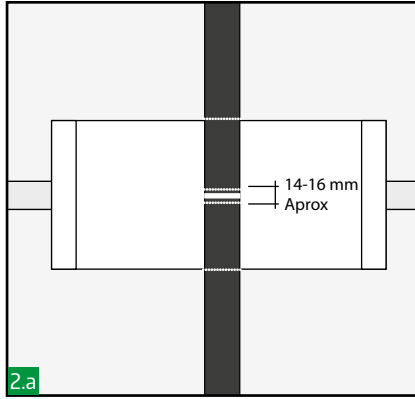
APERTURE SIZE	SEALING AREA (w x h)
1	60 x 60
2	120 x 60
3	60 x 120
4	120 x 120
5	60 x 180
6	120 x 180
7	60 x 240
8	120 x 240



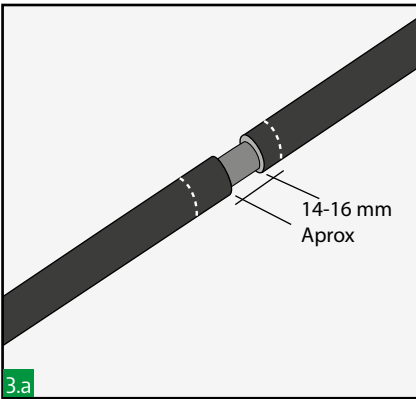
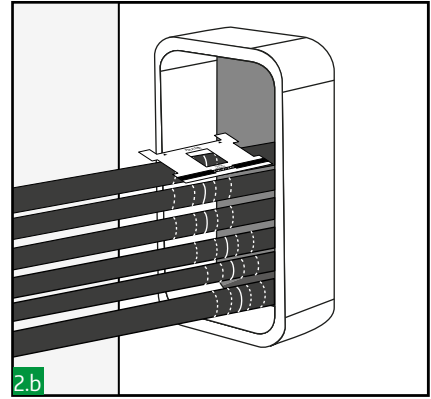
**HMCX EMC SYSTEM** installation guide:



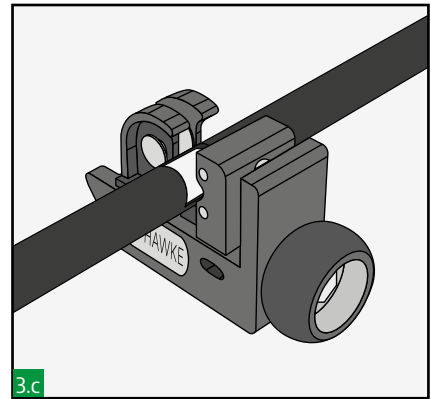
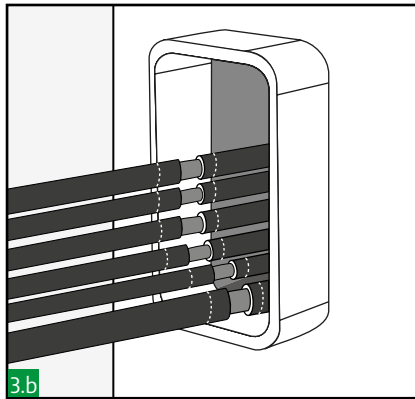
1 Make sure the frame is clean, then pull cables or pipes through, placing the largest at the bottom. (Note: Use open ended frame to fit around existing cables/pipes)



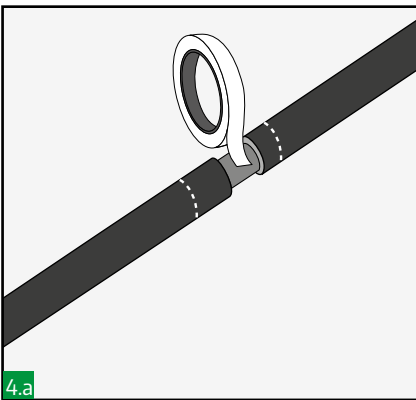
2.a Mark each cable in the centre of the frame and 7-8mm either side of this point. Also recommendable to mark the cable in both ends of the frame. EMC marking tool could help you to reduce time and ensure a correct marking.



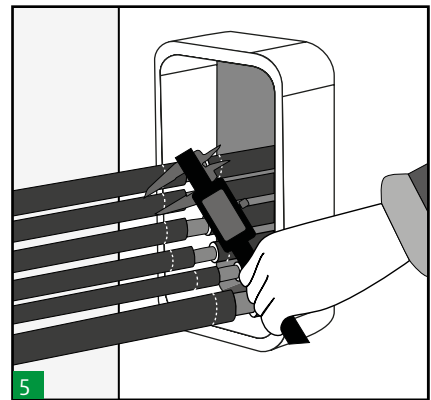
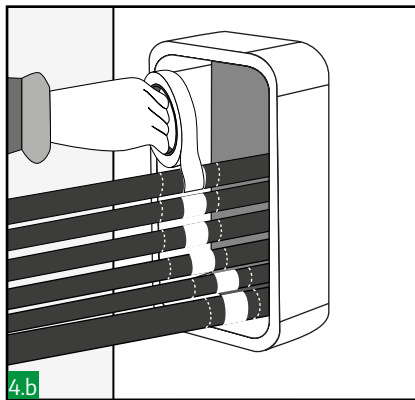
3.a Cut and remove cable sheath between two central marks, to expose the cables conductive screen.



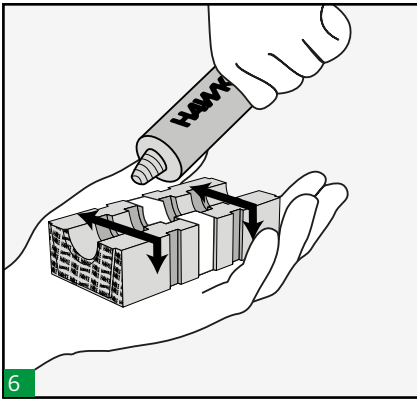
3.c EMC cable sheath remove tool could help you to reduce time and ensure a correct cutting.



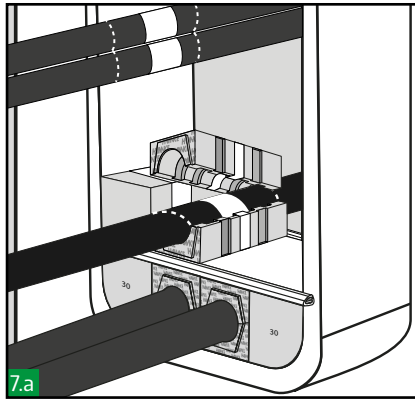
4.a Using copper tape provided tightly wrap around the exposed screen until the cable outer diameter is regained. Repeat this step for all cables.



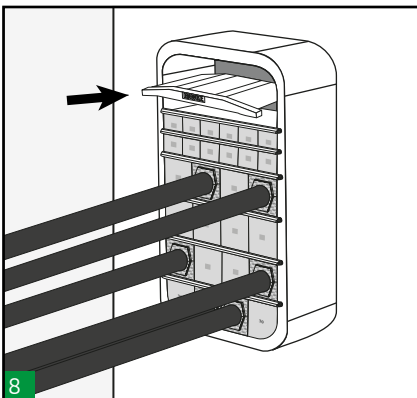
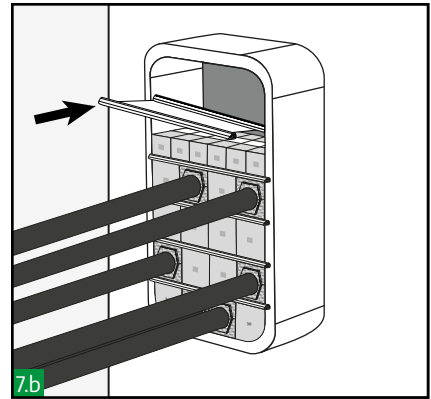
5 Take measures of cables diameters and select the appropriate Hawke tolerant blocks.



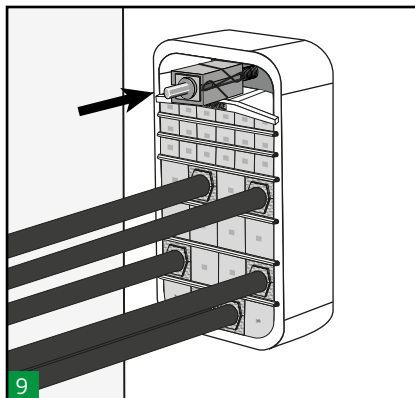
6 Very slightly lubricate all the insert and blank blocks using Hawke lubricant taking care not to contaminate the copper on blocks and cables.



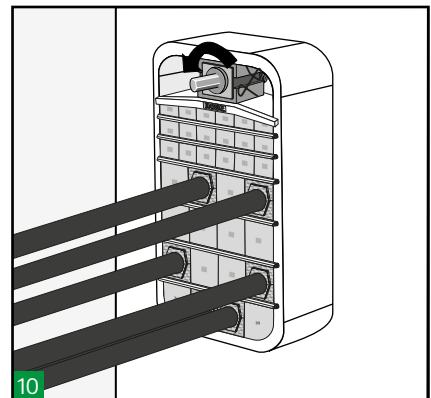
7.a Begin packing the frame from the bottom to the top. A stayplate is always inserted between each layer of blocks. Blocks should not protrude out of the stayplates retaining lips. Ensure when fitting cables into blocks that copper tape on blocks and cable align. Marks in the cable will help to guarantee it.



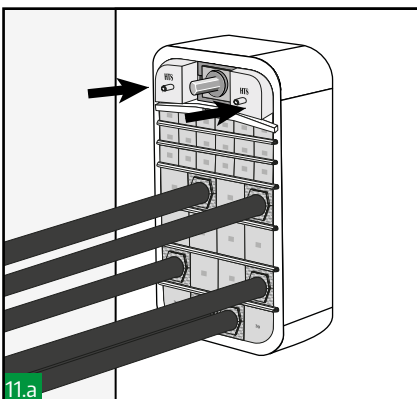
8 Insert the last stayplate and the compression plate before the last row of blocks (or earlier if required). Check frame packing space. Verify that the complete sealing area of this frame size (see table) will be filled with blocks.



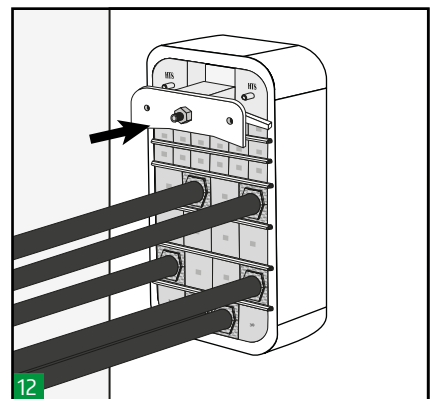
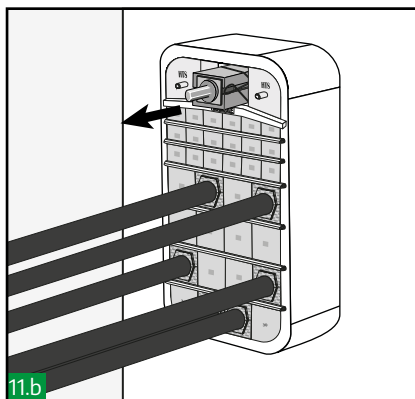
9 Pack the last row between the last stayplate and the compression plate. Insert the compression tool in the centre of the compression plate.



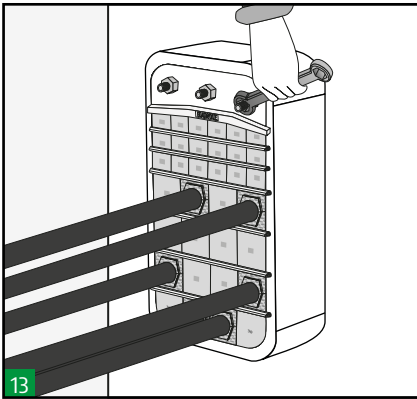
10 Tighten the compression tool until there is sufficient room to fit the outer blocks of the endpacker.



11.a Insert the outer blocks of the endpacker. Then, untighten the compression tool and remove it.

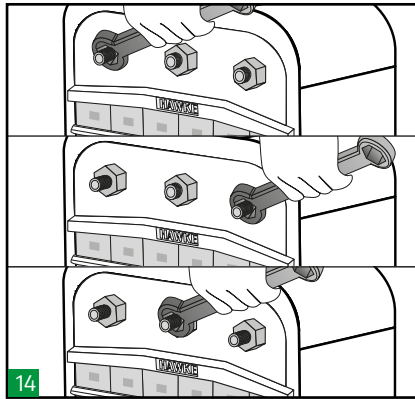


12 Insert the centre piece of the endpacker along with the front plate.

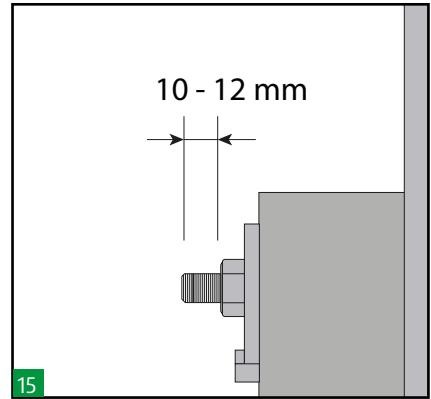


13

Tighten the nuts on the endpacking alternately following the above sequence to compress and complete the seal. Use a ratchet spanner for an easier installation.

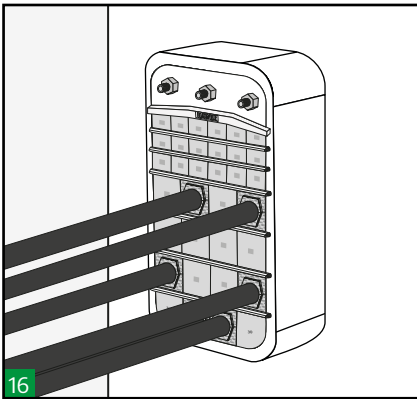


14



15

Approximately 10-12 mm of thread should protrude on each bolt to ensure the sealing.



16

Make a visual inspection of the transit. Hawke's unique colour coding system enables the installation to be visually inspected after completion and ensures correct matching of the block halves. Check that marks in all the cables are visible to be guarantee blocks and cable copper tapes are aligned.

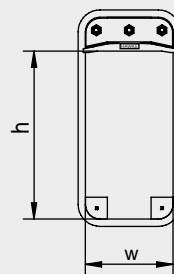


**Notes**

Leave the system at least 24 hour before applying pressure.  
For disassembly see disassembly installation instructions.

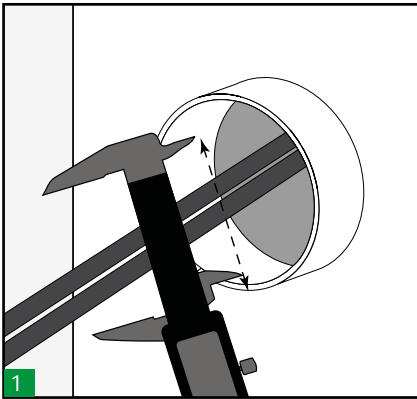


**Sealing Area**

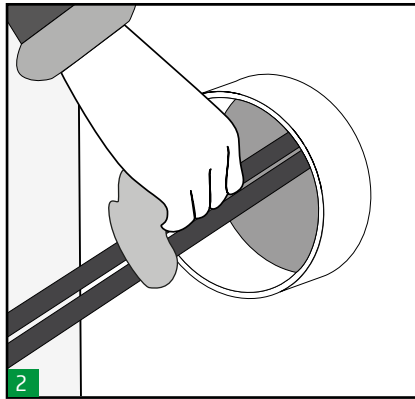


SIZE	SEALING AREA (w x h)
2	120x60
4	120x120
6	120x180
8	120x240

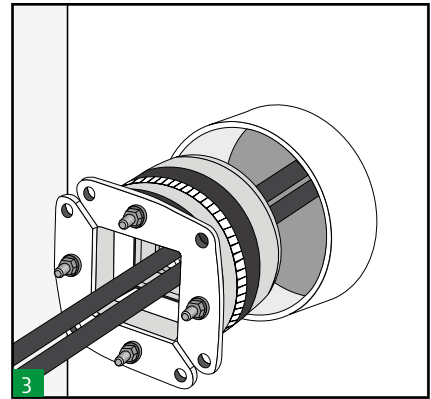
**HRTO / HRT EMC ROUND SYSTEM** installation guide:



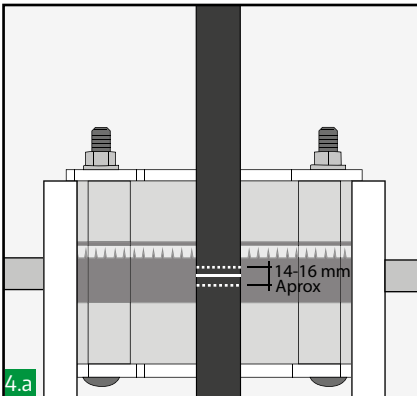
Measure the inside of pipe aperture to ensure that it is within the tolerance of the round transit frame to be used.



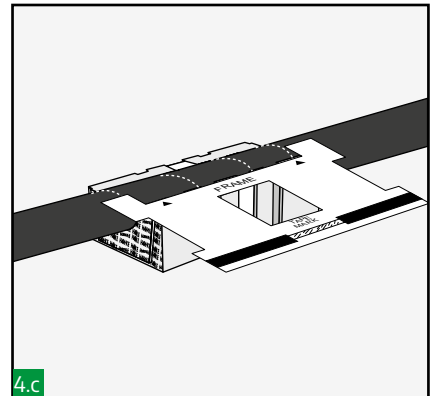
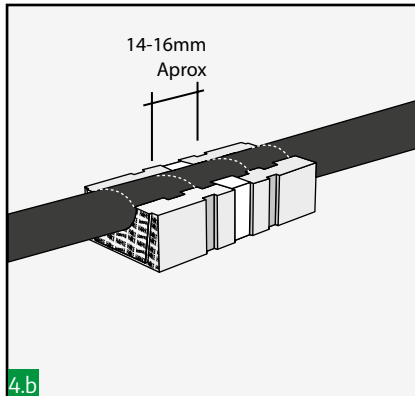
Make sure the frame is clean and there are not rust.



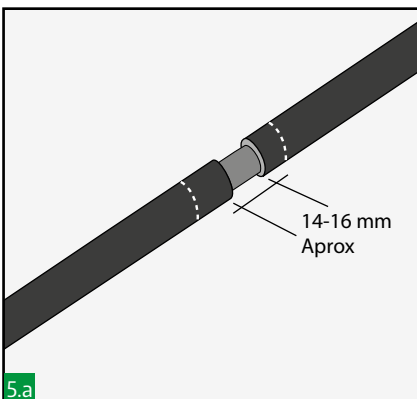
Insert the round transit frame completely in the sleeve around the cables and open the two front plates. (HRTO30,HRTO40&HRTO50 front plates are fixed). No lubricant should be applied to the aperture or outside of the frame.



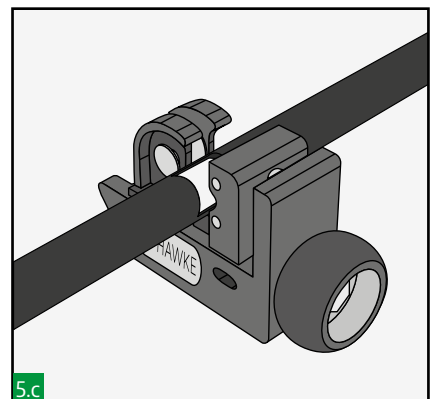
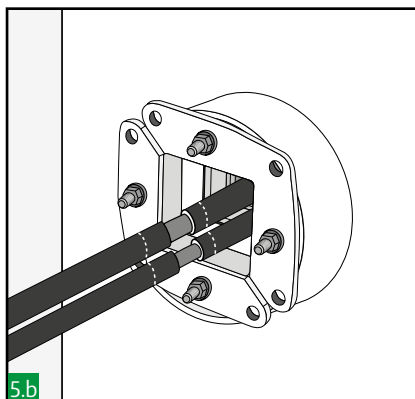
Mark each cable in the centre of the frame and 7-8mm either side of this point. Also recommendable to mark the cable in both ends of the frame.



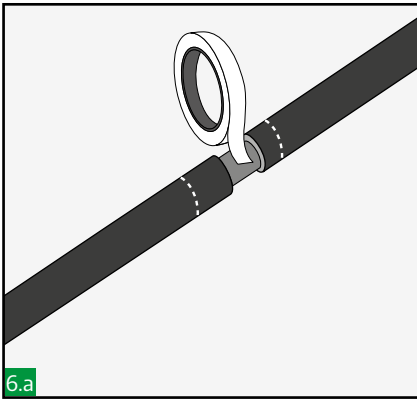
EMC marking tool could help you to reduce time and ensure a correct marking.



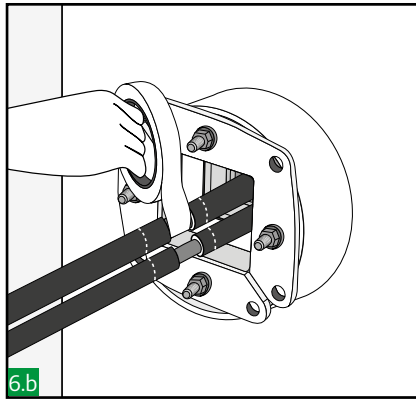
Cut and remove cable sheath between two central marks, to expose the cables conductive screen.



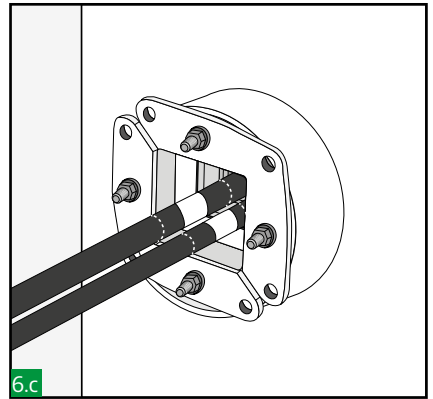
EMC cable sheath remove tool could help you to reduce time and ensure a correct cutting.



6.a

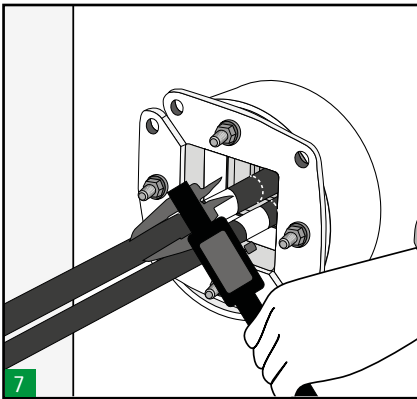


6.b



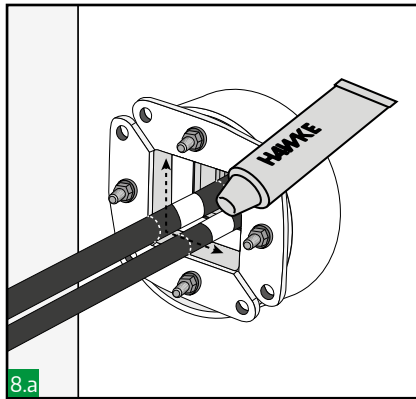
6.c

Using copper tape provided tightly wrap around the exposed screen until the cable outer diameter is regained.  
Repeat this steps for all cables.



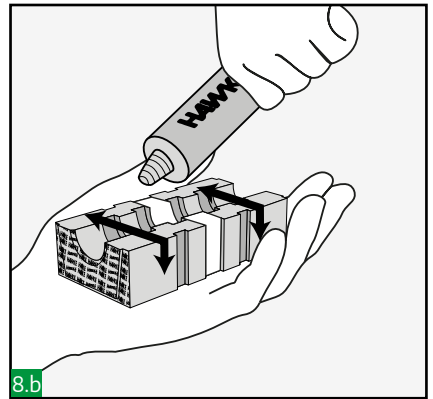
7

Take measures of the cables diameters and select the appropriate Hawke Tolerant Blocks.

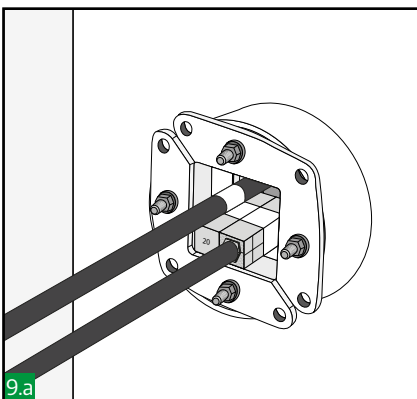


8.a

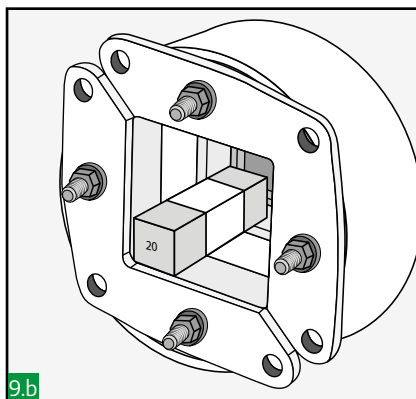
Lubricate the inside of the HRTO and all the insert and blank blocks using Hawke lubricant.  
Be careful don't contaminate the copper tape.



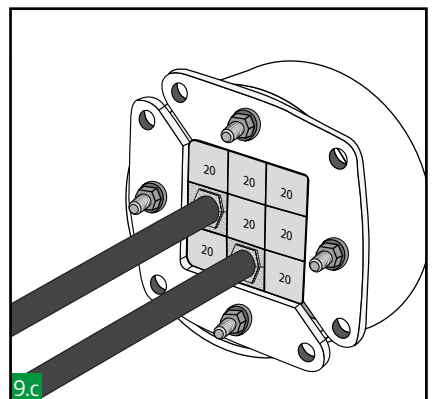
8.b



9.a

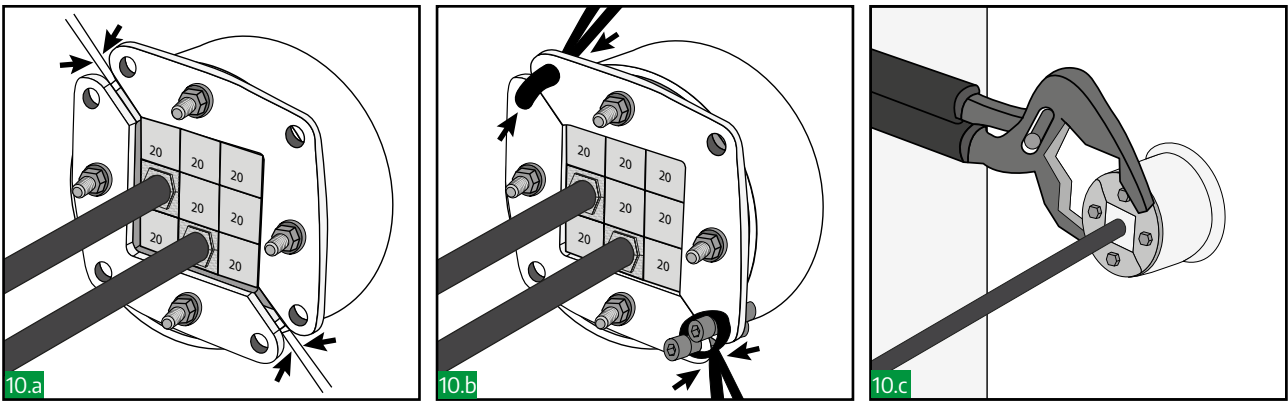


9.b

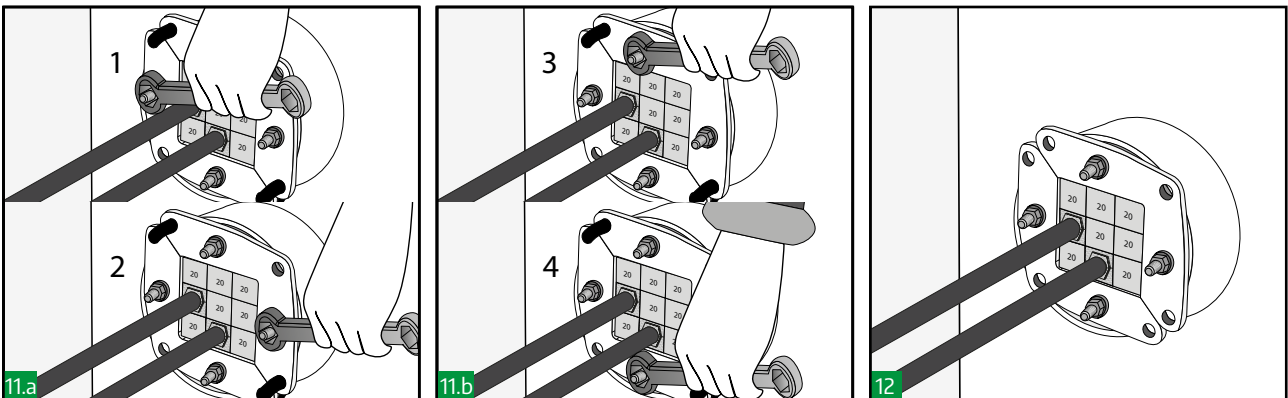


9.c

Begin packing the transit frame starting at the bottom and finishing at the top. Ensure that the blocks are pushed firmly against the rear retaining lip. Verify that the complete sealing area of this frame size (see table) is filled with blocks.



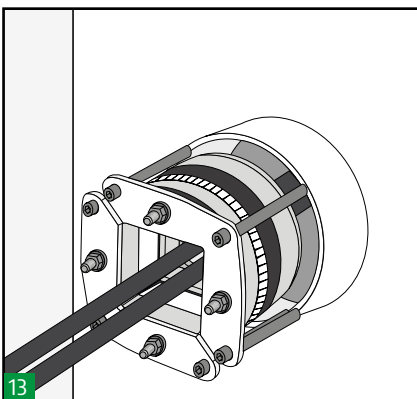
Slide the two front plates together and keep it fixed. Ensure all the blocks are located inside the front retaining lip.  
For an easier installation, cable ties, bolts or adjustable pliers can be used to close this plates.



Tighten the nuts approximately 2mm each time following alternate tightening sequence, applying equal pressure to both plates.  
A minimum of 10 mm of thread should protrude on each bolt.  
Use a ratchet spanner for an easier installation.

Make a visual inspection of the transit. Hawke's unique colour coding system enables the installation to be visually inspected after completion and ensures correct matching of the block halves.

Check that marks in all cables are visible to guarantee blocks and cable copper tapes are aligned.

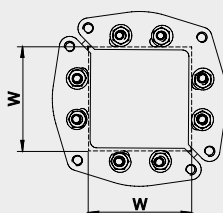


Extraction is achieved by releasing the compression, i.e. by reversing steps 5 and 6 and screwing M8 bolts (not supplied) into the threaded holes at each corner of the front plates. This releases the assembly from the aperture and allows the system to be disassembled.

**Notes**

Leave the system at least 24 hour before applying pressure.  
For disassembly see disassembly installation instructions.

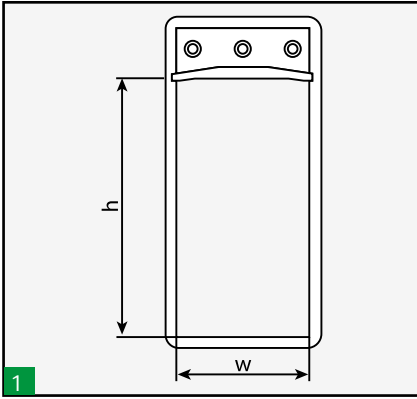
**Sealing Area**



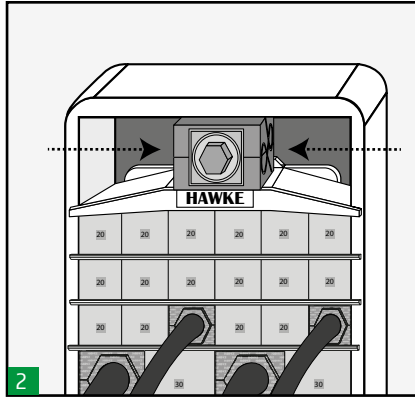
TYPE	SEALING AREA (mm)
HRTO-30	15x15
HRTO-40	20x20
HRTO-50	30x30
HRTO-70	40x40
HRTO-100	60x60
HRTO-125	80x80
HRTO-150	90x90
HRTO-200	120x120



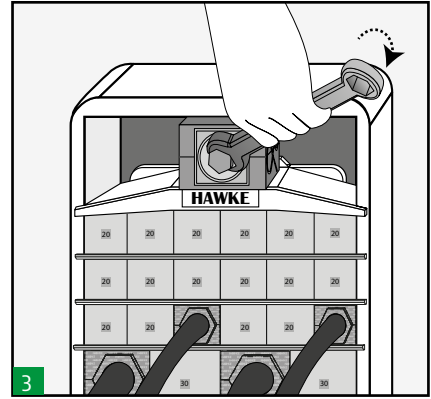
**COMPRESSION TOOL** Use guide:



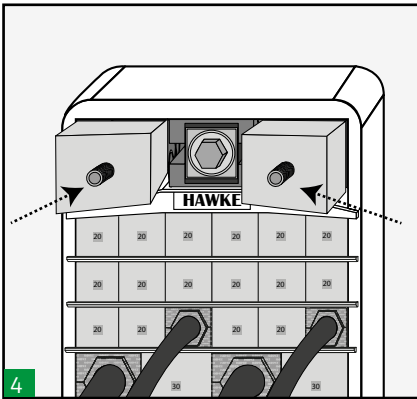
Before using the compression tool, it is important to check that the complete sealing area of this frame size (see table) is filled with blocks. Thus over tightening of the tool can be avoided.



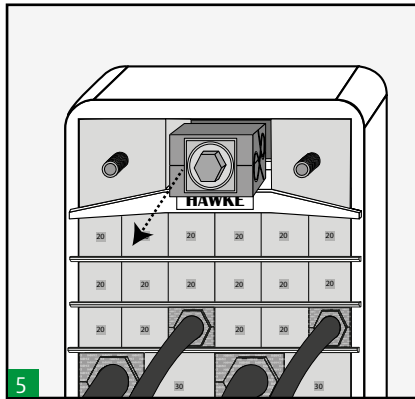
Compression tool must be introduced centered in the frame both in width and depth since otherwise the compression of the system would not be balanced so that to be able to introduce the lateral pieces of the endpacker it would be necessary to over tighten the tool and it could be damaged.



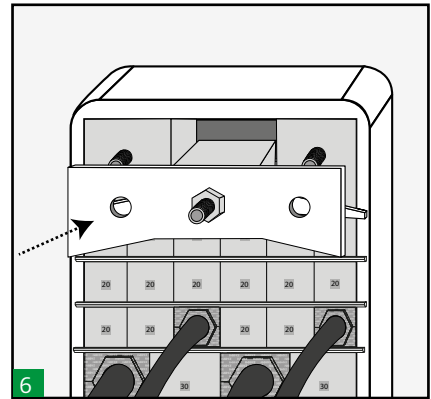
Once centered, we begin to tighten the compression tool which will be pressing on the compression plate.



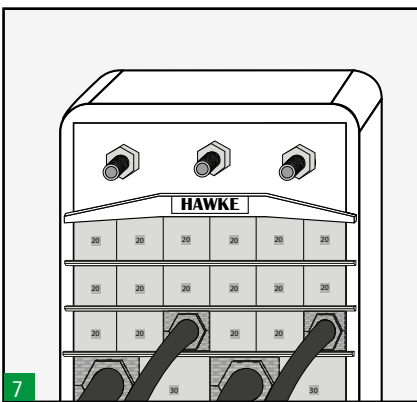
Before reaching the limit of tightening we must check if we have enough space to introduce the endpacker lateral pieces to avoid over tightening the tool that could block it.



Insert the outer blocks of the endpacker. Then, untighten the compression tool and remove it.



Insert the centre piece of the endpacker along with the front plate.



Tighten the nuts on the endpacker alternately following the above sequence to compress and complete the seal. Use a ratchet spanner for an easier installation. Approximately 10-12 mm of thread should protrude on each bolt to ensure the sealing.

**Recommendations of good use.**

Avoid damaging the compression tool by hitting it when you introduce it into the frame.

Avoid dropping the tool.

Avoid block the tool with an unnecessary over tighten.

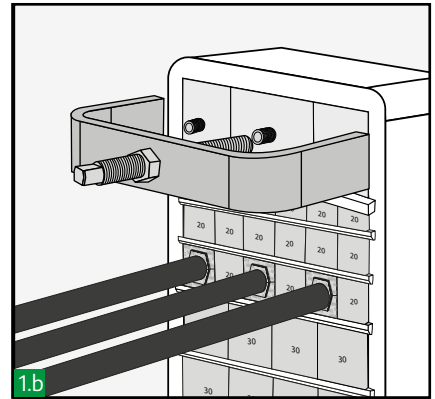
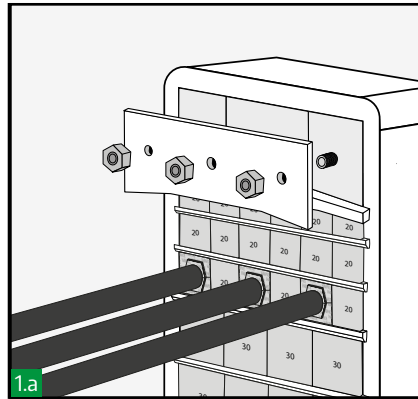
Grease the tool for a longer lifetime.

**Sealing Area.**

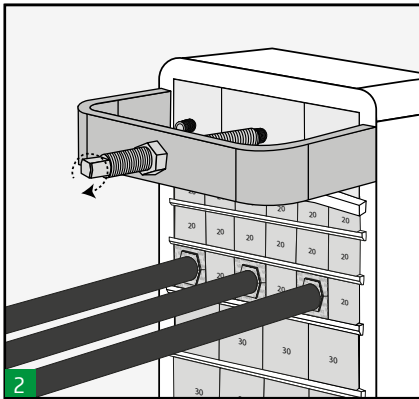
APERTURE SIZE	SEALING AREA (w x h)
1	60 x 60
2	120 x 60
3	60 x 120
4	120 x 120
5	60 x 180
6	120 x 180
7	60 x 240
8	120 x 240

→ **PULLER** Use guide:

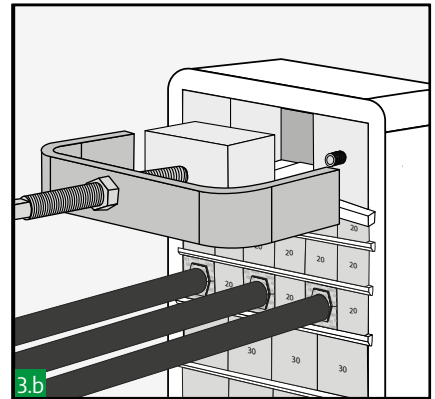
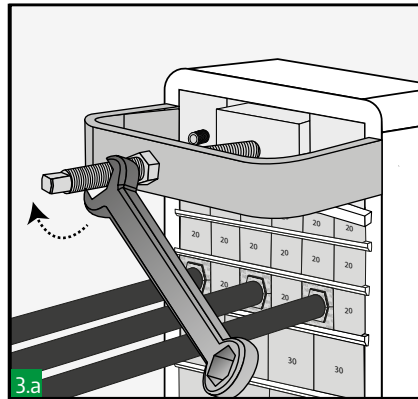
For future modification of the transit the system must be capable of being broken down. This is simple to achieve with a basic reversal of the assembly method the described in the installation instructions. The only exception is the use of the puller tool to remove the Endpacker centre block.



Remove endpacker nuts and front plate.

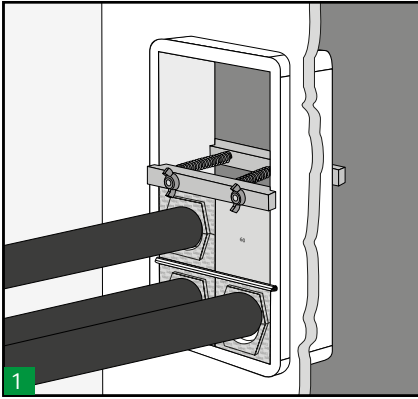


Remove endpacker nuts and front plate.

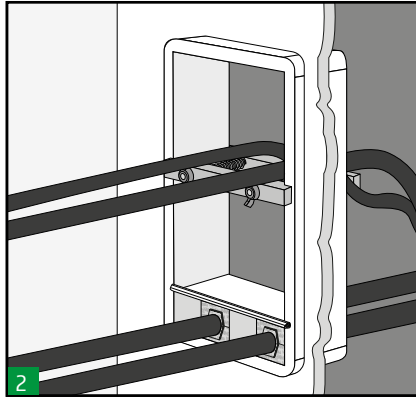


The nut of the puller is then turned clockwise and the centre block is then jacked out of the assembly.

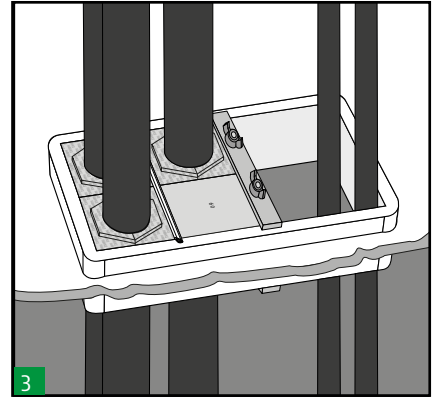
 → **CLAMP TOOL** Use guide:



Clamp Tool can be used to fix blocks in their place when the transit installation is not completely finished.



Clamp tool can be used to fix cables on the top part of the penetration allowing an easier installation of blocks.



Likewise, with this tool you must achieve greater comfort in a horizontal transit. Keeping blocks in position avoiding falling blocks.

## RECTANGULAR CIVIL FRAMES INSTALLATION GUIDES

There are methods which can be used to install Hawke Civil Frames, each method giving an inspectable professional finish to any cable/pipe penetration.

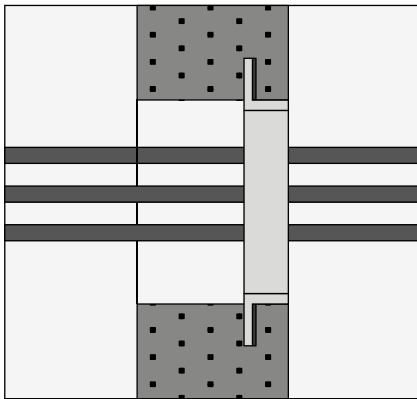


Figure 1

The frame can be casted directly into a wall or floor.

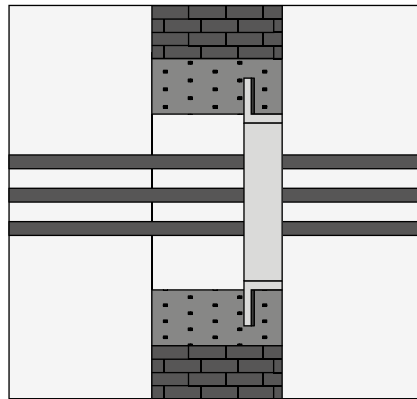


Figure 2

The frame may be cast into a concrete jacket. This method being normally used for brick and blockwork walls which in turn is fixed into the wall or floor.

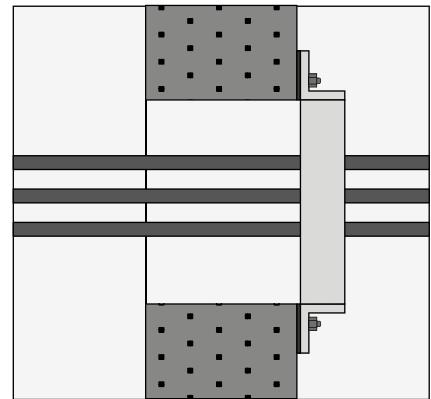


Figure 3

The frame can be bolted to wall and floors.

### CASTED

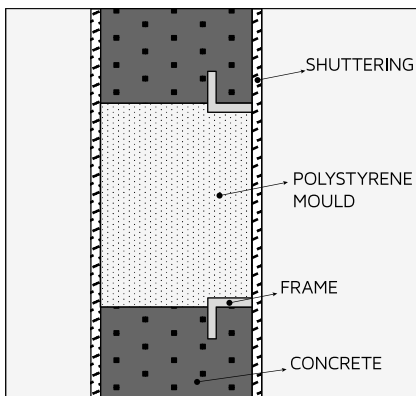


Figure 1

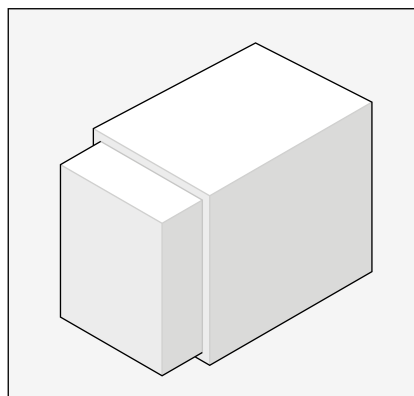


Figure 2

For hawke frames which are cast into a wall or floor it is recommended that a Hawke Polystyrene Mold is used. Hawke moulds are available to suit sizes 2, 4, 6 and 8 with 300mm lengths and may be cut to suit the deep of the wall or floor as required. (See catalogue page...79)

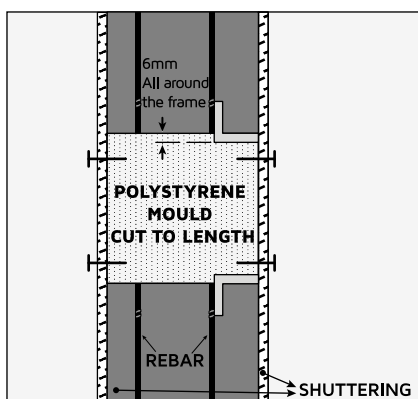


Figure 3

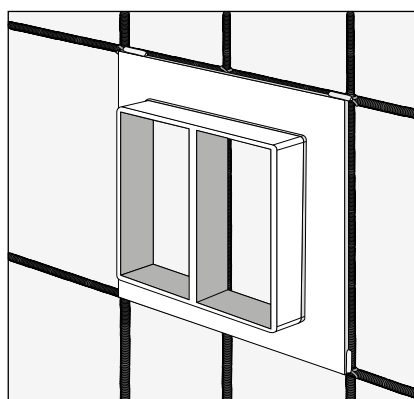


Figure 4

Frames and moulds require support to ensure that the correct position is maintained whilst the concrete is being poured. This may be achieved by nailing through the shuttering into the mould (if used) and fixing the frame to the rebar.

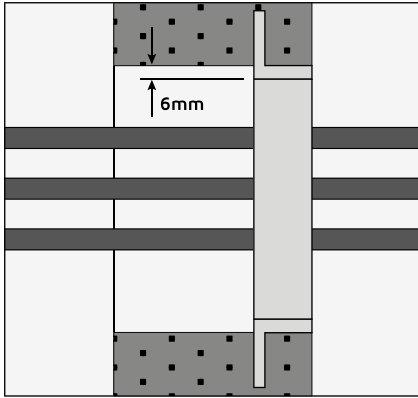


Figure 5

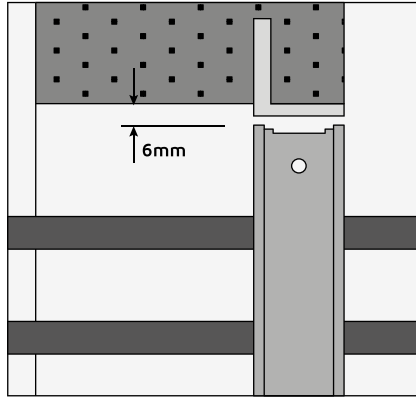


Figure 6

Stayplates and compression plates have retaining lugs. Clearance for these must be allowed when a frames is cast into a structure.

This allowance is 12mm and should be added to the total internal width of the frame to obtain the correct dimensions.

Hawke Moulds have this allowance built in.

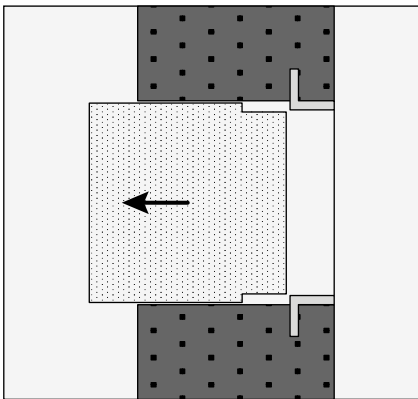


Figure 7

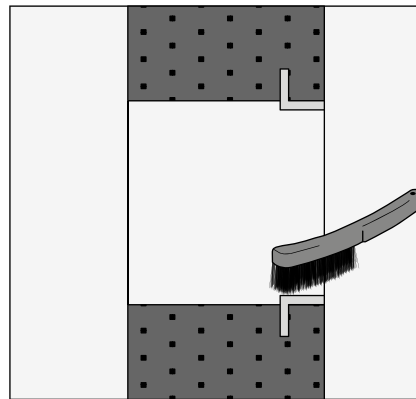


Figure 8

When all shuttering and other formwork has been removed, the polystyrene mould must be removed prior to electrical installation.

The transit apertura should be cleaned to remove any concrete or other debris that may have contaminated the apertures internal faces.

**BOLTED**

Frames can be bolted to floors and walls in either of the options showed below (HCOX frames, open version, can not be reverse fixed).

Stayplates and compression plates have retaining lugs, 6mm clearance is required to all sizes.

When frames are reverse fixed then 9mm clearance is required to all size frames.

For minimum aperture dimensions see table pag...145

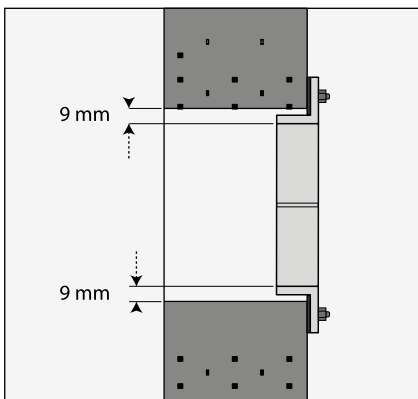


Figure 1.a

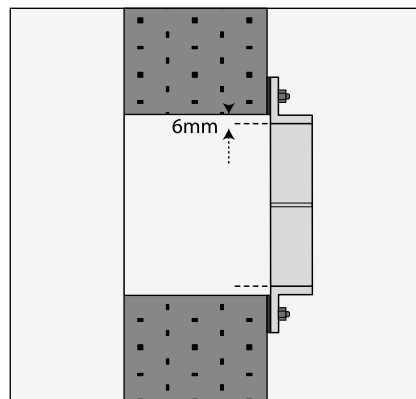


Figure 1.b

Size to fixing holes and type of fastener are to be established by the civil contractor dependent on size of frame weight and structure to which it is to be fixed.

When fixing frames to concrete/brick type structure care should be take if using expanding type fixings as they could burst into the aperture.

**BOLTED**

For bolted installations Intumescent Mastic or Hawke Fireproof Silicone (See page xx catalogue) should be inserted between the frames flange and the structure.

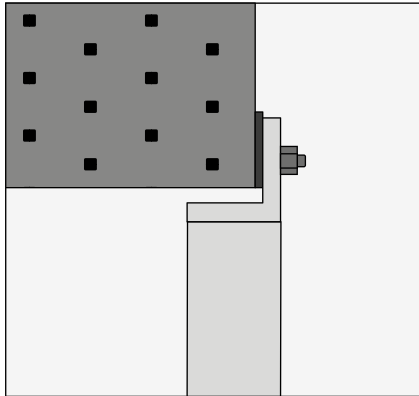


Figure 2.a

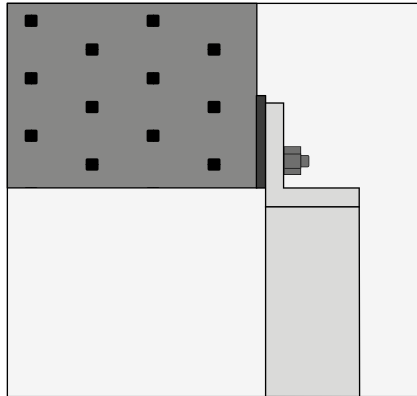


Figure 2.b

Each 300ml tube of Mastic/Silicone should be sufficient to mount and seal 3 individual frames or a multiple frame of up to 4 apertures.

Prior to application of sealant ensure that faces to be sealed are dry and free from grease and any loose material, ensure that transit frame mates up with any fixings/holes already present checking especially the apertures over which the frame is to be mounted. (See minimum aperture dimensions table).

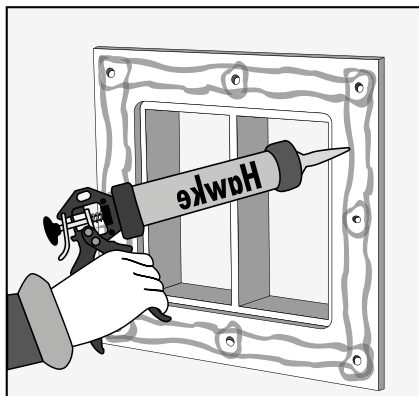


Figure 3.a

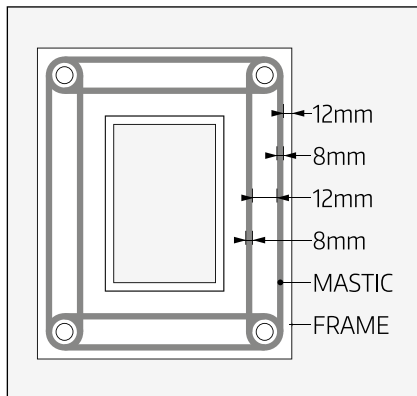


Figure 3.b

Cut nozzle on Mastic/Silicone tube to produce a bead diameter of approximately 8mm. Apply two parallel rows of mastic and run a bead of mastic around each hole, as shown below.

The Mastic/Silicone can be applied to front or rear of the frame dependent on the installation. See Fig.1 and Fig.2.

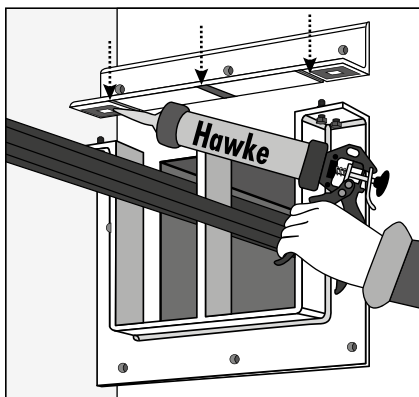


Figure 4.a

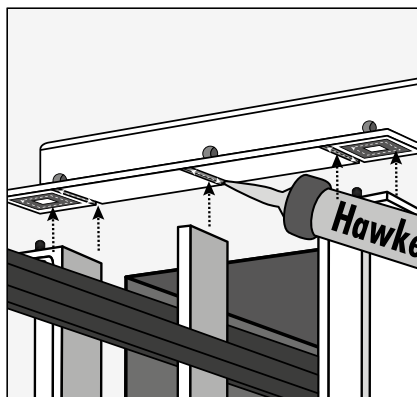


Figure 4.b

If HCOX open frame is used, Mastic/Silicone should be applied also in all bolting areas of the removable end as shown below.

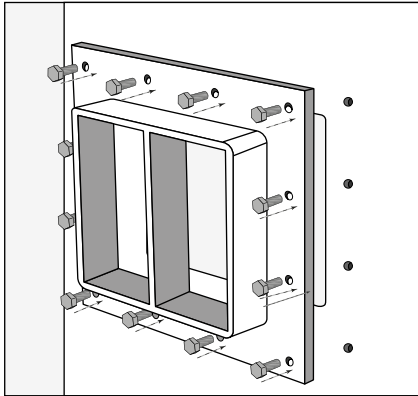


Figure 5

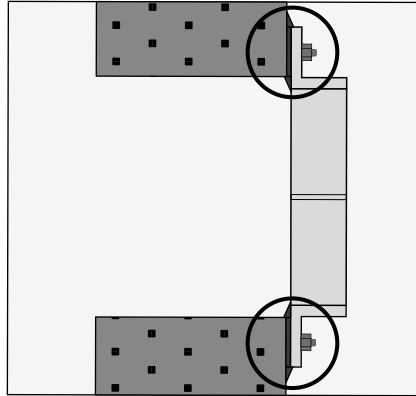


Figure 6

The frame can now be placed over its fixings and fasteners tightened to clamp the frame to the wall/floor.

When tightened up to the required amount, the Mastic/Silicone should be faced off to the frame leaving a fillet of Mastic/Silicone around external edges of the frame.

**BACKING PLATES**

Lightweight sheet steel backing plates are available to be used in conjunction with Hawke Civil Frames. Backing plates are produced in standard lengths for wall thickness of 60mm to 200mm for sizes 2,4,6 and 8, frames plus multiples there of, but specials can be made.

Please state thickness of wall when ordering.

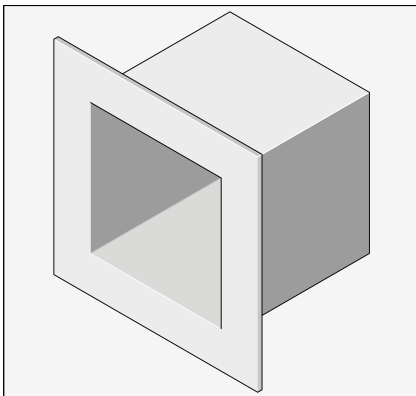


Figure 1.a

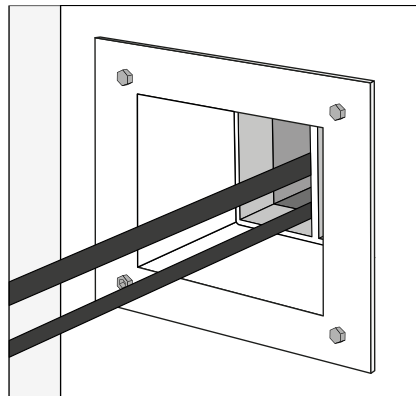


Figure 1.b

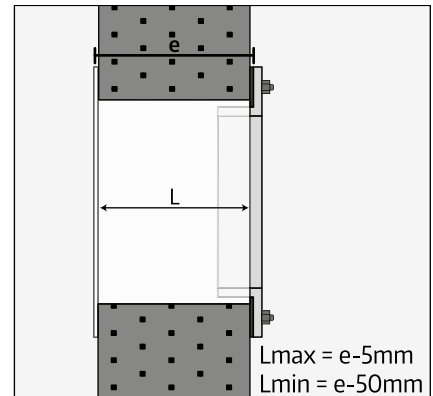


Figure 1.c

These maintain the openings through the wall and floors and add the finished appearance of the installation.

It should be noted that the backing plates do not add to the fire resistance of a transit and should be not used to stop fire spread in cavity walls.

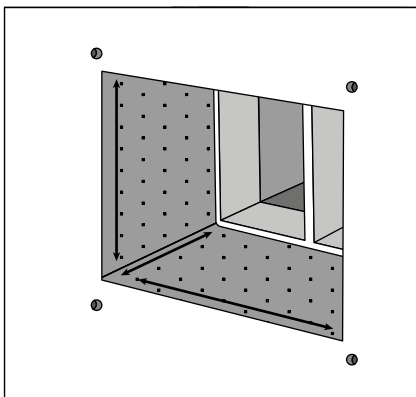


Figure 2.a

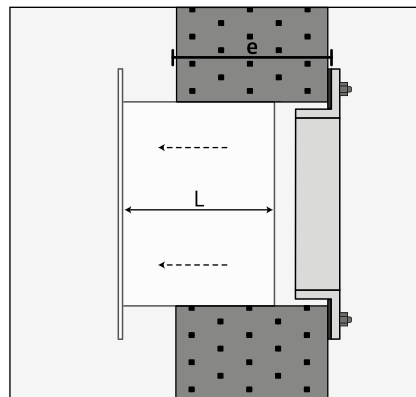


Figure 2.b

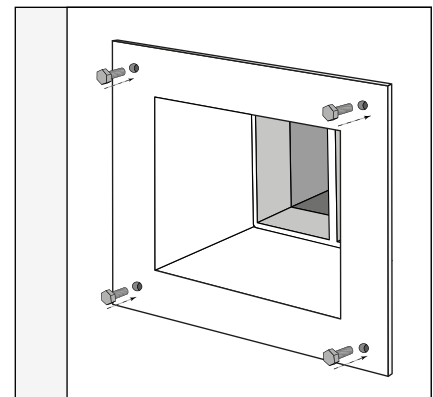


Figure 2.c

MINIMUM APERTURE DIMENSIONS WHEN FRAMES ARE CAST INTO OR BOLTED ONTO A WALL											
Frame Type	H (mm)	W (mm)									
		x1	x2	x3	x4	x5	x6	x7	x8	x9	x10
HCX 2 HCOX 2	119										
HCX 2+2 HCOX 2+2	230										
HCX 2+4 HCOX 2+4	288,5										
HCX 2+6 HCOX 2+6	347										
HCX 2+8 HCOX 2+8	405,5										
HCX 4 HCOX 4	177,5										
HCX 4+4 HCOX 4+4	347	138	268	398	528	658	788	918	1048	1178	1308
HCX 4+6 HCOX 4+6	405,5										
HCX 4+8 HCOX 4+8	464										
HCX 6 HCOX 6	236										
HCX 6+6 HCOX 6+6	464										
HCX 6+8 HCOX 6+8	516,5										
HCX 8 HCOX 8	294,5										
HCX 8+8 HCOX 8+8	561										

MINIMUM APERTURE DIMENSIONS WHEN FRAMES ARE CAST INTO OR BOLTED ONTO A WALL								
Frame Type	H (mm)	W (mm)						For other HCLX frame styles and sizes please contact Hawke technical dept.
		x1	x2	x3	x4	x5	x6	
HCLX 180	236	198	388	578	768	958	1148	
HCLX 240	298	258	508	758	1008	1258	1508	
HCLX 360	458	378	748	1118	1488	1858	2228	

HTS-EN-A1013-Rev00-07/18

**CIVIL SLEEVES INSTALLATION GUIDE**

There are several methods which can be used to install Hawke Civil Sleeves, each method giving an inspectable professional finish to any cable/pipe penetration.

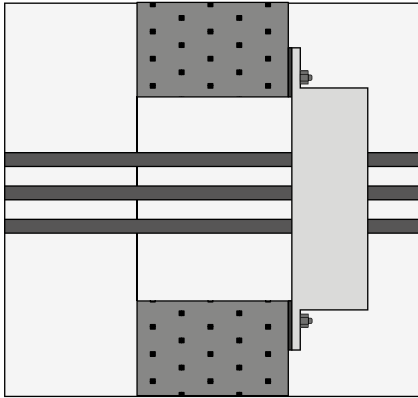


Figure 1

The sleeve can be bolted to wall and floors.

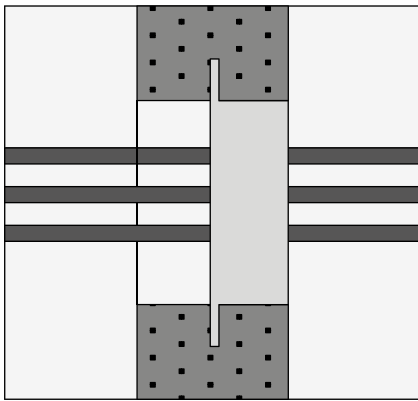


Figure 2.a

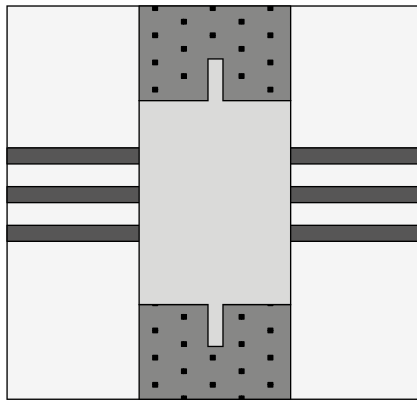


Figure 2.b

The sleeve can be casted directly into a wall or floor.

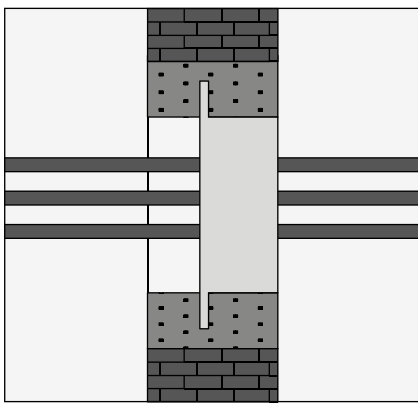


Figure 3.a

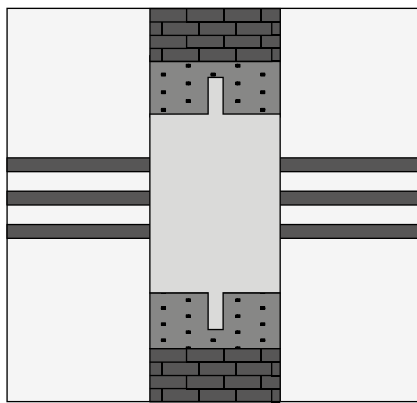


Figure 3.b

The sleeve may be cast into a concrete jacket. This method being normally used for brick and blockwork walls which in turn is fixed into the wall or floor.

**CASTED**

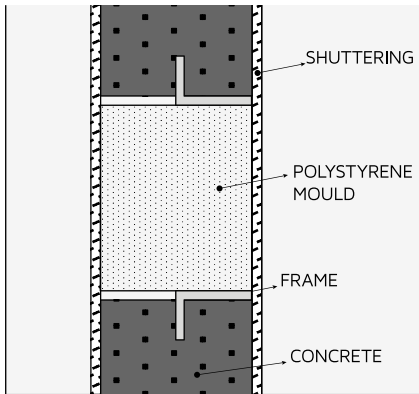


Figure 1.a

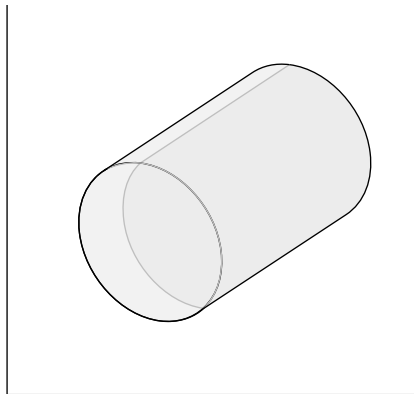


Figure 1.b

For Hawke sleeves which are cast into a wall or floor it is recommended that a Hawke Round Moulds is used. Hawke moulds are available to suit sizes 30, 40, 50, 70, 100, 125, 150, 175 and 200 with 300mm lengths and may be cut to suit the deep of the wall or floor as required. (See catalogue page...79)

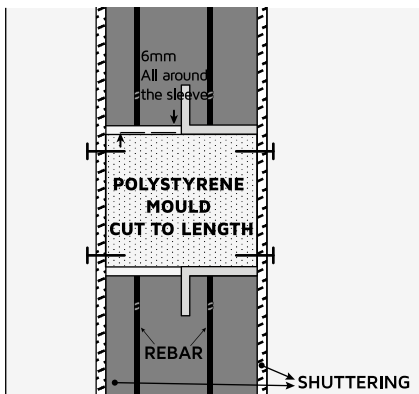


Figure 2.a

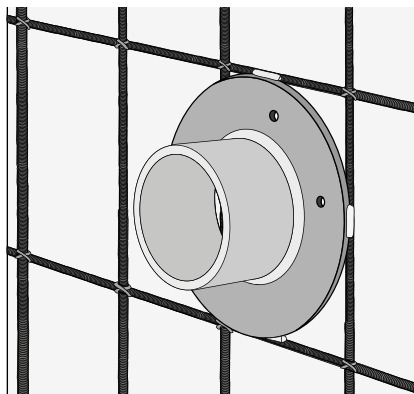


Figure 2.b

Sleeves and moulds require support to ensure that the correct position is maintained whilst the concrete is being poured. This may be achieved by nailing through the shuttering into the mould (if used) and fixing the frame to the rebar.

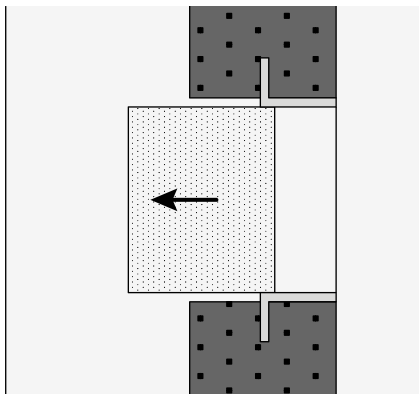


Figure 3

When all shuttering and other formwork has been removed, the polystyrene mould must be removed prior to electrical installation.

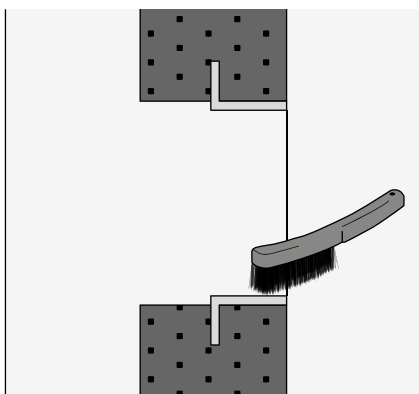


Figure 4

The transit aperture should be cleaned to remove any concrete or other debris that may have contaminated the apertures internal faces.

**BOLTED**

Sleeves can be bolted to floors and walls in either of the options showed below (CBO Sleeves, open version, can not be reverse fixed).

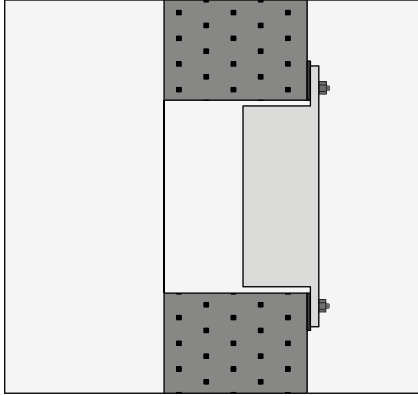


Figure 1.a

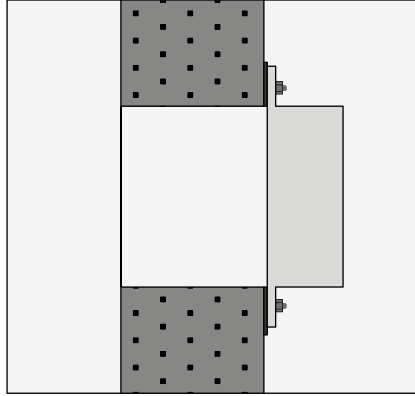


Figure 1.b

Size to fixing holes and type of fastener are to be established by the civil contractor dependent on size of sleeve weight and structure to which it is to be fixed.

When fixing sleeves to concrete/brick type structure care should be take if using expanding type fixings as they could burst into the aperture.

For bolted installations Intumescent Mastic or Hawke Fireproof Silicone (See page...78 catalogue) should be inserted between the sleeves flange and the structure.

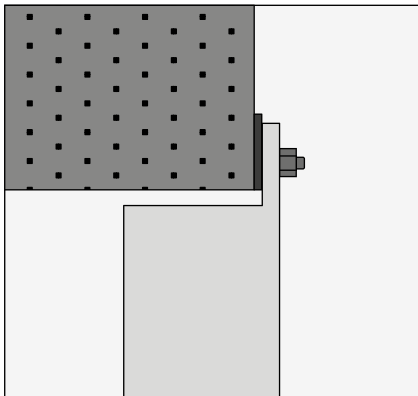


Figure 2.a

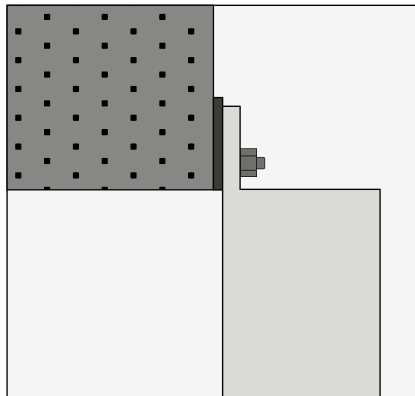


Figure 2.b

Prior to application of sealant ensure that faces to be sealed are dry and free from grease and any loose material, ensure that transit sleeve mates up with any fixings/holes already present checking especially the apertures over which the sleeve is to be mounted. (See minimum aperture dimensions table).

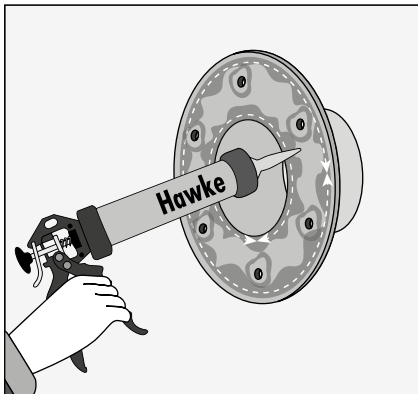


Figure 3.a

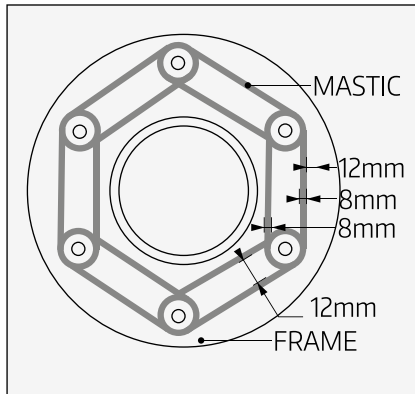


Figure 3.b

Cut nozzle on Mastic/Sillicone tube to produce a bead diameter of aproximatly 8mm.

Apply two parallel rows of mastic and run a bead of mastic around each hole, as show below.

The Mastic/Silicone can be applied to front or rear of the frame dependant on the installation.  
See Fig.1 and Fig.2.

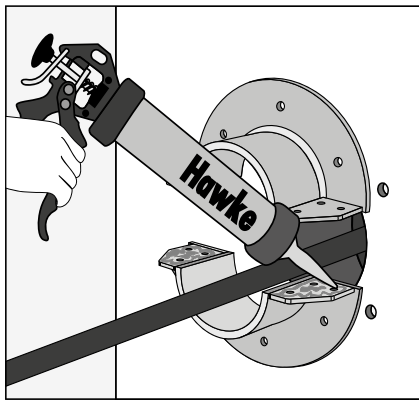


Figure 4.a

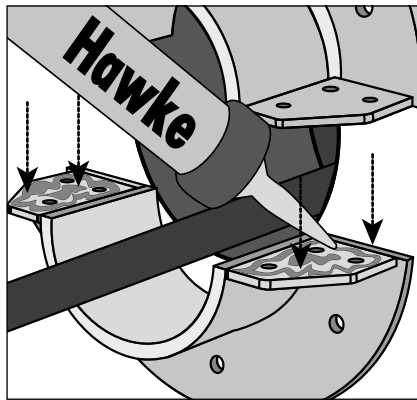


Figure 4.b

If CBO open sleeve is used, Mastic/Silicone should be applied also in all bolting areas of the removable end as showed below.

The sleeve can now be placed over its fixings and fasteners tightened to clamp the sleeve to the wall/floor.

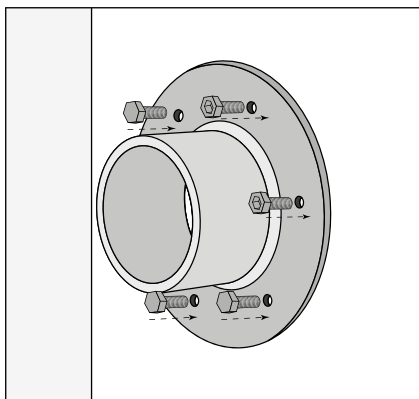


Figure 5

When tightened up to the required amount, the Mastic/Silicone should be faced off to the frame leaving a fillet of Mastic/Silicone around external edges of the frame.

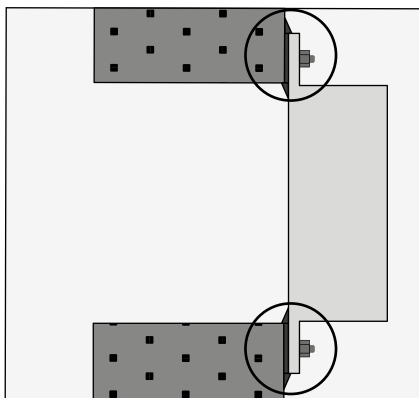
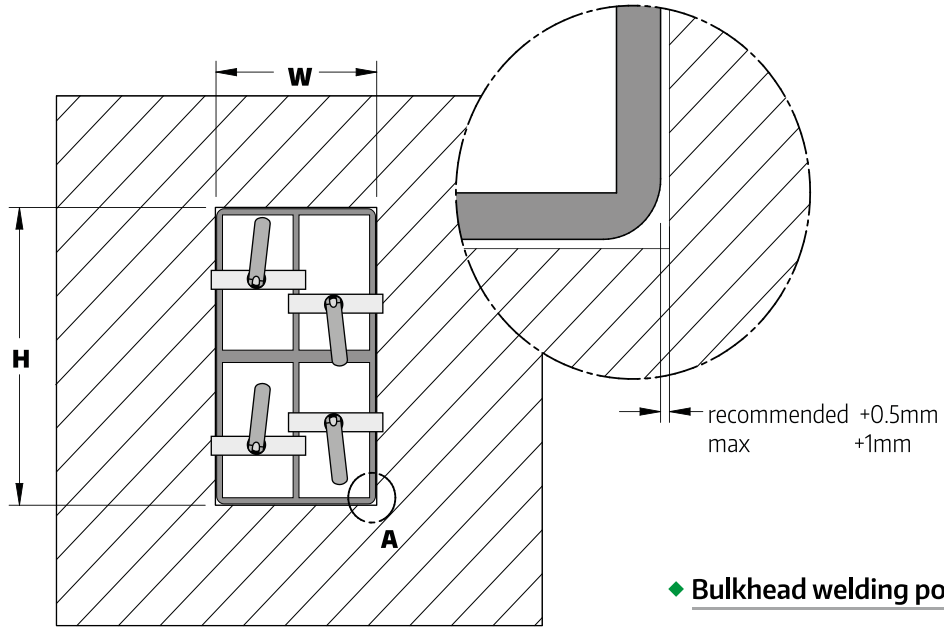


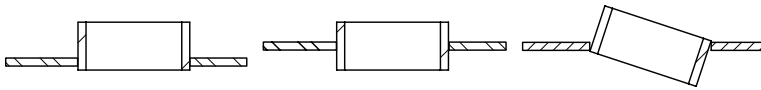
Figure 6

**STANDARD WELDING INSTRUCTIONS**

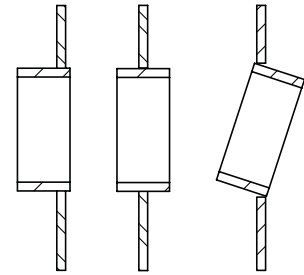
1. Check the measures of the precut hole and external dimensions of the frame. Recommended gap around the frame is in between 1mm and 2mm (0.5-1mm on every side of the frame). See frames dimension chart page...19



**Deck welding positions**



**Bulkhead welding positions**

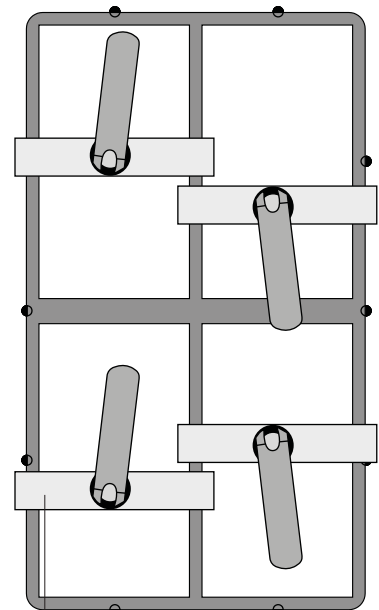
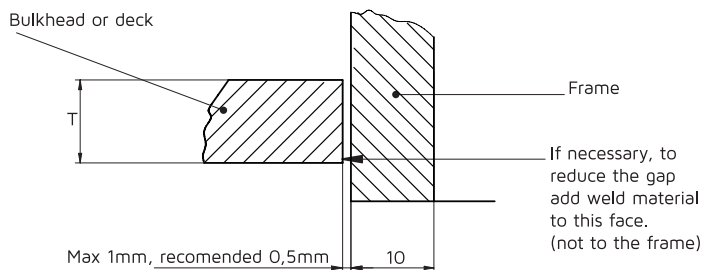


2. Tack weld on the front side, centering the frame onto the cut-out hole:

- ◆ Horizontally, one tack on every aperture.
- ◆ Vertically, one tack on every aperture and on every vertical division.

Check the gap measures all around the frame are maintained. If necessary, add weld material to the bulkhead/deck to reduce the gap (not to the frame)

Use HTS welding tool to prevent frame deformations during welding process.

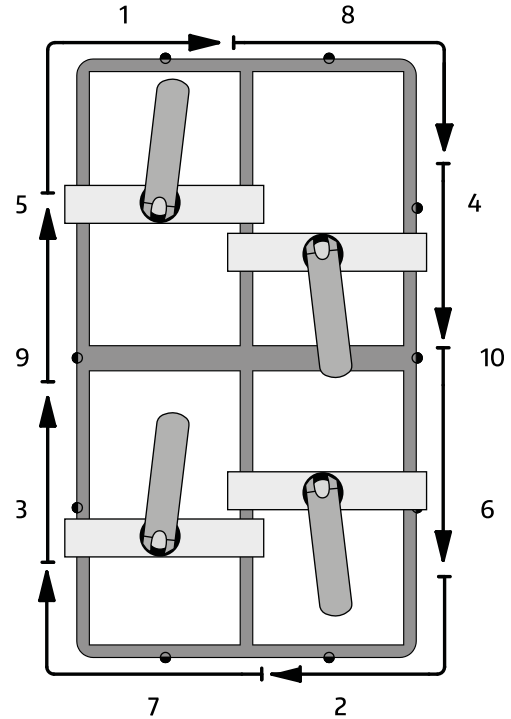
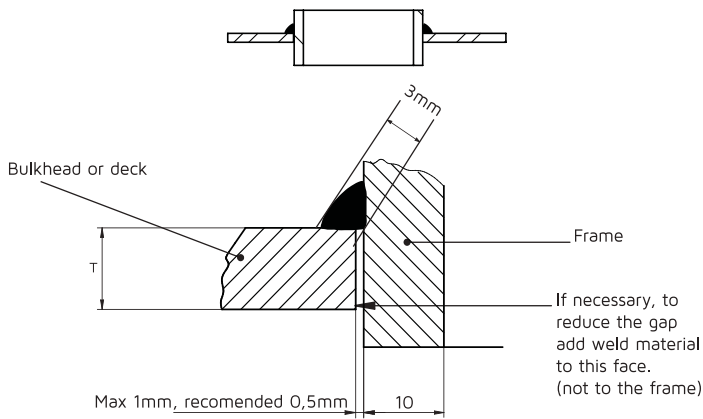


- ◆ Welding tool (See page..77) can be used to prevent deformation during the welding.

3. Start welding the frame with a sealing fillet weld on the backside. Follow appropriate welding sequence. This welding throat should not exceed of 3mm.

The interpass temperature should not exceed 200°C for mild steel and aluminium and 150°C for stainless steel.

- ◆ Máx run lenght: { Mild Steel 200 mm  
Stainless Steel 150 mm  
Aluminium 200 mm



$$\text{Heat Input (KJ/mm)} = \frac{V \cdot I \cdot \eta}{\text{vel} \cdot 1000}$$

V = volts / I = amperes / vel = mm/s

$$\eta = \begin{cases} 1 & \text{SMAW} \\ 0,8 & \text{GMAW / FCAW} \\ 0,6 & \text{GTAW} \end{cases}$$

	Máx. Heat Input (KJ/mm)		
	Mild Steel	Stainless Steel	Aluminium
a = 3 mm	1,2	1,1	2

4. Grind off weld tacks before start filled weld. Weld runs should not start or stop at a tack weld but should run over a tack.

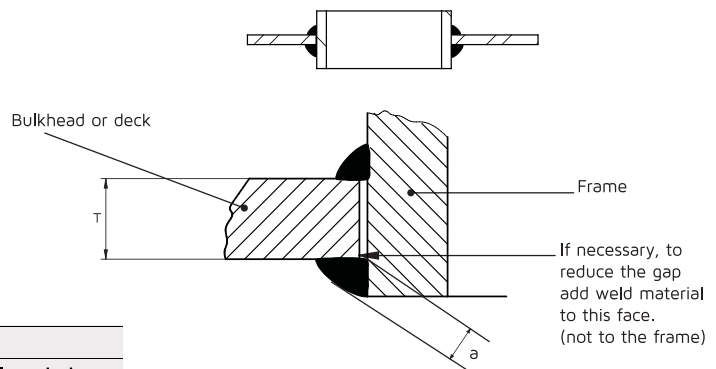
Follow same welding sequence for correct procedure.

The interpass temperature should not exceed 200°C for mild steel and aluminium and 150°C for stainless steel.

This welding throat should not exceed following values:

- T > 7mm a=5mm  
T ≤ 7mm a=4mm

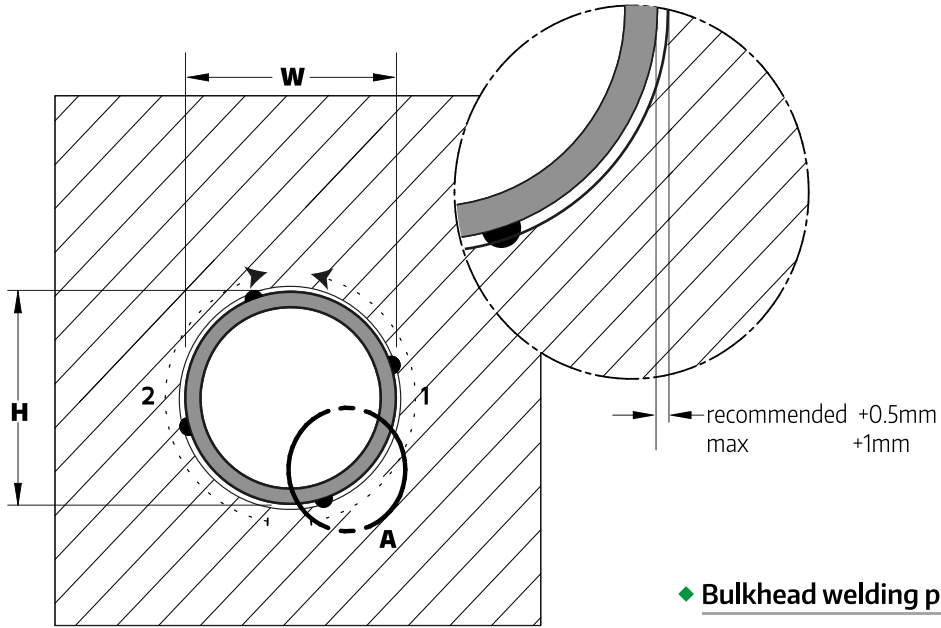
- ◆ Máx run lenght: { Mild Steel 200 mm  
Stainless Steel 150 mm  
Aluminium 200 mm



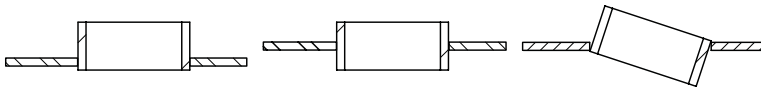
	Máx. Heat Input (KJ/mm)		
	Mild Steel	Stainless Steel	Aluminium
a = 4 mm	1,2	1,1	2
a = 5 mm	1,4	1,1	2

**SLEEVES WELDING INSTRUCTIONS**

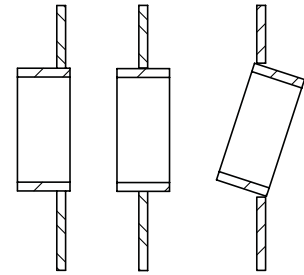
1. Check the measures of the precut hole and external dimensions of the frame. Recommended gap around the frame is in between 1mm and 2mm (0.5-1mm on every side of the frame). See frames dimension chart page...56



**Deck welding positions**

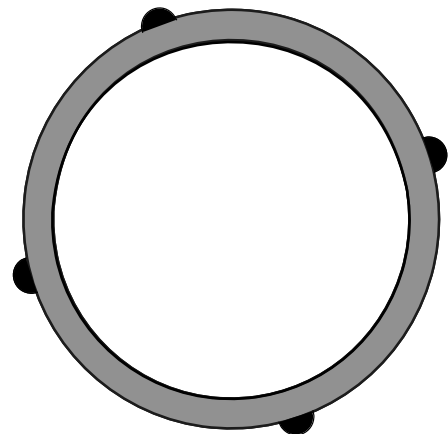
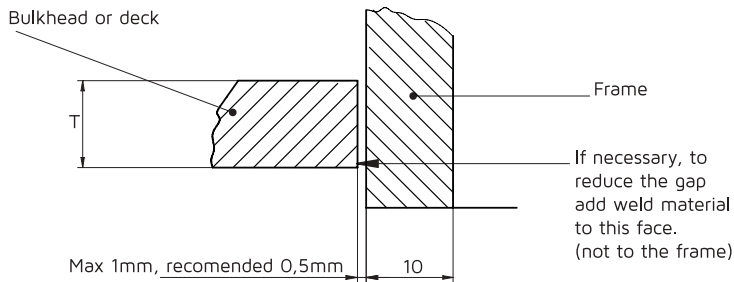


**Bulkhead welding positions**



2. Tack weld on the front side, centering the frame onto the cut-out hole:

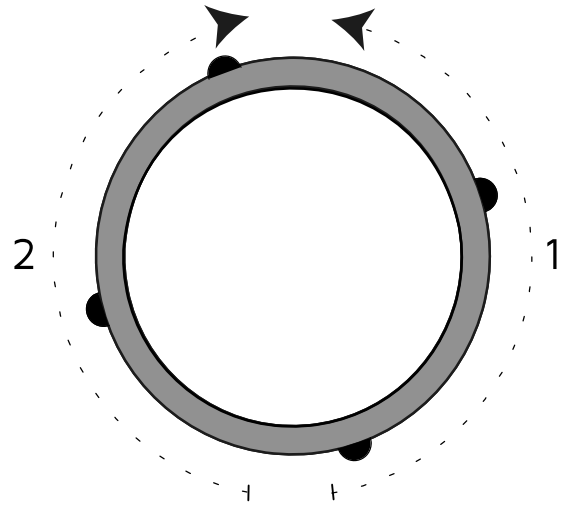
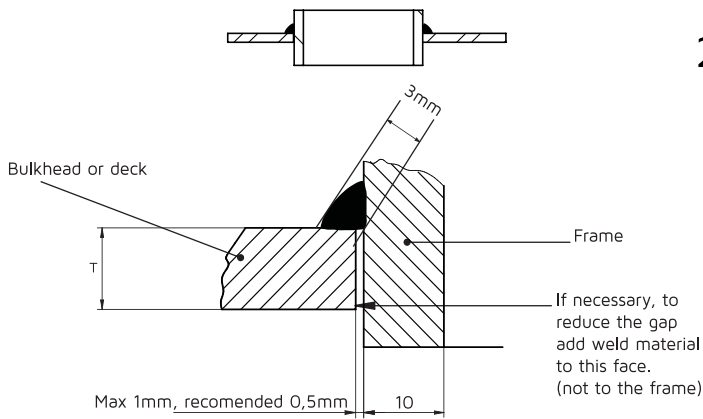
Check the gap measures all around the frame are maintained. If necessary, add weld material to the bulkhead/deck to reduce the gap (not to the frame)



3. Start welding the frame with a sealing fillet weld on the backside. Follow appropriate welding sequence. This welding throat should not exceed 3mm.

The interpass temperature should not exceed 200°C for mild steel and aluminium and 150°C for stainless steel.

- ◆ Máx run lenght: { Mild Steel 200 mm  
Stainless Steel 150 mm  
Aluminium 200 mm



$$\text{Heat Input (KJ/mm)} = \frac{V \cdot I \cdot \eta}{\text{vel} \cdot 1000}$$

V = volts / I = amperes / vel = mm/s

$$\eta = \begin{cases} 1 & \text{SMAW} \\ 0,8 & \text{GMAW / FCAW} \\ 0,6 & \text{GTAW} \end{cases}$$

	Máx. Heat Input (KJ/mm)		
	Mild Steel	Stainless Steel	Aluminium
a = 3 mm	1,2	1,1	2

4. Grind off weld tacks before start filled weld. Weld runs should not start or stop at a tack weld but should run over a tack.

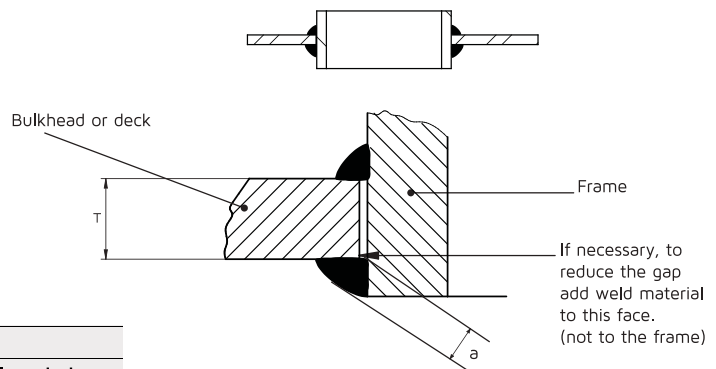
Follow same welding sequence for correct procedure.

The interpass temperature should not exceed 200°C for mild steel and aluminium and 150°C for stainless steel.

This welding throat should not exceed following values:

- T > 7mm a=5mm  
T ≤ 7mm a=4mm

- ◆ Máx run lenght: { Mild Steel 200 mm  
Stainless Steel 150 mm  
Aluminium 200 mm

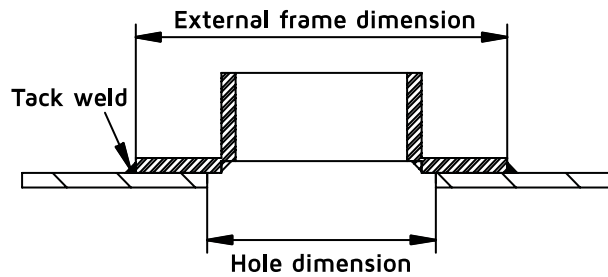
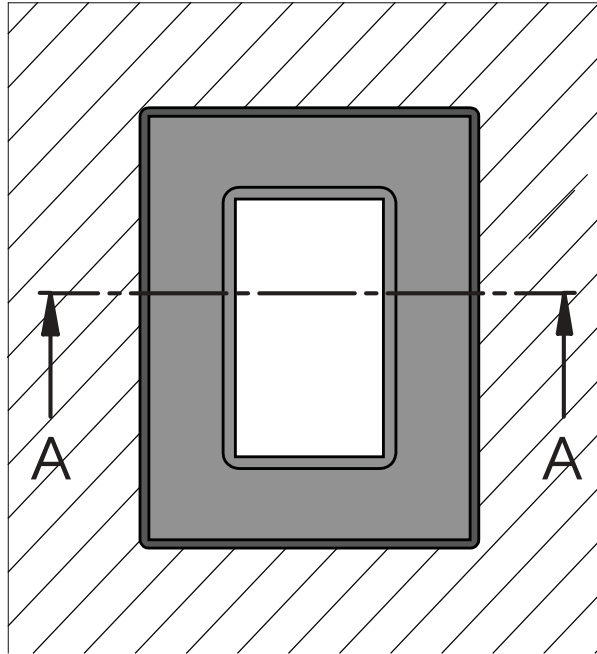


	Máx. Heat Input (KJ/mm)		
	Mild Steel	Stainless Steel	Aluminium
a = 4 mm	1,2	1,1	2
a = 5 mm	1,4	1,1	2



## HMFx WELDING INSTRUCTIONS

1. Tack weld on the front side, centering the frame onto the cut-out hole.  
Same as step 2 of standard welding instructions (see page...150).



Minimum hole dimension	=	(external HMFx dimensions)	less 110mm
Maximum hole dimension	=	(external HMFx dimensions)	less 10mm

2. Grind off weld tacks before start filled weld. Weld runs should not start or stop at a tack weld but should run over a tack.

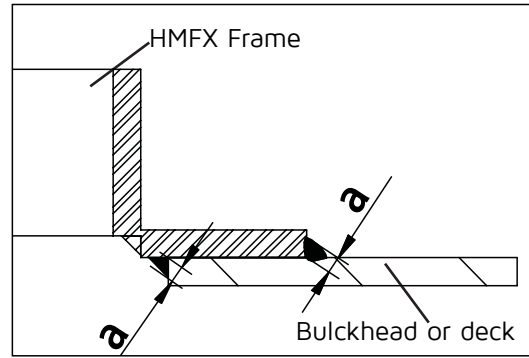
Follow same welding sequence for correct procedure.

The interpass temperature should not exceed 200°C for mild steel and aluminium and 150°C for stainless steel.

This welding throat should not exceed following values:

T > 7mm a=5mm  
T ≤ 7mm a=4mm

♦ Máx run lenght: { Mild Steel 200 mm  
Stainless Steel 150 mm  
Aluminium 200 mm

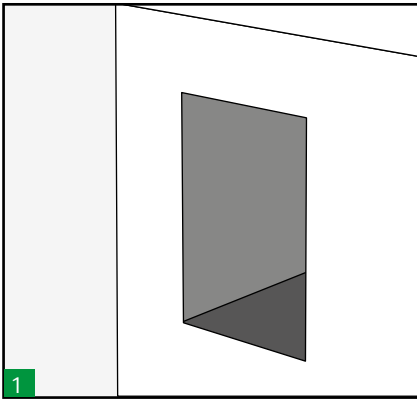


$$\text{Heat Input (KJ/mm)} = \frac{V \cdot I \cdot \eta}{\text{vel} \cdot 1000} \quad \eta = \begin{cases} 1 & \text{SMAW} \\ 0,8 & \text{GMAW / FCAW} \\ 0,6 & \text{GTAW} \end{cases}$$

V = volts / I = amperes / vel = mm/s

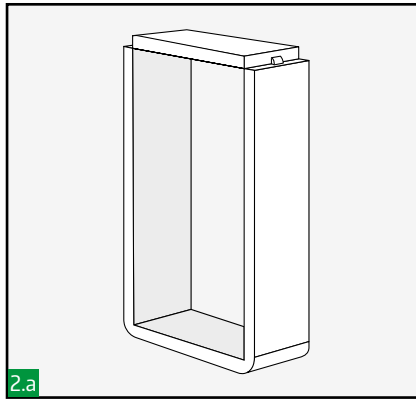
	Máx. Heat Input (KJ/mm)		
	Mild Steel	Stainless Steel	Aluminium
a = 4 mm	1,2	1,1	2
a = 5 mm	1,4	1,1	2

→ **HMOX** Welding installation guide:

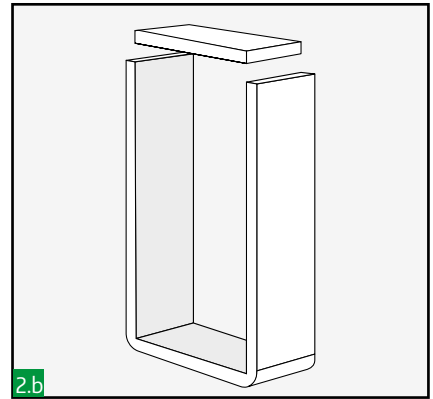


1

Ensure Hole cut is dimensionally in accordance with the standard HMX frames welding instructions

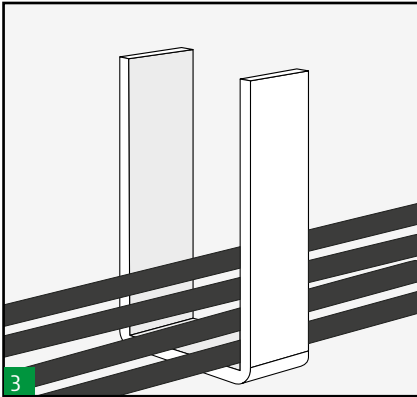


2.a



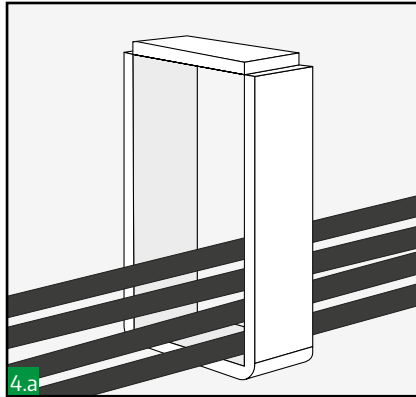
2.b

Break tack welds and remove end piece from the frame.

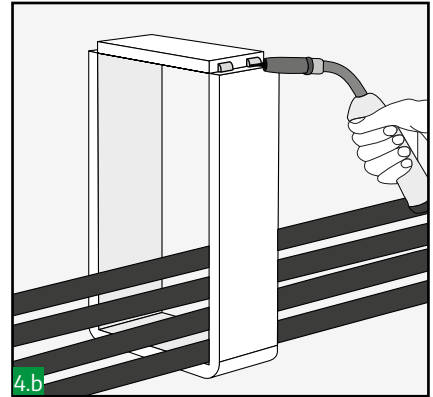


3

Place frame around cables. Tack weld end piece back into place. End piece should be centered in the lateral bars.

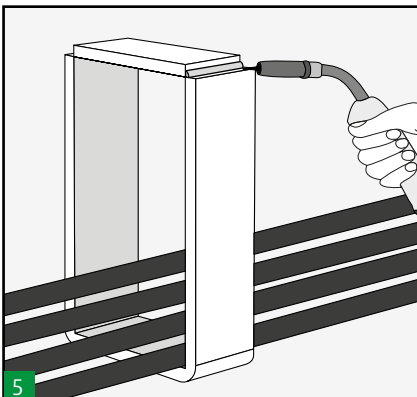


4.a



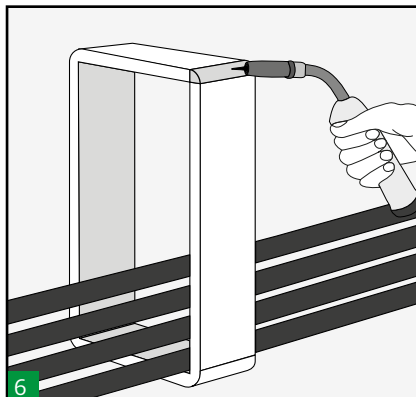
4.b

Tack weld end piece back into place. End piece should be centered in the lateral bars.



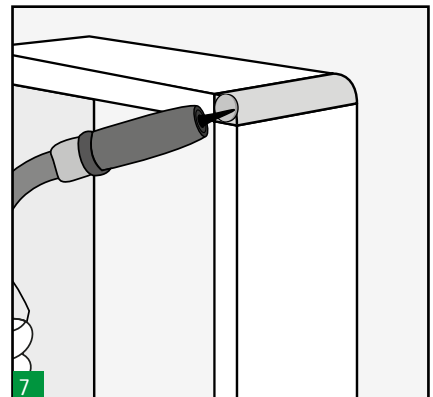
5

Run root fillet weld for full width of frame.



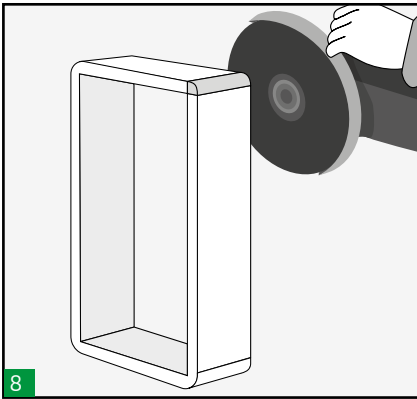
6

Final weld to form full radius at corners of frame.



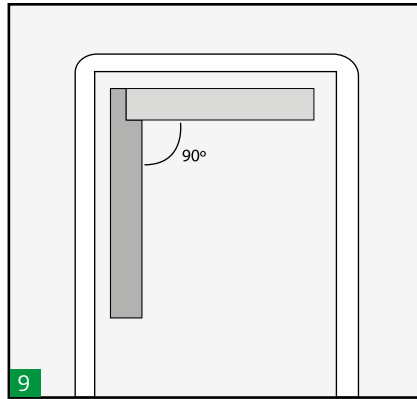
7

Clean both ends of weld/frame and spot weld them to ensure seal. Weld should not penetrate inside the corner of the frame.



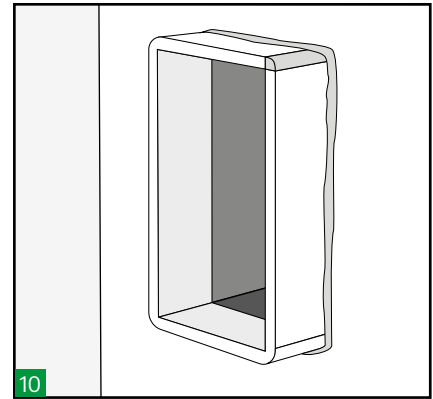
8

Dress welds.



9

Check for squareness and parallelism.



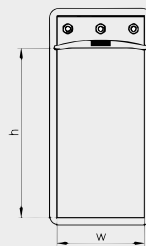
10

Weld frame in position in accordance with Rectangular frame HMX welding instructions and seal the frame in accordance to rectangular system installation guide.

◆ Notes

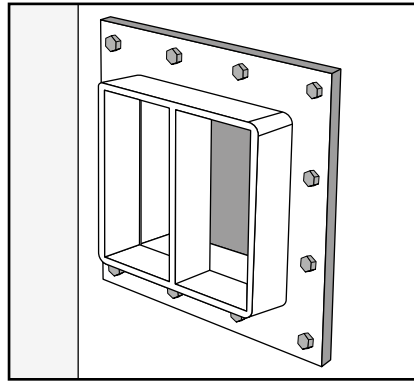
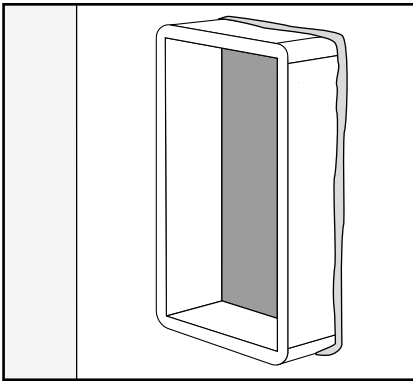
Leave the system at least 24 hour before apply pressure.  
For disassembly see disassembly installation instructions.

◆ Sealing Area

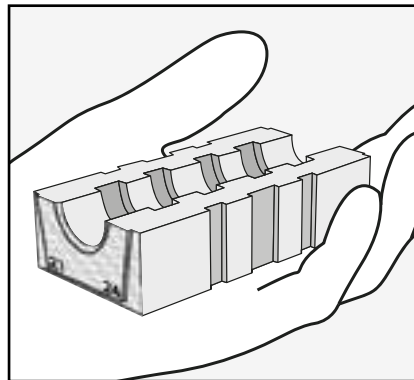
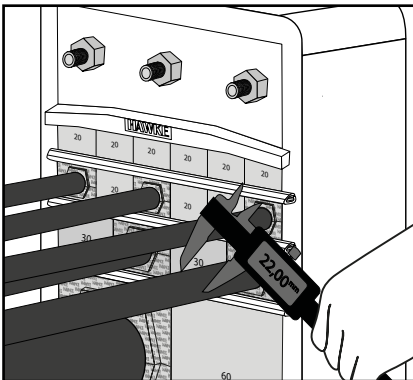


APERTURE SIZE	SEALING AREA (w x h)
1	60 x 60
2	120 x 60
3	60 x 120
4	120 x 120
5	60 x 180
6	120 x 180
7	60 x 240
8	120 x 240

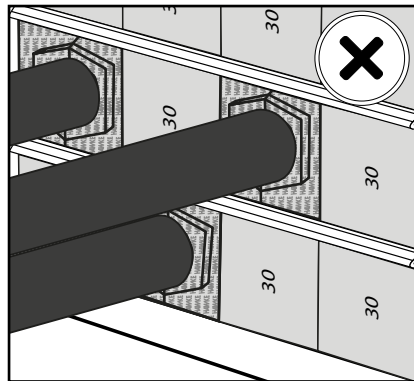
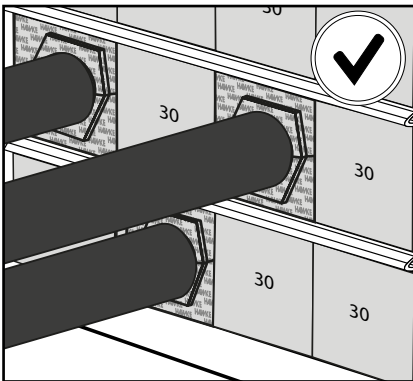
→ **RECTANGULAR STANDARD** installation and inspection checks guidelines:



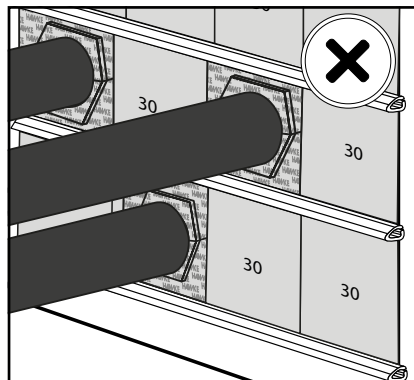
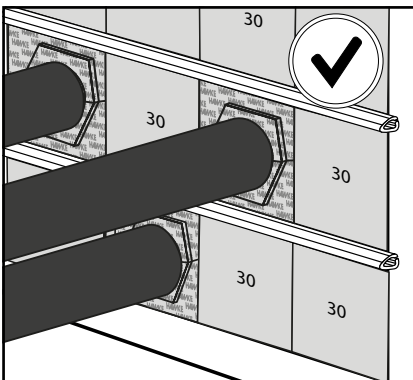
Check that Hawke Frame has been used in the installation, that it has been properly installed (welded/bolted) and that it has not mechanical or corrosion damage.



Measure the outer diameter of the cable and ensure that the diameter is within the cable range marked on the front of the block or by the colour code of the block.

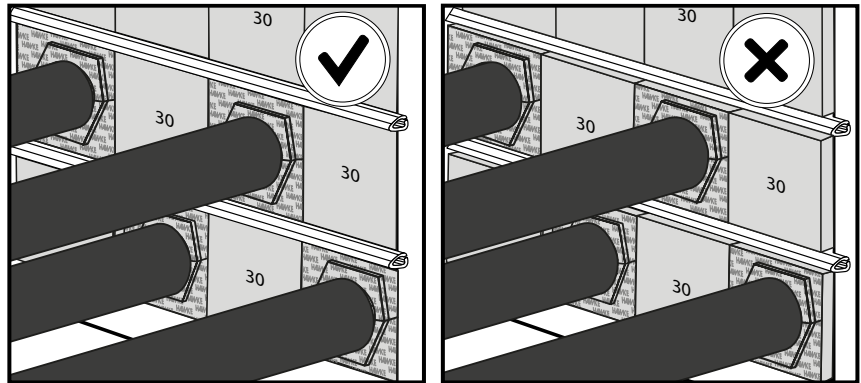


Check the correct orientation of the blocks.

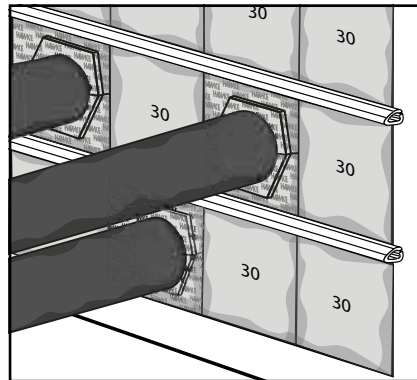


Check that there are a stayplate between each row of blocks and there are not stayplate between the bottom row of blocks and the frame.

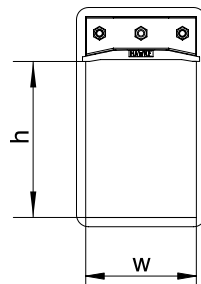
Check that all block are installed in position between the stayplates retention lips.



Check that Hawke Lubricant has been used during the installation.

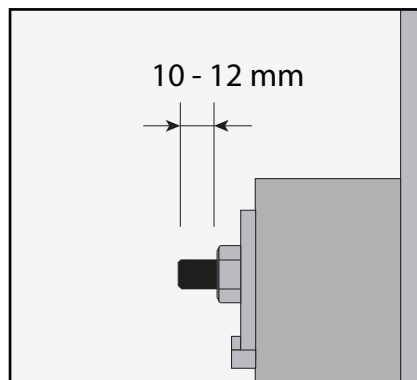


Check that there are sufficient blocks installed into the frame to cover the sealing area defined for each size of frame.



APERTURE SIZE	SEALING AREA (w x h)
1	60 x 60
2	120 x 60
3	60 x 120
4	120 x 120
5	60 x 180
6	120 x 180
7	60 x 240
8	120 x 240

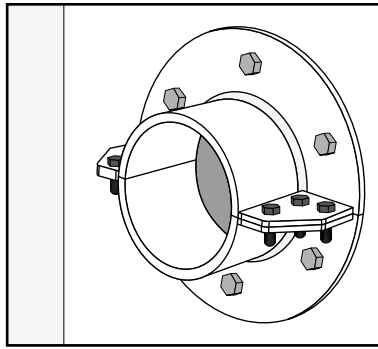
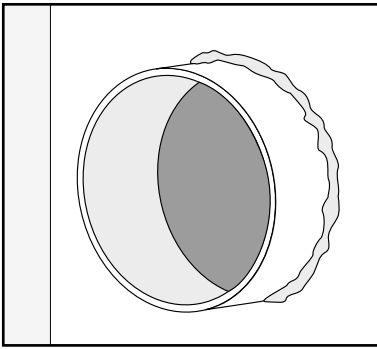
Check that the right tightening of the bolts has been performed (approximately 10-12 mm of thread on each bolt should protrude from the nut).



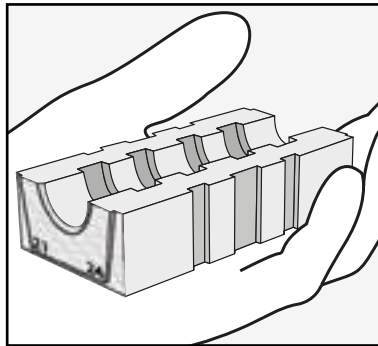
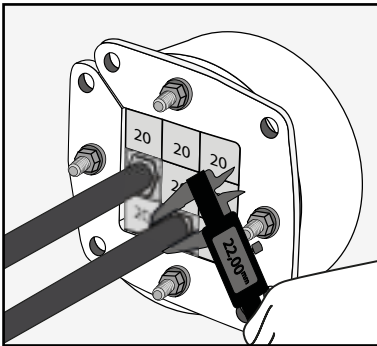
 **Notes**

- Leave the system at least 24 hour before apply pressure.
- If transit application is in excess of 3,5 bar, high pressure stayplates should be used together with an extra 5mm sealing strip.

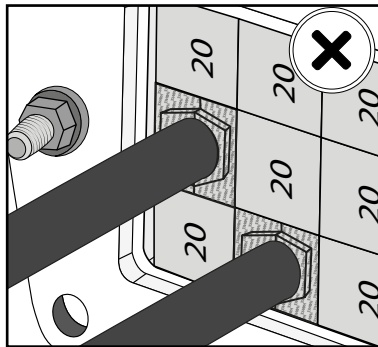
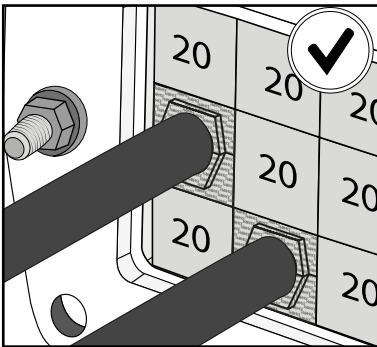
→ **ROUND HRTO/HRT** standard installation and inspection checks guidelines:



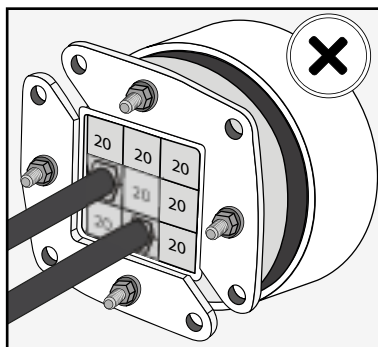
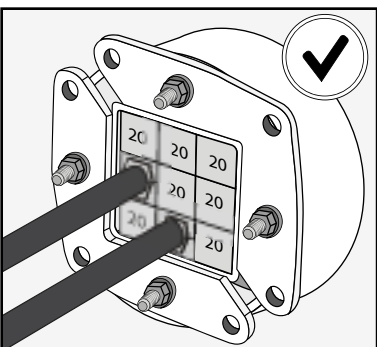
Check that Hawke Sleeve has been used in the installation, that it has been properly installed (welded/bolted) and that it has not mechanical or corrosion damage.



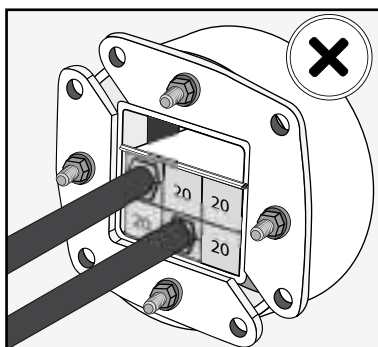
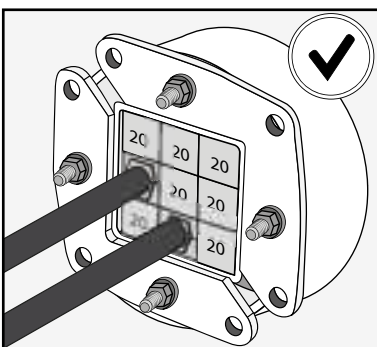
Measure the outer diameter of the cable and ensure that diameter is within the cable/pipe range marked on the front of the block or by the colour code of the block.



Check the correct orientation of the blocks.

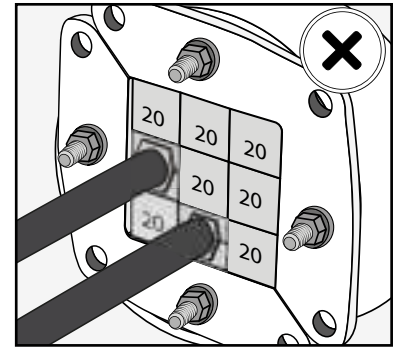
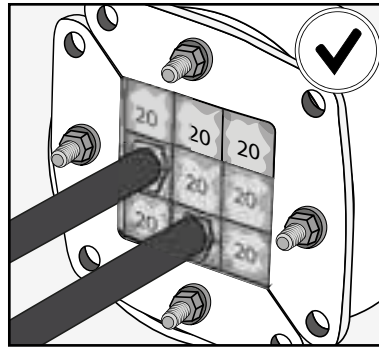


Check that the HRT/HRTO is completely inserted in the Sleeve/Aperture.

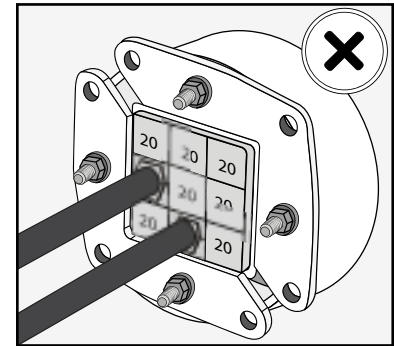
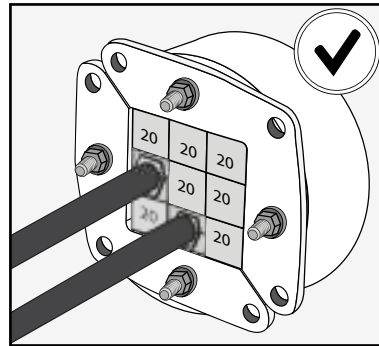


Check that stayplates have not be used in the installation.

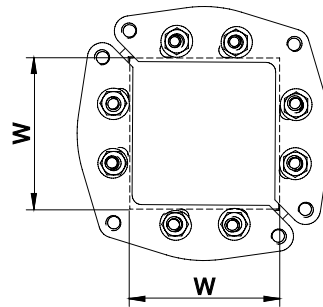
Check that Hawke Lubricant has been used during the installation.



Check that front plates have been closed.

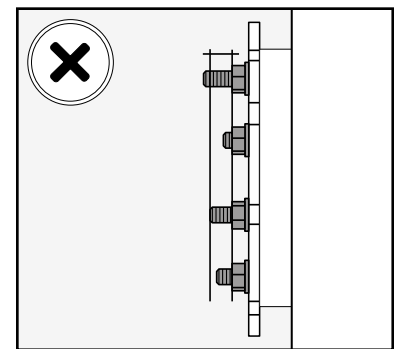
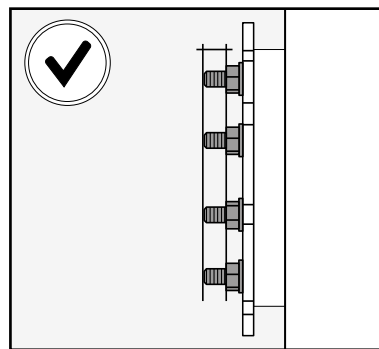


Check that there are sufficient blocks installed into the frame to cover the sealing area defined for each size of frame.



TYPE	SEALING AREA (mm)
HRTO-30	15x15
HRTO-40	20x20
HRTO-50	30x30
HRTO-70	40x40
HRTO-100	60x60
HRTO-125	80x80
HRTO-150	90x90
HRTO-200	120x120

Check that the right tightening of the bolts has been performed (approximately 10 mm of thread on each bolt should protrude from the nut).

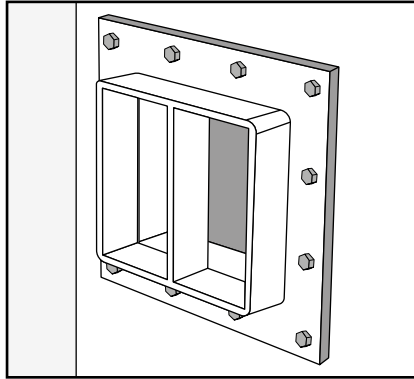
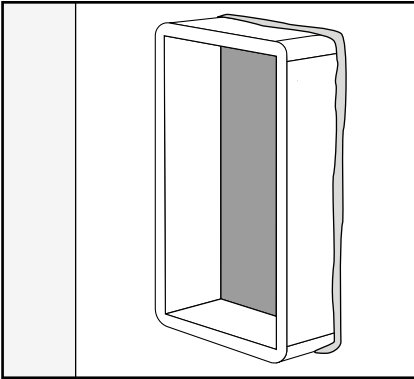


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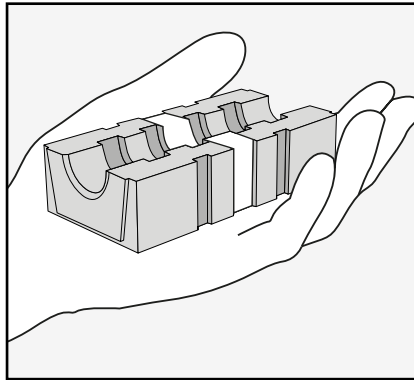
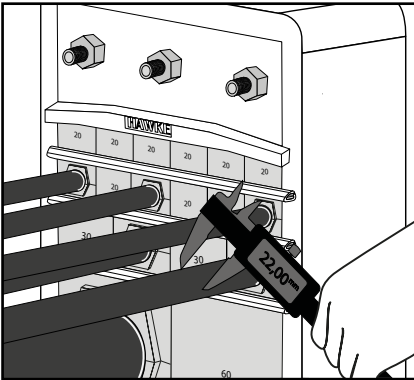
Leave the system at least 24 hour before apply pressure.

Check that there are sufficient blocks installed into the frame to cover the sealing area defined for each size of frame.

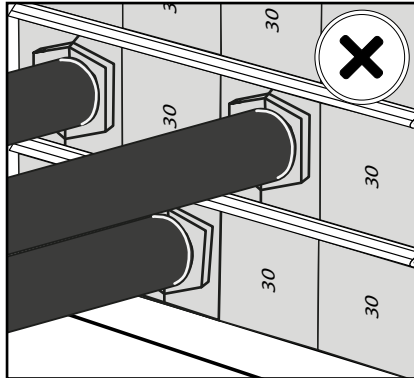
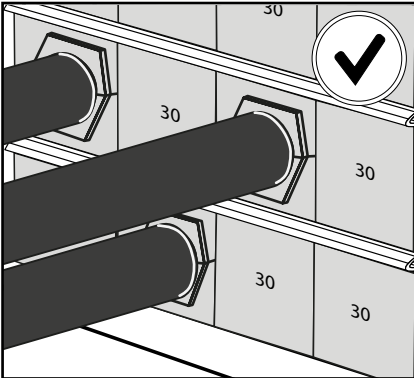
 **RECTANGULAR EMC** installation and inspection checks guidelines:



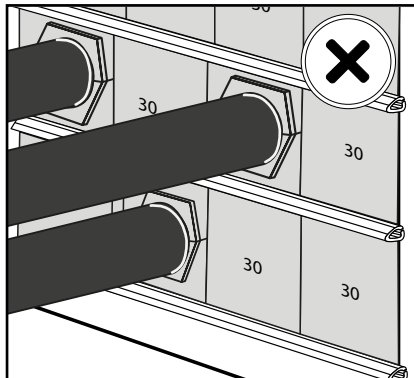
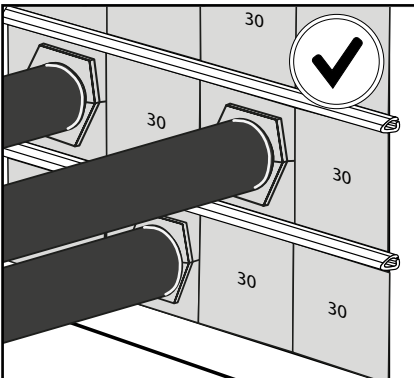
Check that Hawke Frame has been used in the installation, that it has been properly installed (welded/bolted) and that it has not mechanical or corrosion damage.



Measure the outer diameter of the cable and ensure that the diameter is within the cable range marked on the front of the block or by the colour code of the block.



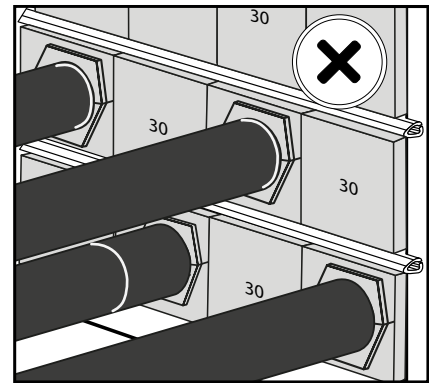
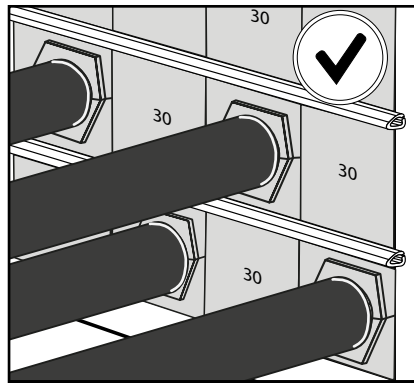
Check the correct orientation of the blocks.



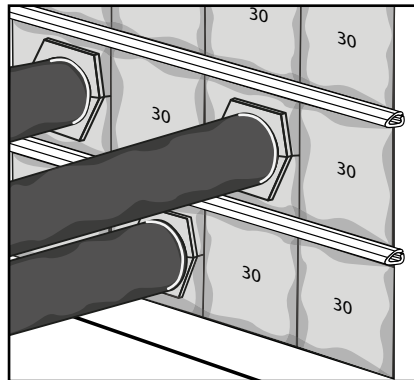
Check that there are a stayplate between each row of blocks and there are not stayplate between the bottom row of blocks and the frame.

Check that all block are installed in position between the stayplates retention lips.

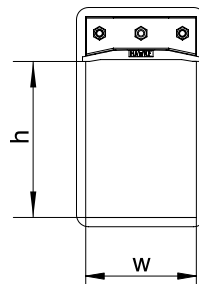
Check that marks in all the cables are visible to be guarantee blocks and cable copper tapes are aligned.



Check that Hawke Lubricant has been used during the installation.

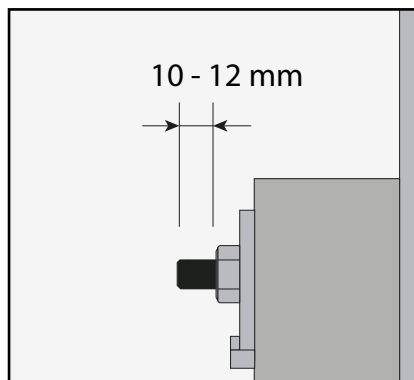


Check that there are sufficient blocks installed into the frame to cover the sealing area defined for each size of frame.



APERTURE SIZE	SEALING AREA (w x h)
1	60 x 60
2	120 x 60
3	60 x 120
4	120 x 120
5	60 x 180
6	120 x 180
7	60 x 240
8	120 x 240

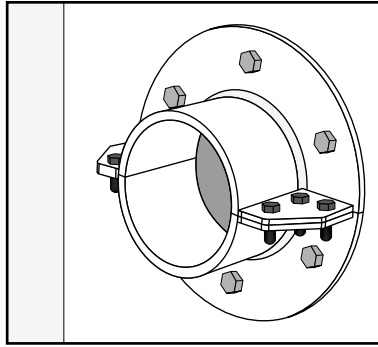
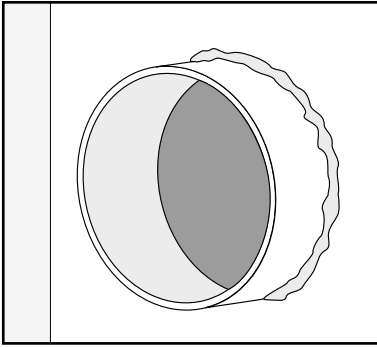
Check that the right tightening of the bolts has been performed (approximately 10-12 mm of thread on each bolt should protrude from the nut).



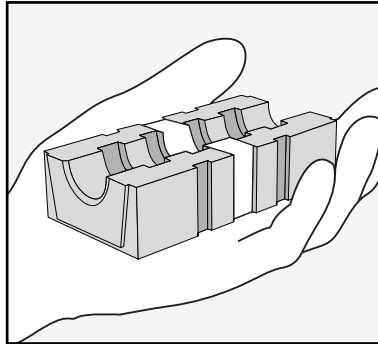
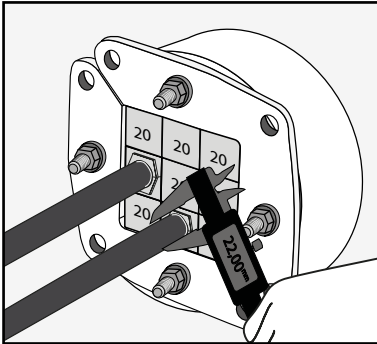
**Notes**

- Leave the system at least 24 hour before apply pressure.
- If transit application is in excess of 3,5 bar, high pressure stayplates should be used together with an extra 5mm sealing strip.

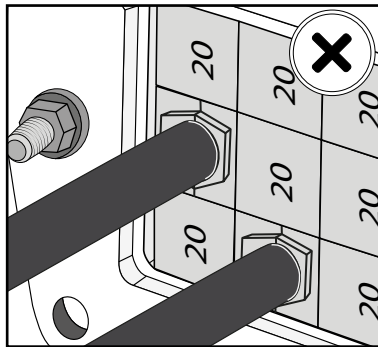
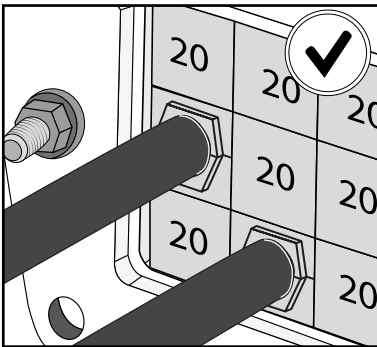
 **ROUND EMC HRTO/HRT** standard installation and inspection checks guidelines:



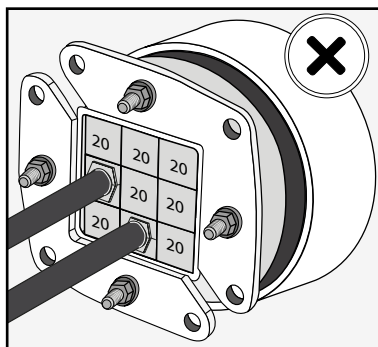
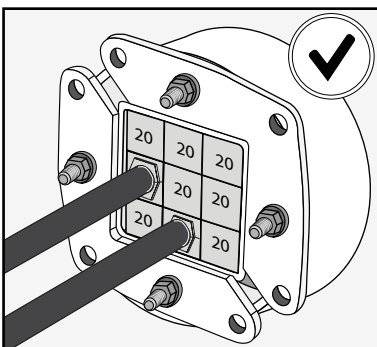
Check that Hawke Sleeve has been used in the installation, that it has been properly installed (welded/bolted) and that it has not mechanical or corrosion damage.



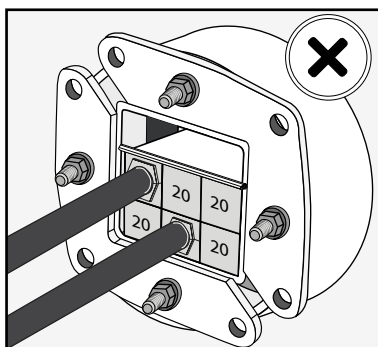
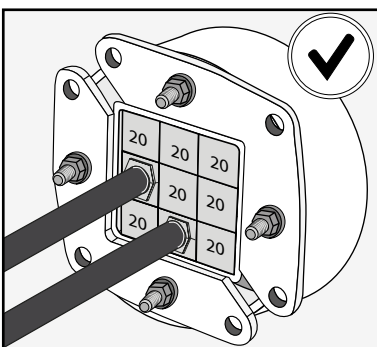
Measure the outer diameter of the cable and ensure that diameter is within the cable/pipe range marked on the front of the block or by the colour code of the block.



Check the correct orientation of the blocks.

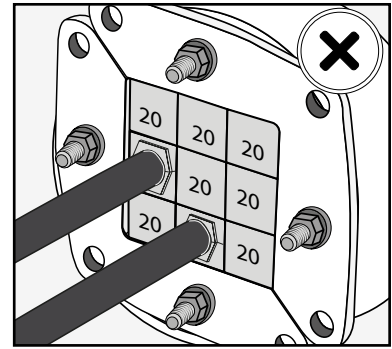
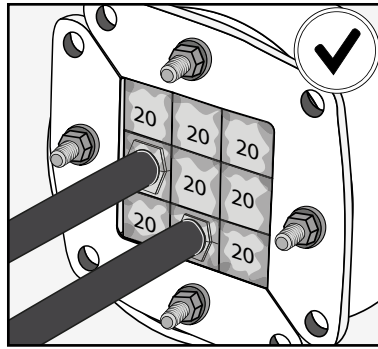


Check that the HRT/HRTO is completely inserted in the Sleeve/Aperture.



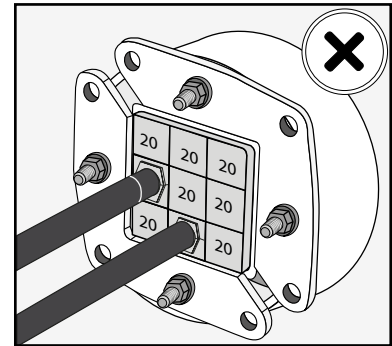
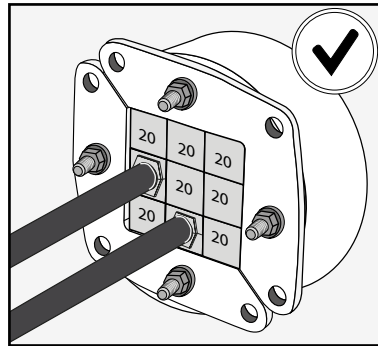
Check that stayplates have not be used in the installation.

Check that Hawke Lubricant has been used during the installation.

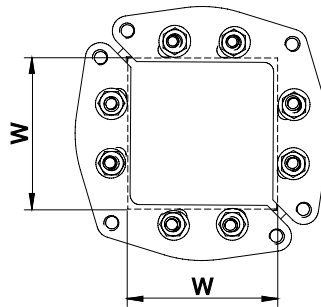


Check that front plates have been closed.

Check that marks in all the cables are visible to be guarantee blocks and cable copper tapes are aligned.

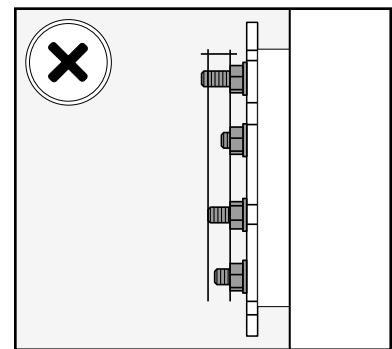
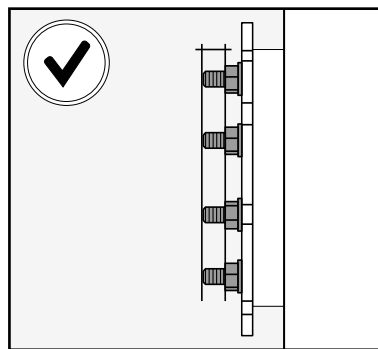


Check that there are sufficient blocks installed into the frame to cover the sealing area defined for each size of frame.



TYPE	SEALING AREA (mm)
HRTO-30	15x15
HRTO-40	20x20
HRTO-50	30x30
HRTO-70	40x40
HRTO-100	60x60
HRTO-125	80x80
HRTO-150	90x90
HRTO-200	120x120

Check that the right tightening of the bolts has been performed (approximately 10 mm of thread on each bolt should protrude from the nut).

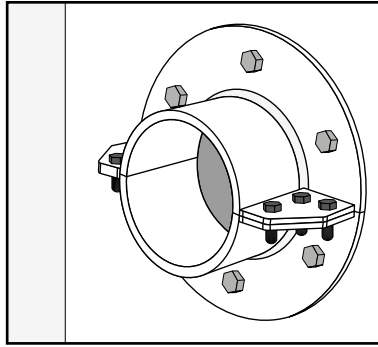
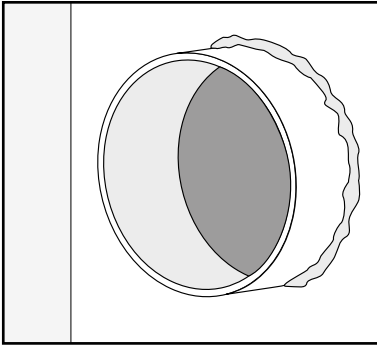


 Notes

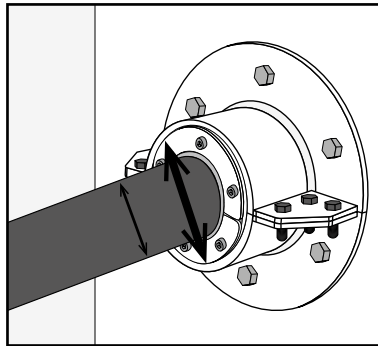
Leave the system at least 24 hour before apply pressure.

Check that there are sufficient blocks installed into the frame to cover the sealing area defined for each size of frame.

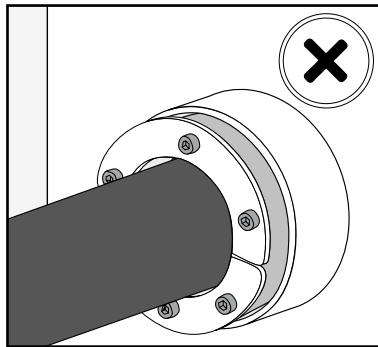
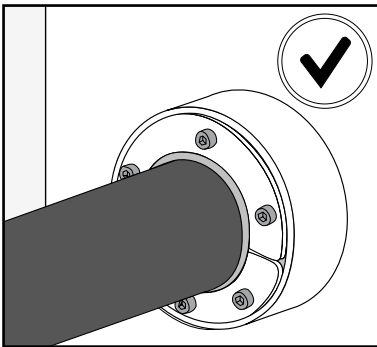
 → **ROUND HRST STANDARD** installation and inspection checks guidelines:



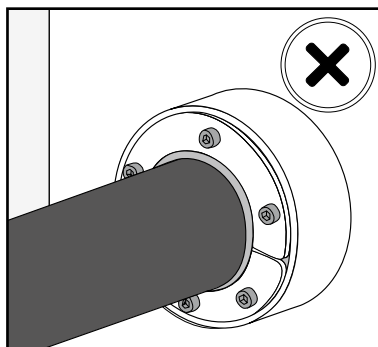
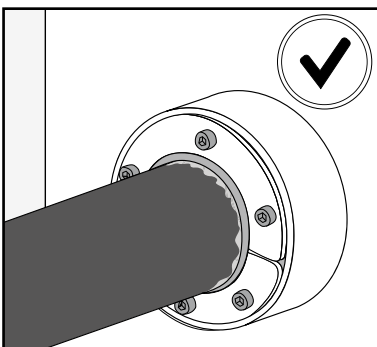
Check that Hawke Sleeve has been used in the installation, that it has been properly installed (welded/bolted) and that it has not mechanical or corrosion damage.



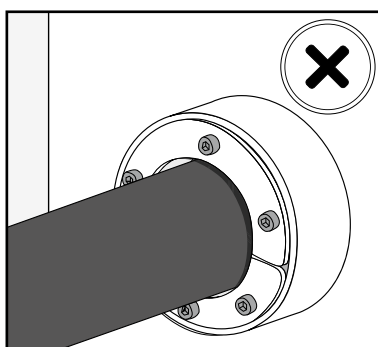
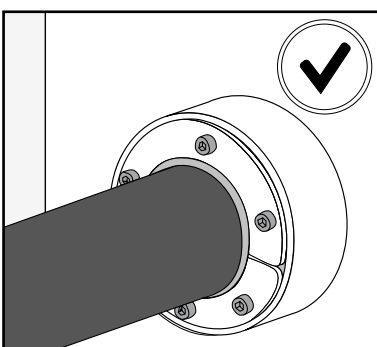
Check the inside diameter of the sleeve and the outside diameter of the cable/pipe to verify that it is within the range of selected HRST.



Check that the HRST is completely inserted in the Sleeve/Aperture.



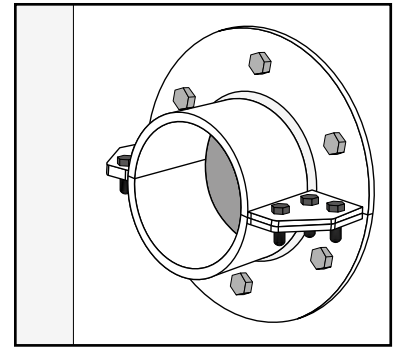
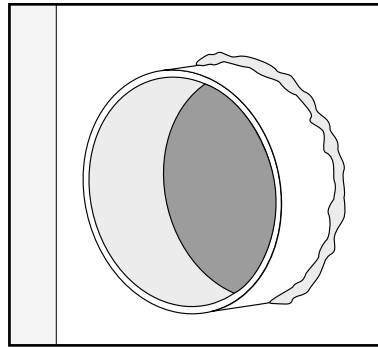
Check that Hawke Lubricant has been used during the installation.



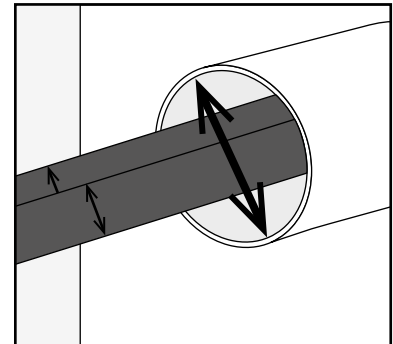
Check that all the bolts has been tightened similarly and do not exist gaps between the cable/pipe and the HRST.

 → **ROUND HRST MULTIHOLE** installation and inspection checks guidelines:

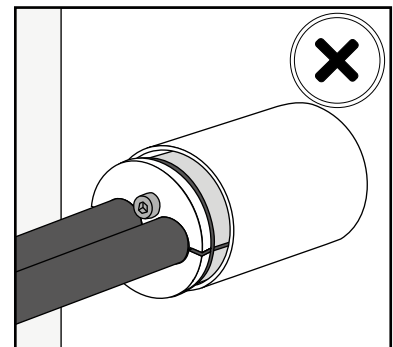
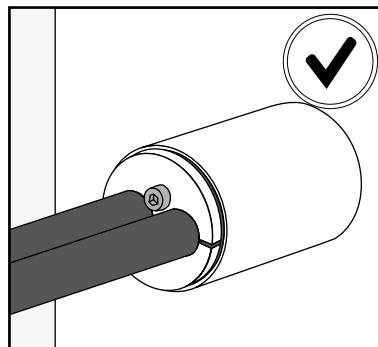
Check that Hawke Sleeve has been used in the installation, that it has been properly installed (welded/bolted) and that it has not mechanical or corrosion damage.



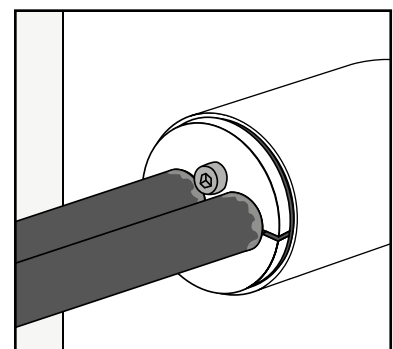
Check the inside diameter of the sleeve and the outside diameter of the cable/pipe to verify that it is within the range of selected HRST.



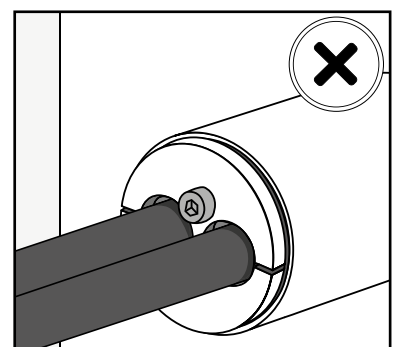
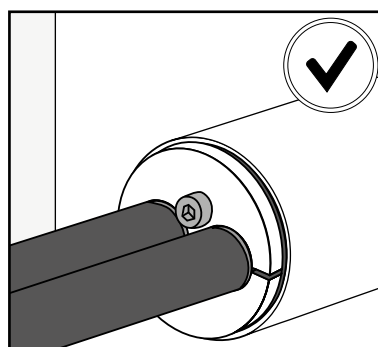
Check that the HRST is completely inserted in the Sleeve/Aperture.

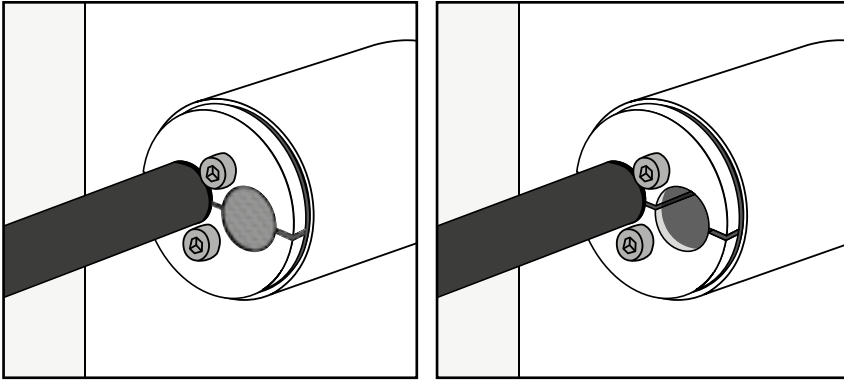


Check that Hawke Lubricant has been used during the installation.



Check that all the bolts has been tightened similarly and do not exist gaps between the cable/pipe and the HRST.





Check that every not occupied HRST holes are plugged with Hawke HRST plugs.

 Notes

Leave the system at least 24 hour before apply pressure.