

INSTALLATION PROCEDURES – 01 July 2013
NEW LINEA RANGE

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. LINEA'TOUCH HANDRAIL	4
1. TOOLS REQUIRED	4
2. OVERVIEW	5
3. CUTTING TECHNIQUES	6
3.1. PVC/Aluminium profiles.....	6
3.2. Wall returns – Made-to-measure angles	6
4. ASSEMBLING HANDRAILS	6
4.1. Assembling wall returns – Joining blocks – Angle pieces	6
4.2. Assembling brackets and closers.....	9
5. INSTALLING HANDRAILS TO WALLS.....	11
5.1. Fixing a straight section.....	12
5.2. Fixing with internal or external angle pieces	13
5.3. Fixing of the support piece	14
6. INSTALLING OVER SERVICE DUCTS	15
7. CURVING OF THE HANDRAILS	16
. LINEA'PUNCH PROTECTION RAIL.....	17
1. TOOLS REQUIRED	17
2. OVERVIEW	18
3. LINEA'PUNCH PROTECTION RAIL INSTALLATION PROCEDURES	19
3.1. Description and dimensions	19
3.2. Cutting the PVC profile.....	19
3.3. Installing the protection rail.....	21
3.4. Joining protection rail profiles.....	23
. LINEA'FLEX CORNER PROTECTOR	24
1. TOOLS REQUIRED	24
2. OVERVIEW :	25
3. INSTALLATION PROCEDURE FOR LINEA'FLEX CORNER PROTECTOR.....	25
3.1. Cutting the profile	25
3.2. Assembling Corner protector and end-cap.....	25

. LINEA'TOUCH HANDRAIL

1. TOOLS REQUIRED

- Circular saw with carbide blade for aluminium and PVC

ROMUS Part 93891



- Mallet

ROMUS Part 94959



- Measuring tape 5 m x 25 mm

ROMUS Part 93290

Or

- Laser

ROMUS Part 93185



- Level & measuring device



- Drill and screwdriver



- Suction cup



2. OVERVIEW

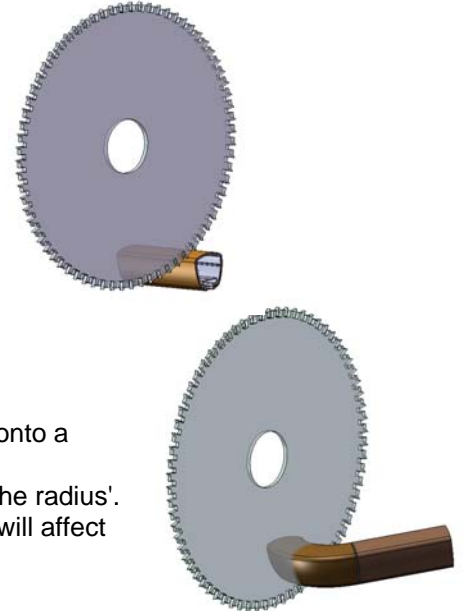
- SPM Linea'Touch handrails consist of an aluminium profile and a PVC sheath. They are mounted onto the wall using aluminium brackets.
- These handrails must be screwed to the wall. The table below shows the installation techniques to be used for the main types of wall surface found in the building industry.

TYPE OF WALL	INSTALLATION PROCEDURE
❖ Walls with wooden studs	Woodscrews, 5 x 40 mm
❖ Metallic structures	Self-tapping screws, 5 x 40 mm
❖ Plasterboard, single and double skin	Self-tapping plug or metallic expansion plug
❖ Hollow brick, hollow breeze block, hollow plaster tiles	Metallic expansion plug
❖ Concrete walls	FISCHER-type plugs, 6 mm diameter for 5 x 40 mm screws
❖ Solid brick and old walls	FISCHER-type plugs, 8 mm diameter for 5 x 40 mm screws
❖ Cellular concrete	FISCHER-type plugs, 8 mm diameter for 5 x 40 mm screws

3. CUTTING TECHNIQUES

3.1. PVC/Aluminium profiles

- The aluminium profile and the PVC sheath may both be cut using a circular saw. We recommend using a fine-toothed carbide blade for PVC and aluminium.
- For a clean cut, both parts must be snap-fixed together.

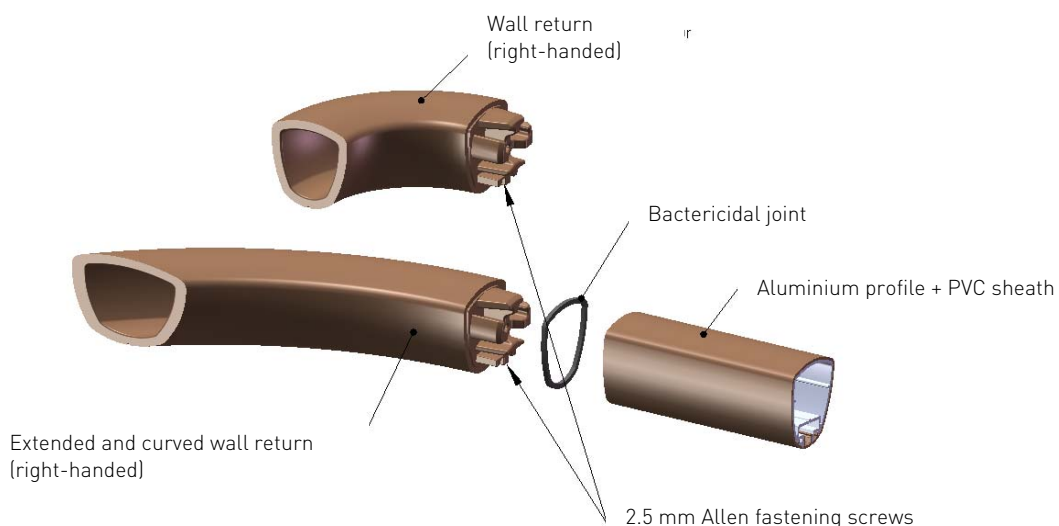


3.2. Wall returns – Made-to-measure angles

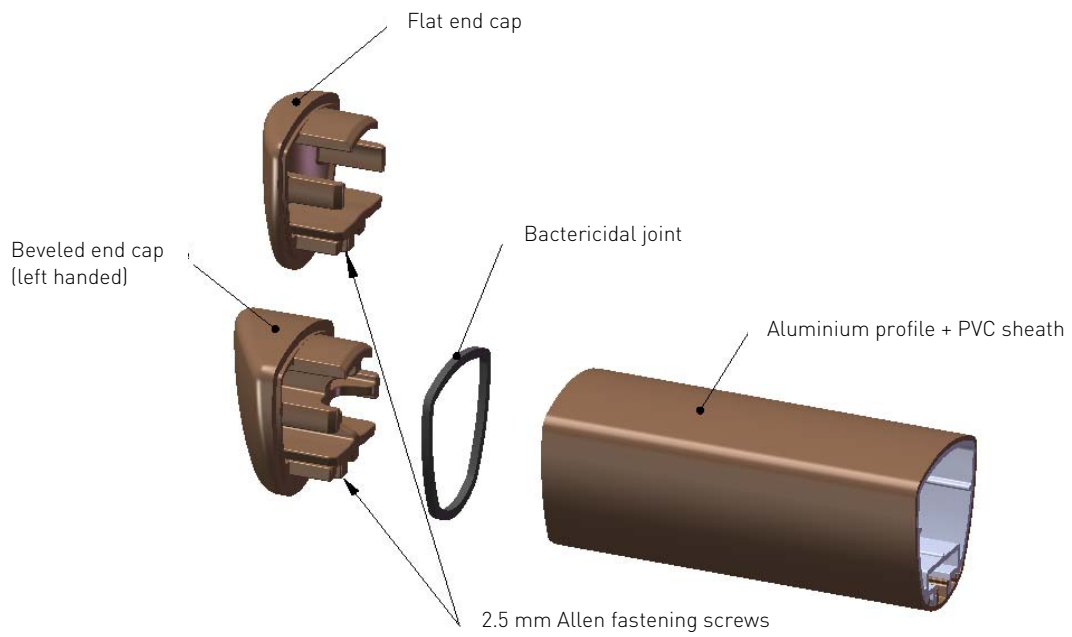
- Use a circular saw to cut made-to-measure angles. Mount the angle piece onto a length of profile in order to hold it safely whilst cutting.
- Be sure to position the angle piece correctly in order to obtain a cut 'along the radius'. If the cut is slightly off line, this will cause assembly problems later on as it will affect the shape and size of the surfaces in contact.

4. ASSEMBLING HANDRAILS

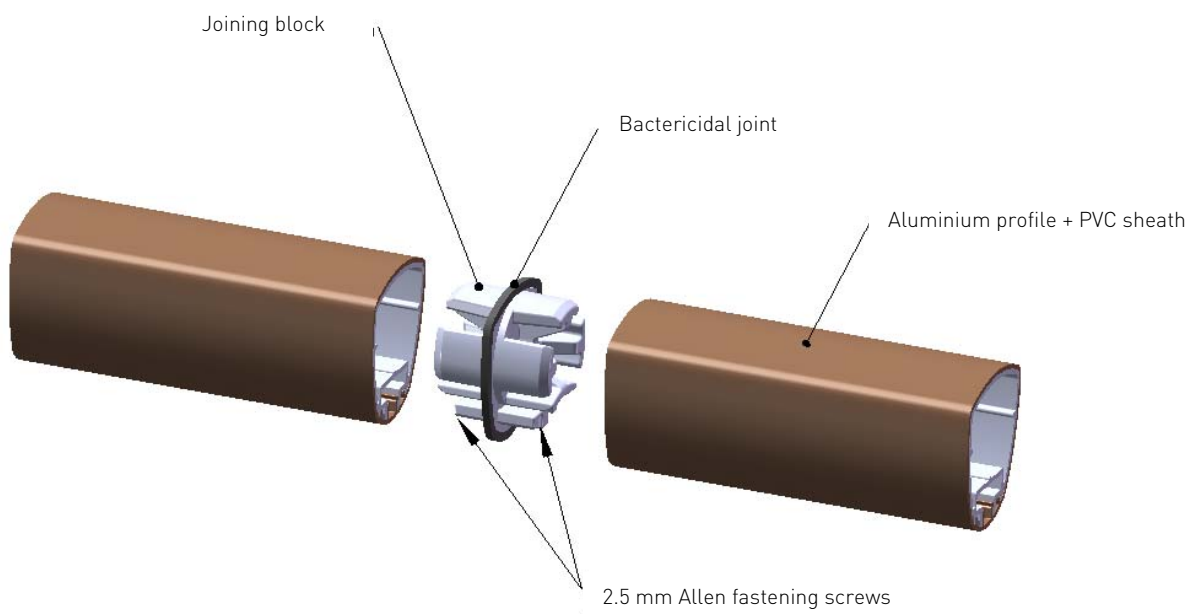
4.1. Assembling wall returns – Joining blocks – Angle pieces



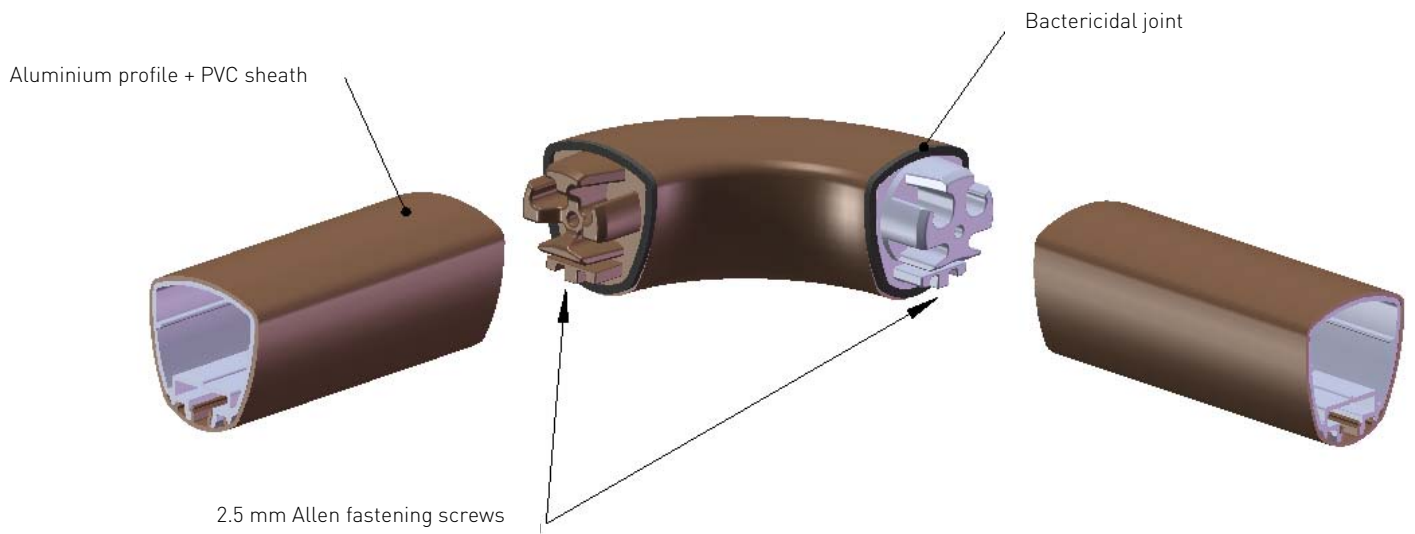
Wall returns to profile assembly



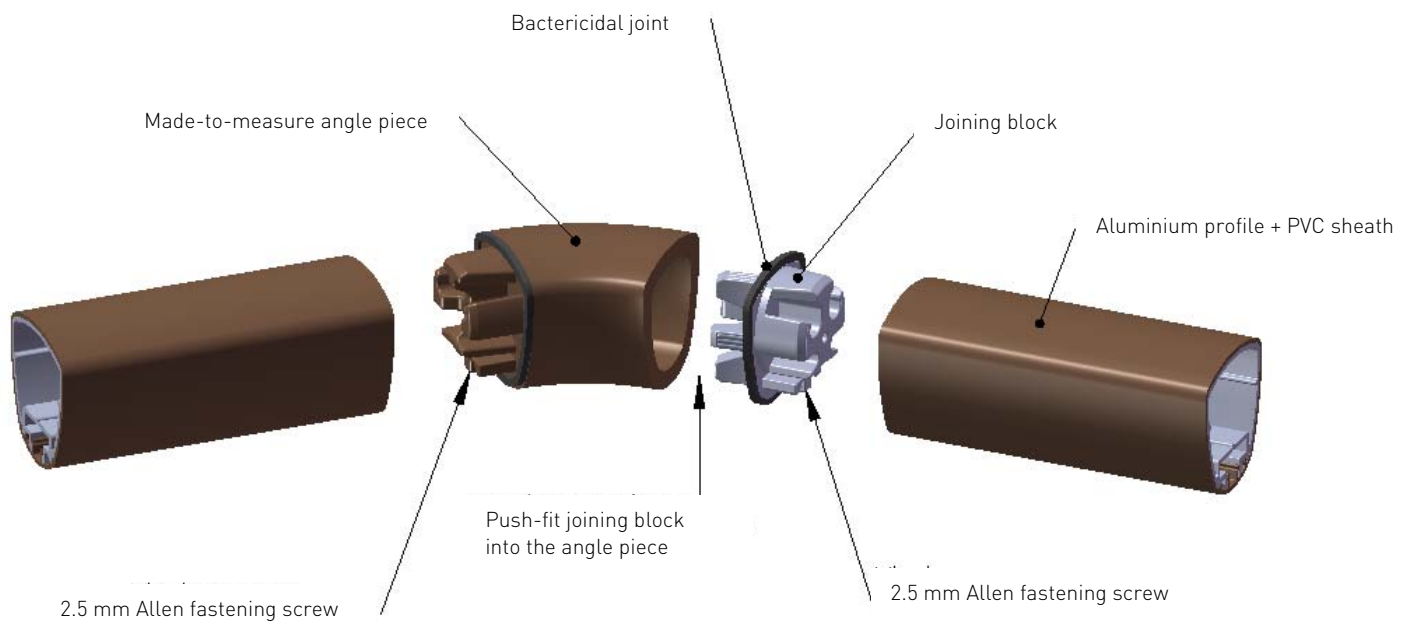
End caps to profile assembly



Profile to profile assembly

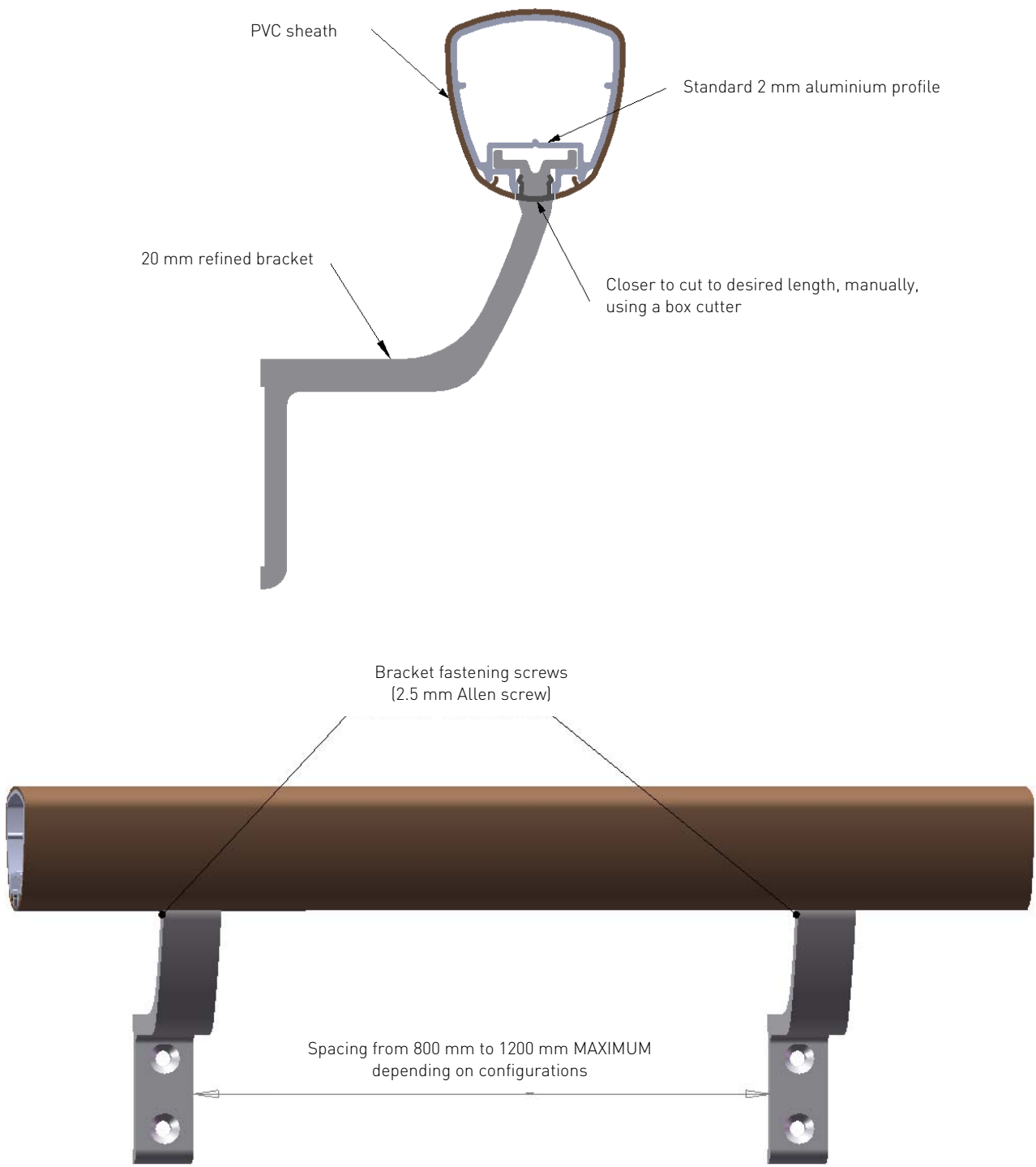


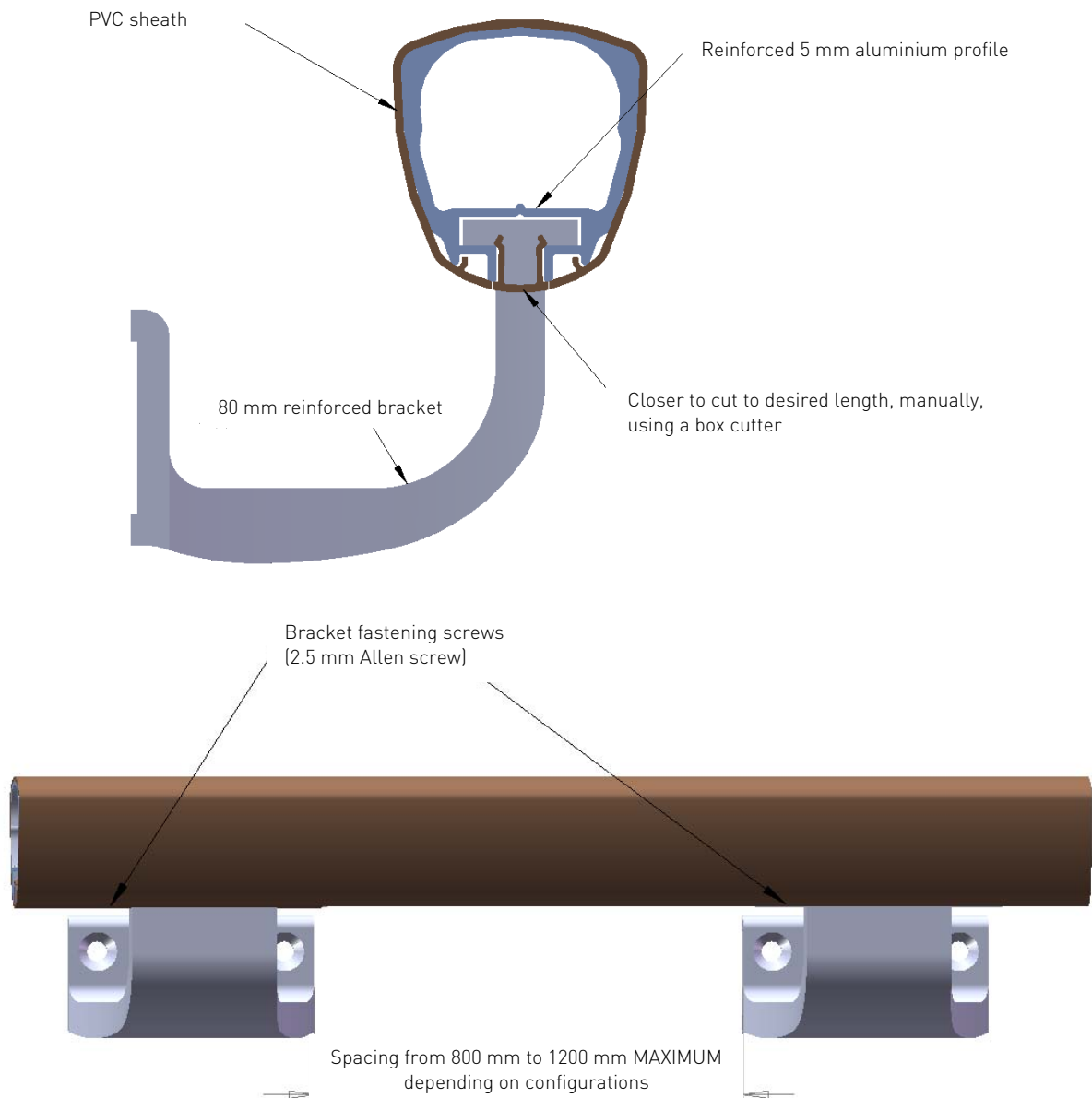
Angle piece to profile assembly



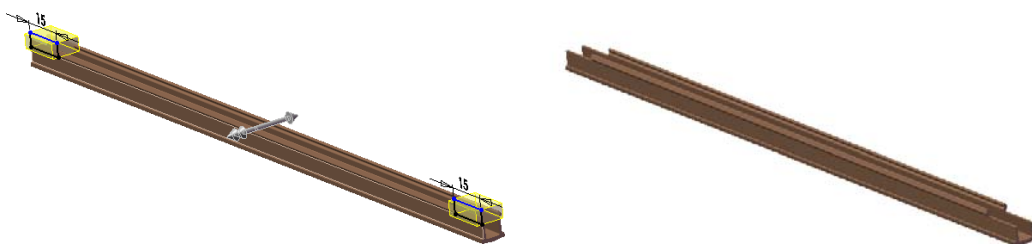
Made-to-measure angle piece to profile assembly

4.2. Assembling brackets and closers

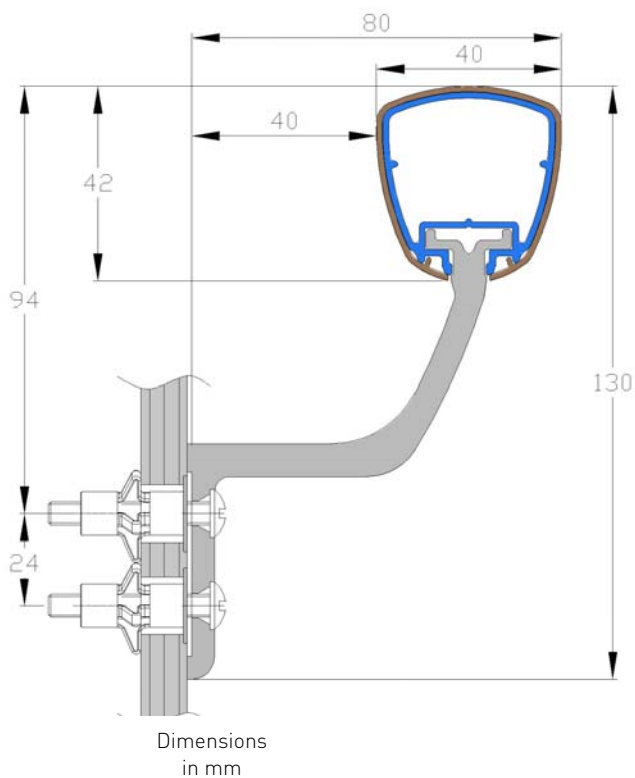




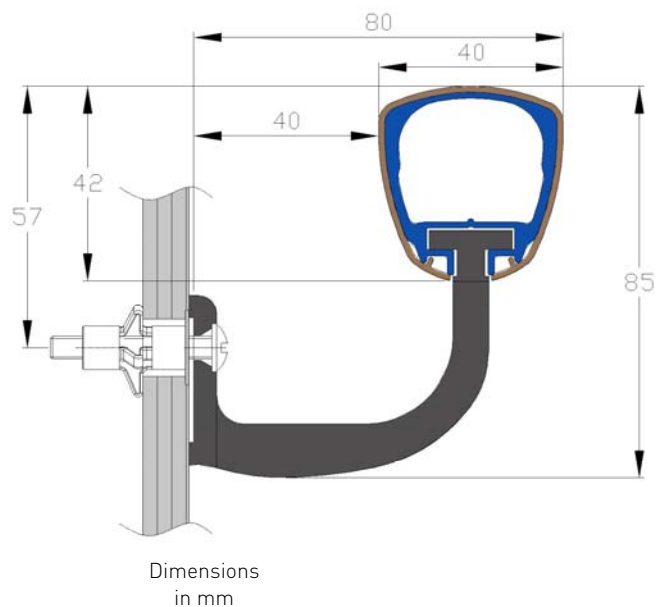
- With reinforced version, when the end of the closer meets a wall return, angle piece or joining block, it will be necessary to trim the closer in order to reduce its height.
- Trim the closing strip over a length of 15 mm using a box cutter.



5. INSTALLING HANDRAILS TO WALLS



**Linea'Touch
Refined bracket
20 mm**



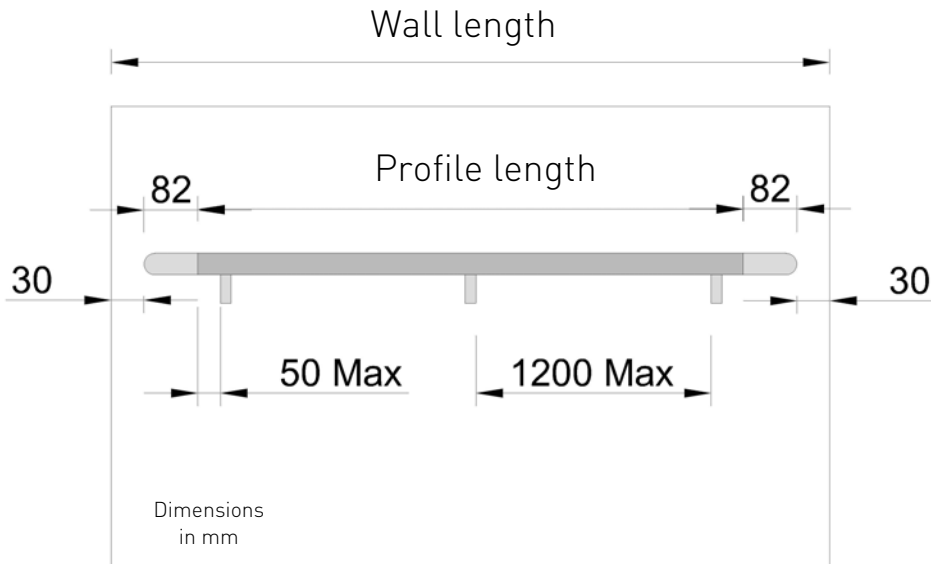
**Linea'Touch+
Reinforced bracket
80 mm**

For a handrail height of 900 mm (measured at the handrail's upper surface):

	Linea'Touch Refined bracket 20mm	Linea'Touch + Reinforced bracket 80 mm
Drilling height for fixing the bracket	807 mm et 783 mm	843 mm

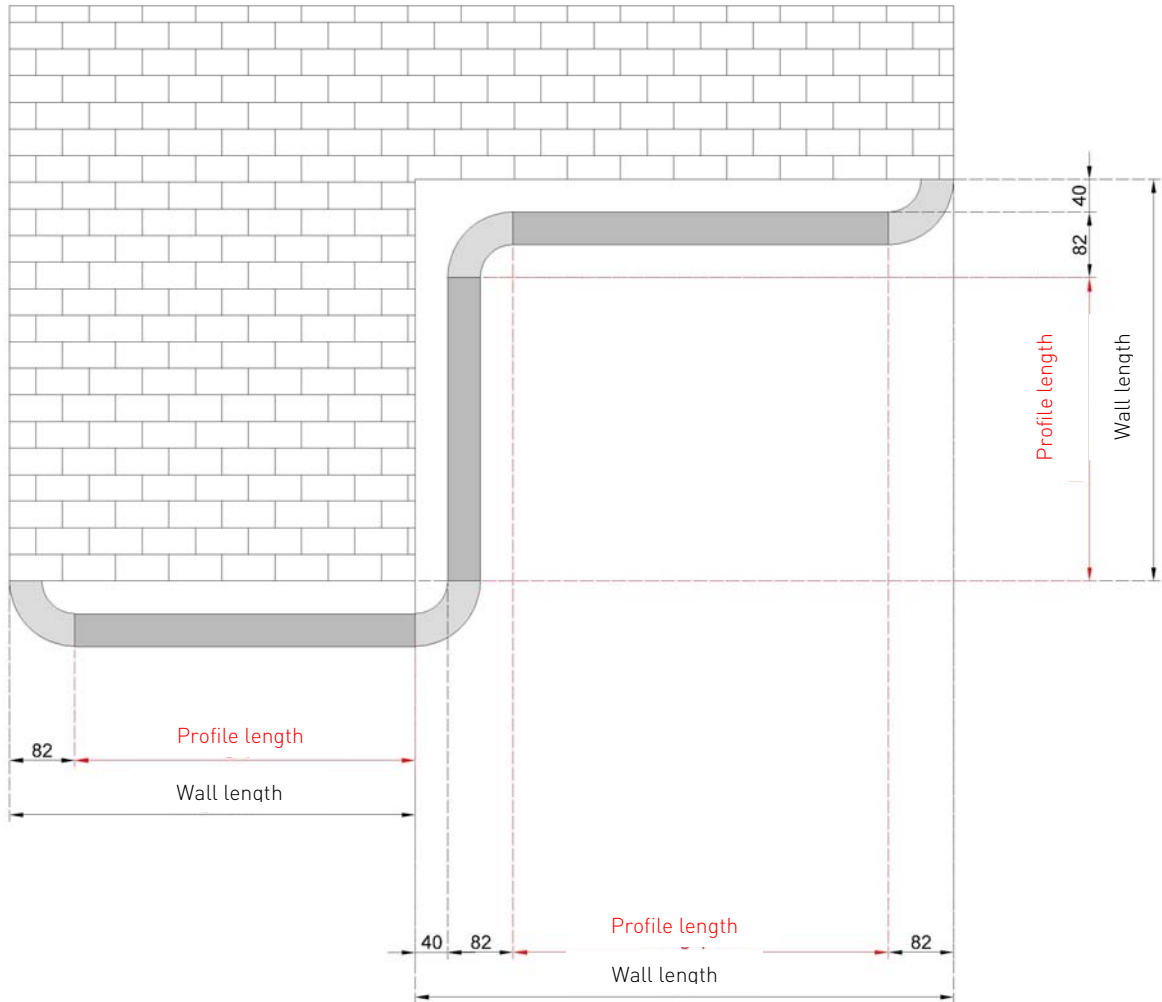
5.1. Fixing a straight section

- Once the guide-line has been drawn onto the wall, calculate the cutting lengths of the aluminium profile and PVC sheath by subtracting the necessary clearances (2 x 30mm) plus the length of the wall returns (2 x 82 mm) from the wall length (see the diagram below):



- Leave a clearance of at least 30 mm between the end of the wall and the end of the handrail. This clearance will allow the wall returns to be replaced if necessary without disassembling the entire handrail.
- Position the brackets at each end whilst maintaining a distance of 50 mm between the end of the profile and the bracket if using an extended and curved wall return (or 200 mm for other accessories).
- Each handrail must be fixed to the wall with at least two brackets, whatever the length of the section.
- Wherever several brackets must be installed, space the brackets at no more than 1200 mm intervals (use 800mm intervals in areas of heavy use or on less robust wall surfaces such as plasterboard).

5.2. Fixing with internal or external angle pieces



- In this case, calculate the cutting lengths of the aluminium profiles and PVC sheathes in the same manner as above. The table below summarises the measurements to be subtracted for the various accessories available (these dimensions include the thickness of the bactericidal joint):

	Flat end cap	Beveled end cap	Wall return	Extended & curved wall return	Internal/external angle piece
Linea'Touch handrail	12 mm	25 mm	82 mm	188 mm	Interne : 122 mm Externe : 2 mm

- NB: Do not forget also to subtract the 30 mm clearances at each end.

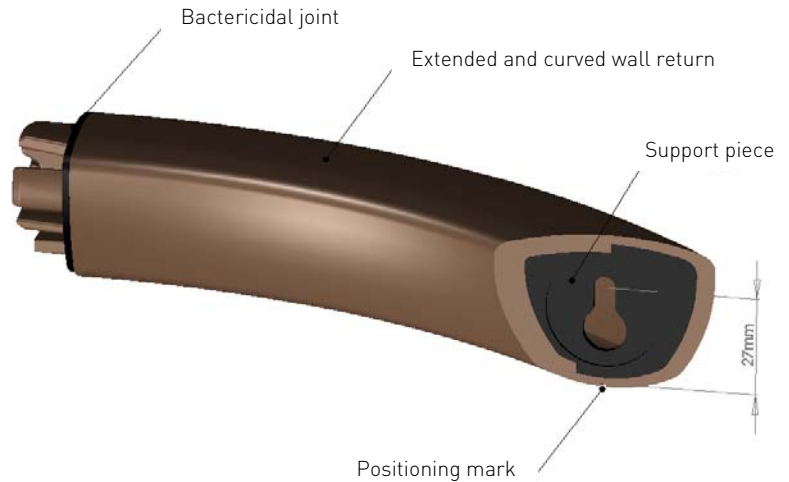
5.3. Fixing of the support piece

- **Extended and curved wall returns must always be installed with a support piece.** These support pieces are always incorporated into the end of these wall returns.

- Once the assembled wall return and the handrail are positioned, identify the positioning mark located underneath the wall return as the reference point for drilling the hole. With this mark drawn onto the wall, remove the handrail and mark a centre 27mm vertically above the reference point as the centre for the hole to be drilled.

- Drill and plug the wall and then insert the screw into the plug. Screw in the screw but leave a 3 mm clearance between the head of the screw and the end of the plug.

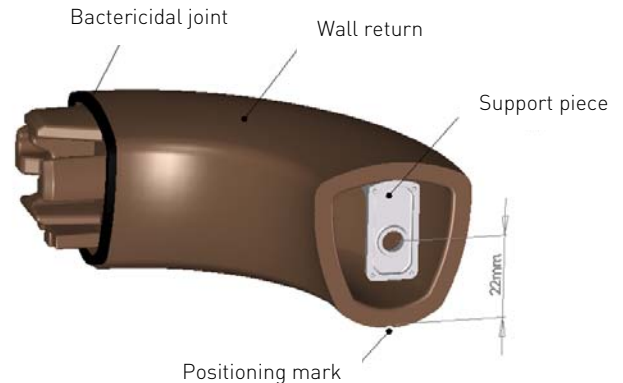
- Reposition the handrail whilst inserting the screw heads into the support pieces.



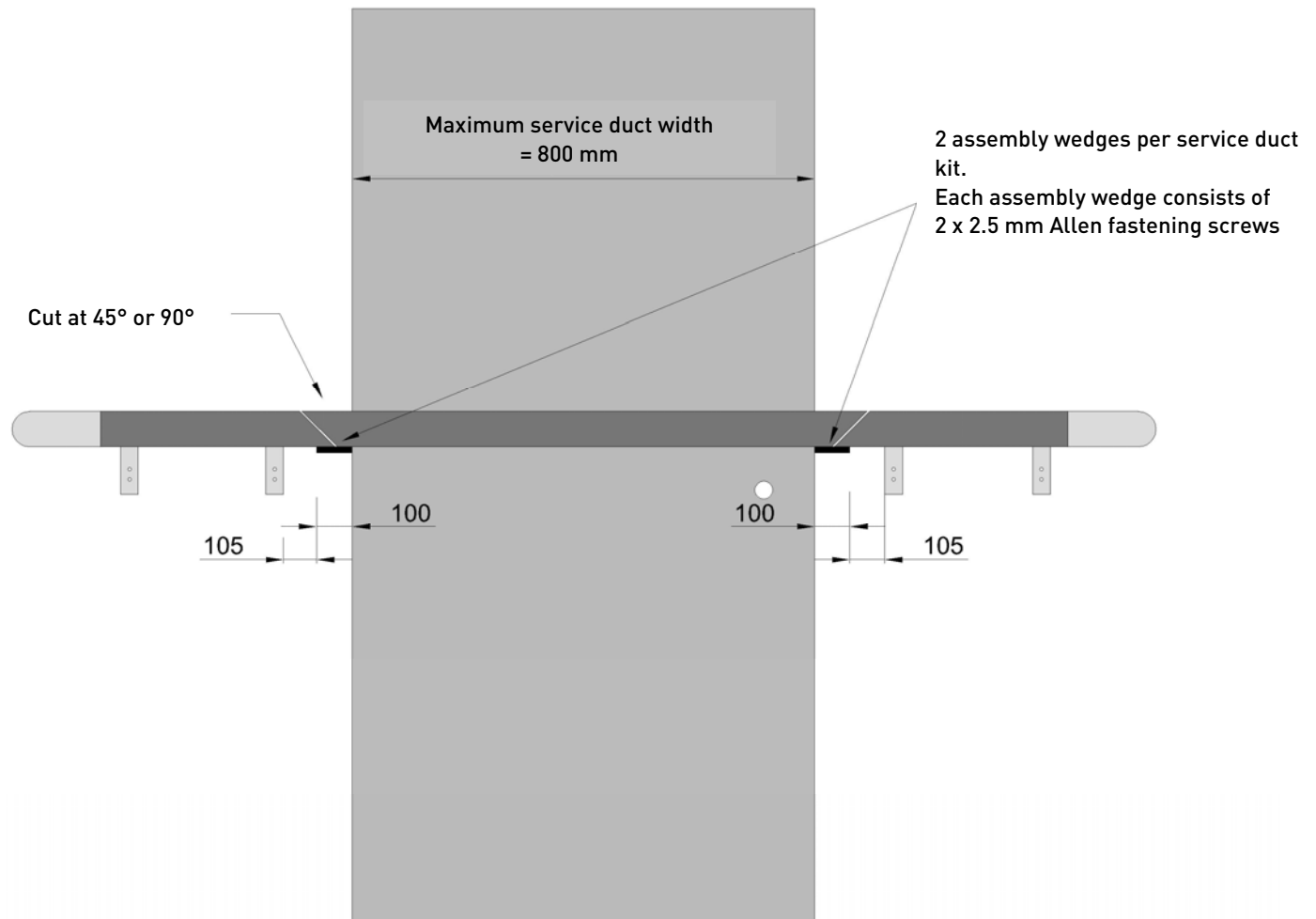
- **The support piece is an optional extra with ordinary wall returns.**

- Once the assembled wall return and the handrail are positioned, identify the positioning mark located underneath the wall return as a reference point for drilling the hole. With this mark drawn onto the wall, remove the handrail and mark a centre 22 mm vertically above the reference point as the centre for the hole to be drilled.

- Drill and plug the wall and then mount the support piece onto the wall. Then reposition the handrail whilst inserting the support pieces into the wall returns.



6. INSTALLING OVER SERVICE DUCTS



- The installation procedure for crossing service ducts is the same as that for the Escort 40 handrails.
- The service duct kit is made on-site by cutting a section of handrail as long as the width of the service duct plus 100 mm (100 mm equals 2 x half the length of assembly wedge). The cut may be at 45° or 90°. Next, position the elements in accordance with the dimensions shown on the drawing above.
- Finally, be sure to trim the handrail's closer appropriately in order to allow the assembly wedges to slide. As shown in the drawing, there is no point in fitting a closer between the assembly wedge and the handrail bracket (a distance of 105 mm).

7. CURVING OF THE HANDRAILS

The table below summarises the limits for curving Linea'Touch and Linea'Touch+ handrails

Finish	Minimum radius (1)	Maximum radius (2)
Linea'Touch PVC sheathed	2m	12m
Linea'Touch Decowood		
Linea'Touch Anodised	0.4m	12m
Linea'Touch Coated		
Linea'Touch+ PVC sheathed	2m	12m
Linea'Touch+ Decowood		
Linea'Touch+ Anodised	0.4m	12m
Linea'Touch+ Coated		

(1) Minimum radius = tightest curve radius

(2) Maximum radius = the curve radius beyond which no curving is necessary

. LINEA'PUNCH PROTECTION RAIL

1. TOOLS REQUIRED

- Circular saw with carbide blade for aluminium and PVC

ROMUS Part 93891



- Mallet

ROMUS Part 94959



- Measuring tape 5 m x 25 mm

ROMUS Part 93290

Or

- Laser

ROMUS Part 93185



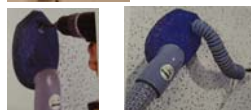
- Level & measuring device



- Drill and screwdriver



- Suction cup



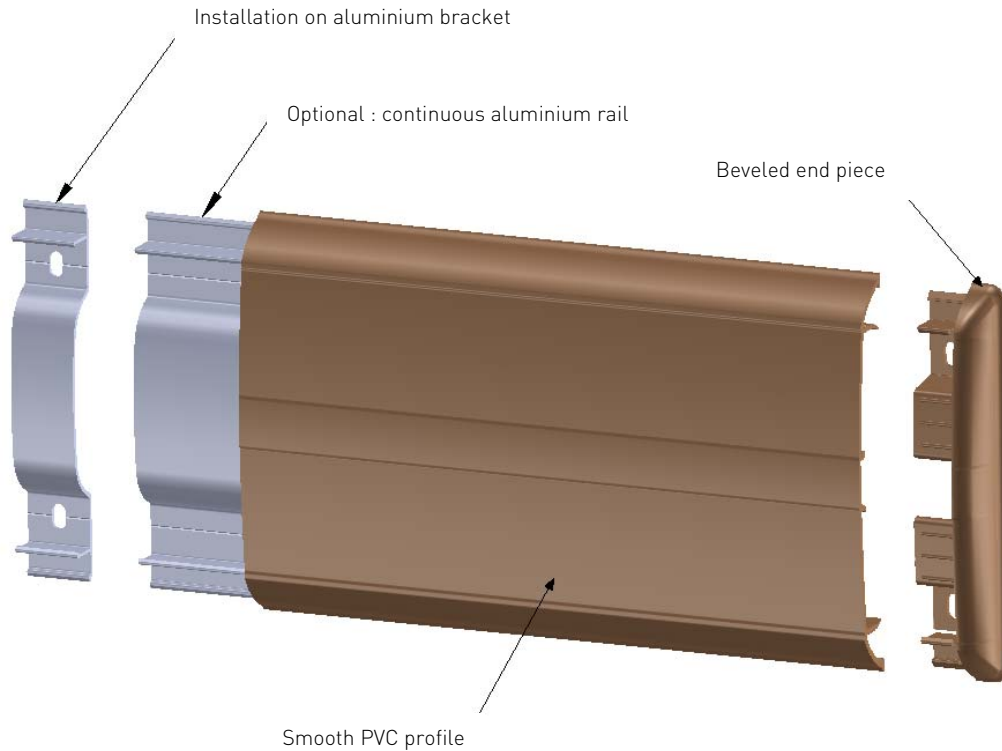
2. OVERVIEW

- SPM's Linea'Punch protection rails are wall protections in the form of a PVC profile for attachment using either brackets or an aluminium rail.
- The product's appearance is enhanced by the use of end-pieces.
- These protection rails must be screwed to the wall. The table below shows the installation techniques to be used for the main types of wall surface found in the building industry.

TYPE OF WALL	INSTALLATION PROCEDURE
❖ Walls with wooden studs	Woodscrews, 5 x 40 mm
❖ Metallic structures	Self-tapping screws, 5 x 40 mm
❖ Plasterboard, single and double skin	Self-tapping plug or metallic expansion plug
❖ Hollow brick, hollow breeze block, hollow plaster tiles	Metallic expansion plug
❖ Concrete walls	FISCHER-type plugs, 6 mm diameter for 5 x 40 mm screws
❖ Solid brick and old walls	FISCHER-type plugs, 8 mm diameter for 5 x 40 mm screws
❖ Cellular concrete	FISCHER-type plugs, 8 mm diameter for 5 x 40 mm screws

3. LINEA'PUNCH PROTECTION RAIL INSTALLATION PROCEDURES

3.1. Description and dimensions



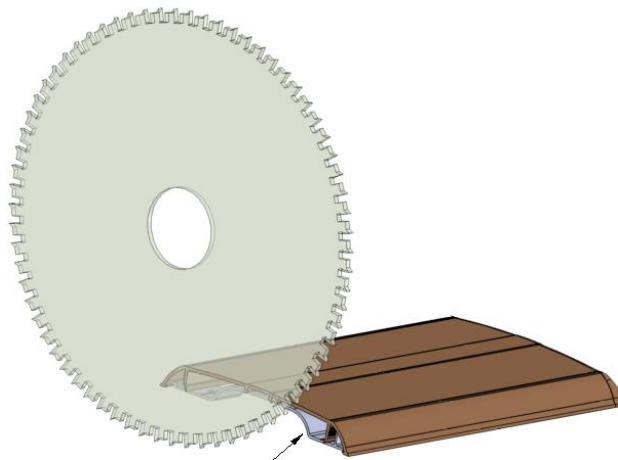
- When the profiles have to be cut in advance, the table below shows the lengths to be subtracted from the wall dimensions when cutting the PVC profile to length.

PVC profile protection rail	End piece
LINEA'PUNCH	16.5 mm

- The length of the aluminium rail is then calculated by subtracting 40 mm from the length of the PVC section.

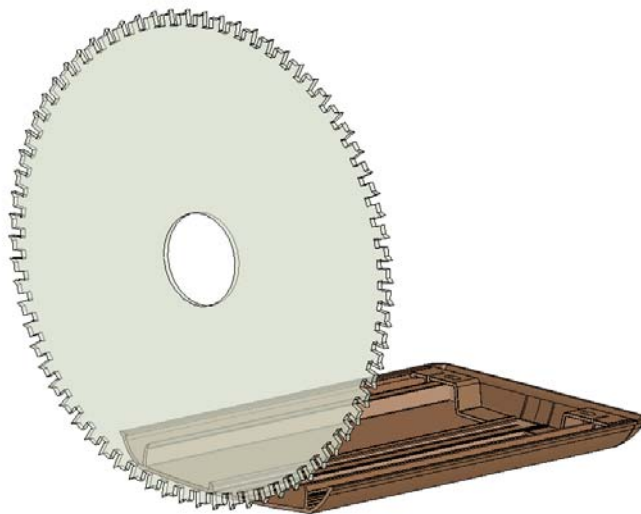
3.2. Cutting the PVC profile

- Cut the PVC profile to length using a circular saw with a fine-toothed carbide blade for aluminium/PVC.
- To achieve a perfect cut, we recommend placing an aluminium bracket as close as possible to the cutting line in order to minimise cutting defects caused by the flexibility of the PVC profile.



Bracket used to hold profile during cutting

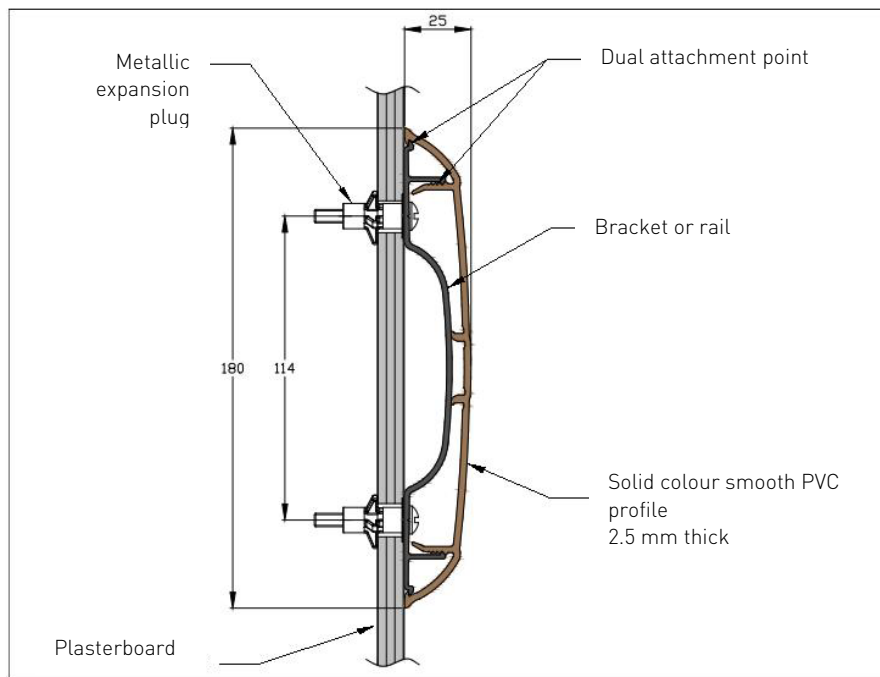
- The presence of a protective film on the visible side of the profile allows the cut also to be made 'from the back'.



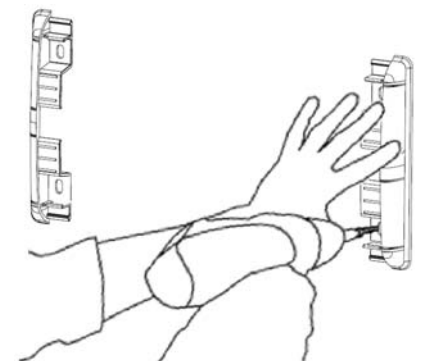
3.3. Installing the protection rail

	Lower wall protection	Upper wall protection
Protected wall height (at protection rail centre line)	200 mm above floor level	800 mm above floor level
<i>Use a pencil or a laser to draw upper and lower drilling centre lines along the wall.</i>		
LINEA'PUNCH	143 and 257 mm	743 and 857 mm

- These centre lines will be used to position the end pieces, the brackets, the rails and the joining block pieces. In essence, all the holes needed for attaching the various protection rail elements are drilled along the same centre lines.

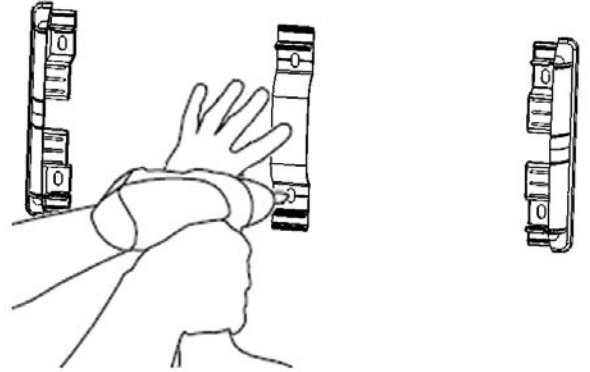


- Place the end pieces over the guide lines. Check that they are vertical with respect to the floor and then mark their pre-drilled hole positions onto the wall.
- Drill the wall, fit the plugs and then fix the end pieces onto the wall.



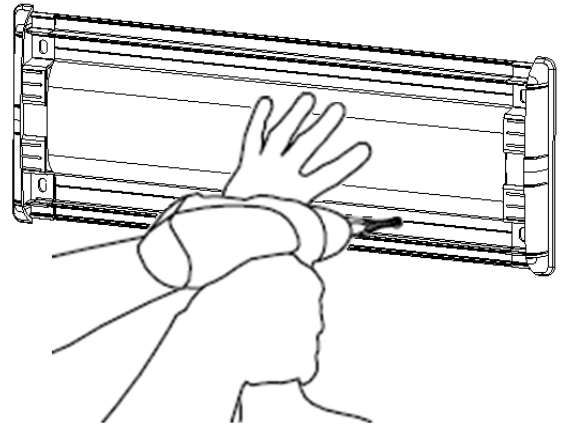
Installation on aluminium brackets :

- Place the aluminium brackets over the centre lines at regular intervals between brackets of no more than 750mm. Check that they are vertical with respect to the floor and then mark their pre-drilled hole positions on the wall. Drill the wall, fit the plugs and then fix the aluminium brackets onto the wall.
- Place at least one bracket between the two end pieces.



Installation on aluminium rail :

- Measure the length between each end-piece and then cut the rail to length using a circular saw. Drill through the rail along the grooved lines, starting at 20 mm from one end and then spacing the holes at no more than 750mm apart. Place the rail over the centre lines on the wall and mark each hole on the wall. Drill and plug the wall and then fix the rail onto the wall.

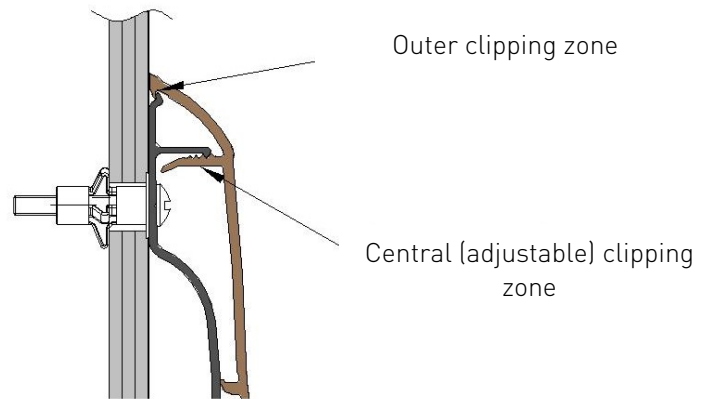


⚠ CAUTION: The lengths of the aluminium rail and the PVC profiles are not the same (see paragraph 3.1).



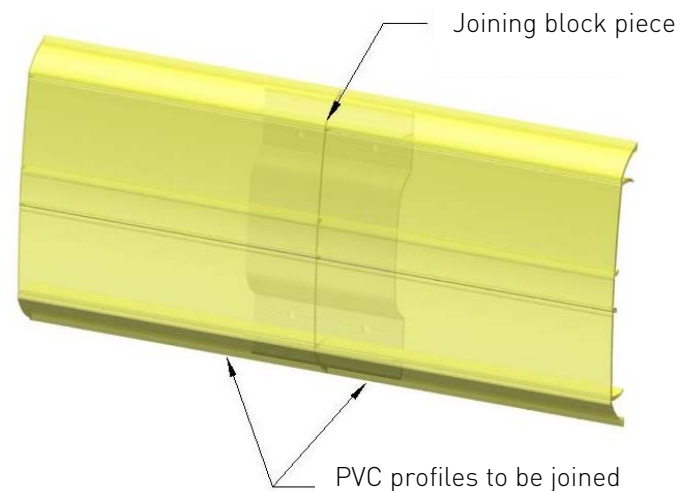
For both attachment options (aluminium bracket or rail)

- Measure the length from end piece to end piece and then cut the PVC profile to length using a circular saw.
- The PVC profile is clipped onto the brackets or rail in four places. The two central clipping zones provide an adjustable mounting to enable proper positioning and fitting with the end pieces. The outer clipping zones hold the profile firmly against the wall.
- Check that the PVC profile is correctly clipped on all the brackets or along the full length of the rail.
- Where the wall surface is uneven, we recommend using fixing brackets at the start, middle and end of the uneven patch in order to force the profile to follow the wall's surface and thus avoid excessively large gaps.



3.4. Joining protection rail profiles

- For wall runs over 4000 mm long, PVC protection profiles fixed on brackets may be joined together using a piece of aluminium 100 mm long to provide a smooth joint and hold the protection rail in place.
- These pieces are attached to the wall at four mounting points.



. LINEA'FLEX CORNER PROTECTOR

1. TOOLS REQUIRED

- Circular saw with carbide blade for aluminium and PVC

ROMUS Part 93891



- Measuring tape 5 m x 25 mm

ROMUS Part 93290



- Level & measuring device



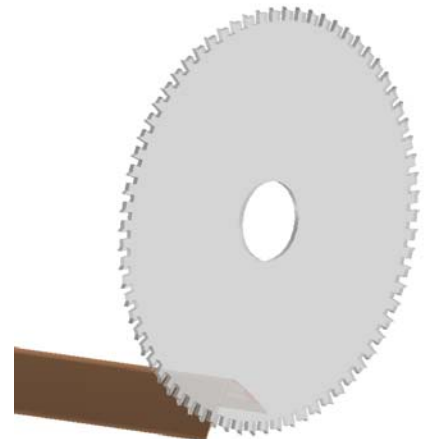
2. OVERVIEW :

- SPM's LINEA'FLEX corners are corner protectors in the form of a PVC profile.
- The product's appearance is enhanced by end caps that may be fitted at the top and bottom of the corner protector.
- The protectors are mounted directly onto the wall surface using SPM mastic glue.
- Self-adhesive foam strips are fitted at both ends in order to hold the corner protection in place while the glue dries. Under no circumstances are these adhesive foam strips alone capable of providing permanent support for the corner protectors.

3. INSTALLATION PROCEDURE FOR LINEA'FLEX CORNER PROTECTOR

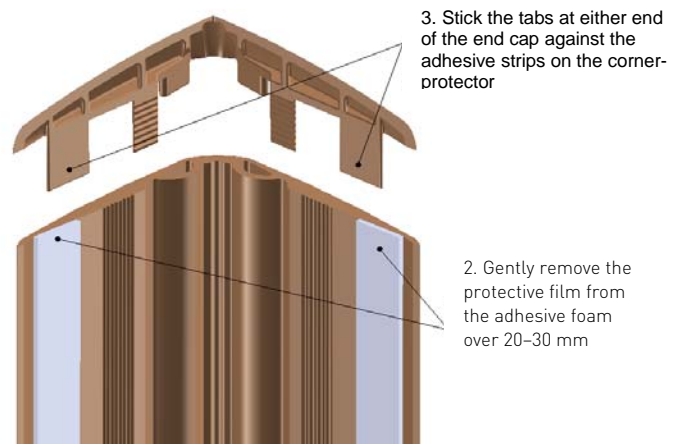
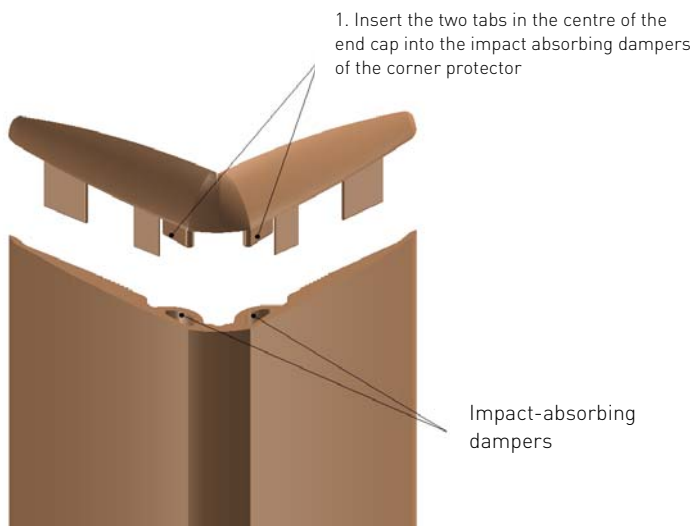
3.1. Cutting the profile

- Corner protector profiles may be cut with a circular saw. Use a fine-toothed carbide blade for PVC/Aluminium.



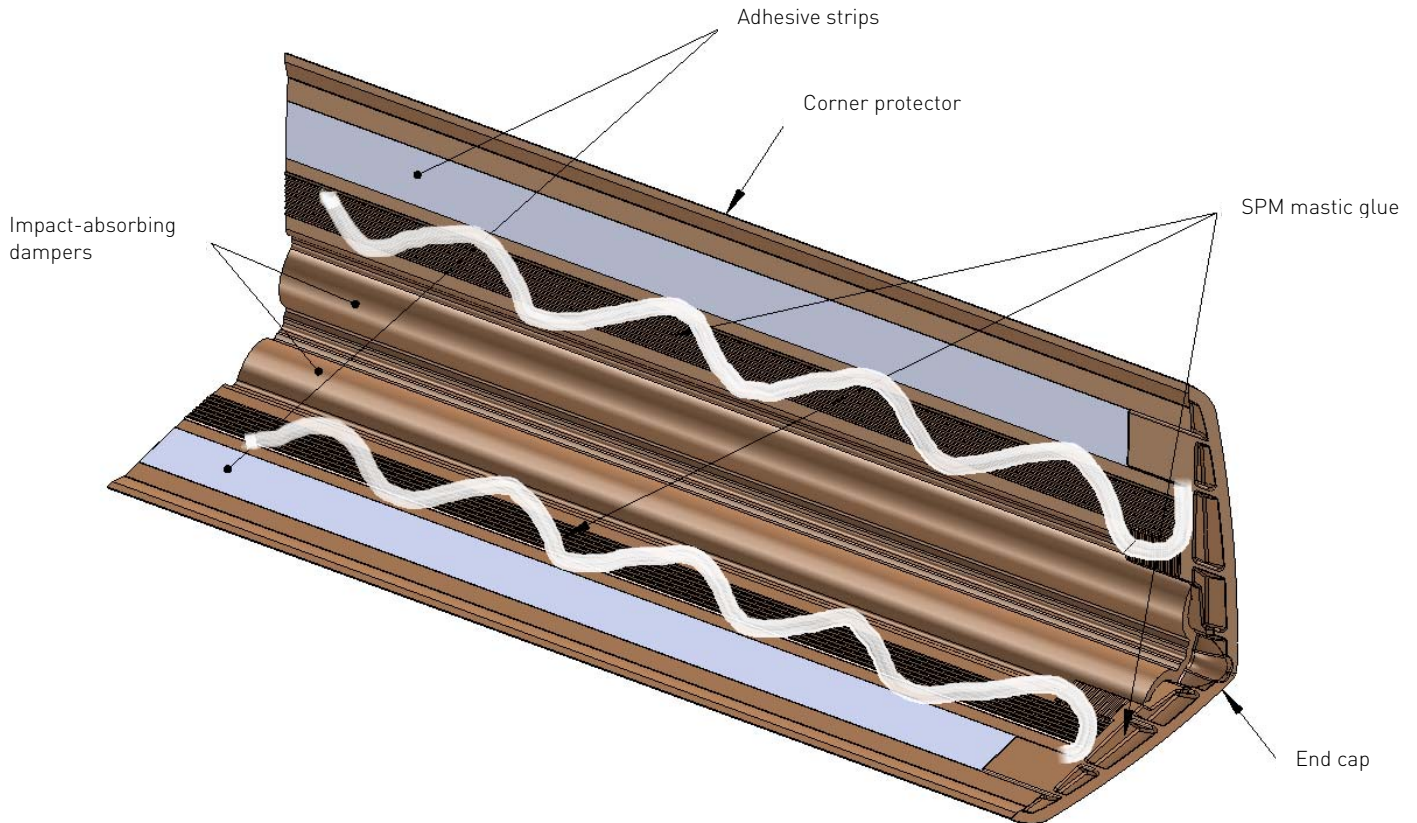
3.2. Assembling Corner protector and end cap

- Insert the two tabs in the centre of the end cap into the impact-absorbing dampers of the corner protector.
- Push home the end cap and check that it is securely fastened.
- Gently remove the protective film from the adhesive foam strip and stick the tabs at either end of the end-cap against the adhesive strip.



3. Stick the tabs at either end of the end cap against the adhesive strips on the corner-protector

- Apply SPM mastic glue to the surface of the profile strip along the line of the corrugated strip.
- Always apply a quantity sufficient to fill in any unevenness under the corner protector.
- Apply a little extra at the upper end (between the corner protector and the end cap) so that some of the mastic-glue can spread onto the end piece when it is pressed down.



- Remove the protective film completely from the self-adhesive foam strips.
- Place the corner protector against the wall.
- Press down hard over the entire surface of the PVC profile.
- Clean off any excess glue with a rag and hot water.

A series of horizontal dotted lines providing a space for notes, extending across the width of the page.

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