Technical Data Sheet

25/15 FrameFix™
For Mineral Wool Insulation



25/15 FrameFix™ For Mineral Wool Insulation

Fixed back to SFS

Published 08/26 Version 1.8

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25/15 FrameFix™ For Mineral Wool Insulation

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Product summary

ACS Framefix™ is designed to allow an outer leaf of a cavity wall constructed from masonry to be tied to a light steel frame or another structural element through mineral wool using a suitable fixing. The system comprises of a number of elements that work together to create a high strength structural restraint assembly.

The channel itself is formed from Ultra Steel allowing higher capacities than plain steel channels. Along the channel are a number of pre-punched holes which are spaced at close centres to allow the fixing point to be selected depending on the application. For light gauge steel frames the smaller hole is designed to be used with ACS high thread self drilling fixings. All ACS fixings used with Framefix™ systems are supplied in stainless steel based upon independent reporting and testing by leading industry consultants Sandberg LLP.

At each fixing point, a composite, high compressive strength sleeve is located to provide a high capacity fixing detail at even the largest of insulation thicknesses used on modern construction sites.

Once fixed, ACS 4000 range wall ties can be positioned at any point along the channel to suit the coursing of the masonry panel.

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Product highlights

Fully compatible system
Austenitic stainless steel (Grade 1.4301)
Lucideon tested
2.7m standard lengths
Compression sleeves
Stainless steel fixings



System performance

Table 1.0 below provides the wall tie type performance values from PD6697 based on the standard stud centres of 600mm.

Panel Required Type (PD 6697)	Wall Tie Vertical CTRS (mm)	Fixing Vertical CTRS (mm)	Panel Design Resistance (kN/m²)
Type 1	300	337.5	2.40
	300	450	2.24
Type 2	450	337.5	1.60
Type 3	450	450	0.88

Table 1.0 — Channel Tie / Fixing Centres

For alternative performance requirements or spacings, please contact the ACS Technical Department for further information.

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Compression sleeves

The ACS Framefix™ system is supplied with compression sleeves which correspond to the thickness of the insulation specified as selected in table 1.1. The sleeves are designed to ensure that the compressive strength and stability of the channel tie system are both achieved and maintained by preventing the channel deflecting during installation, and whilst under normal load. The sleeves are manufactured from a composite material with thermal conductivity of 0.600 W/mK.

High thread self drilling screws

ACS high thread self drilling screws are designed for light gauge steel applications and require no pre-drilling of the substrate. The fixings can be utilised up to a steel thickness of 6.0mm. The table below can be used to select the correct fixing for your application.

Installation

The channel is typically fixed back to the SFS/ Studwork through mineral wool insulation and CP board. Each fixing requires a compression sleeve to be pushed through the insulation to bear onto the CP board and stud work behind. Fixings can then be installed through the channel (small hole only) and sleeves, then driven into the SFS studs. Ties can then be positioned at any point along the channel length to suit the bed joint coursing at the required vertical centres (refer to Table 1.0). Installing through large holes in the channel is not permitted and as such will invalidate any system performance.

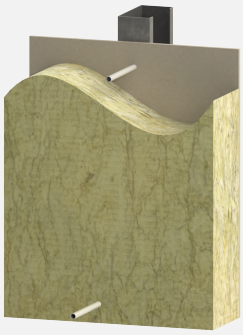
Insulation thickness (mm)	Sleeve size (mm)	Screw length (mm) SFS
50-60	50	105
70-75	70	135
80-90	80	135
100-110	100	150
120-125	120	185
130-140	130	185
150	150	200
160-170	160	200
180-190	180	240
200-210	200	275
220-230	220	275
240-250	240	300

Table 1.1 — Tech Screw Lengths

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1



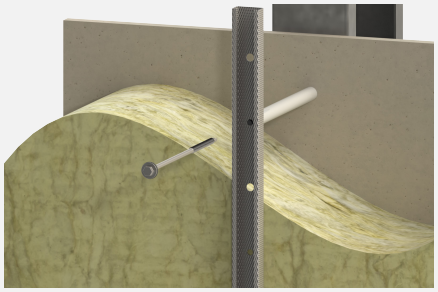
1. Mark out and install sleeves through insulation at centres shown in table 1.0.

2



2. Offer up channel to match sleeve locations.

3



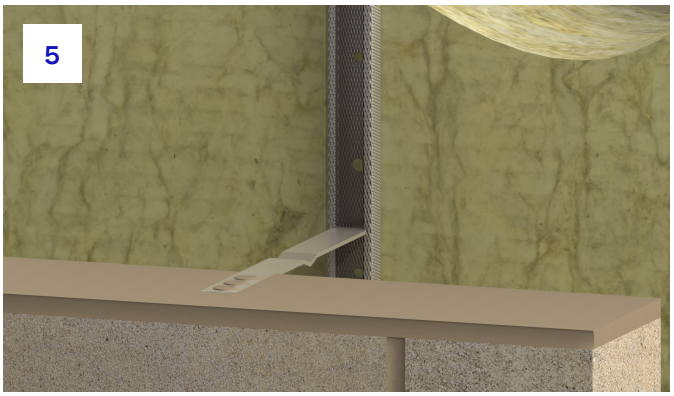
3. Install fixing through channel and sleeve back to internal structure.

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4. Rotate ACS 4000 range tie into channel lips.



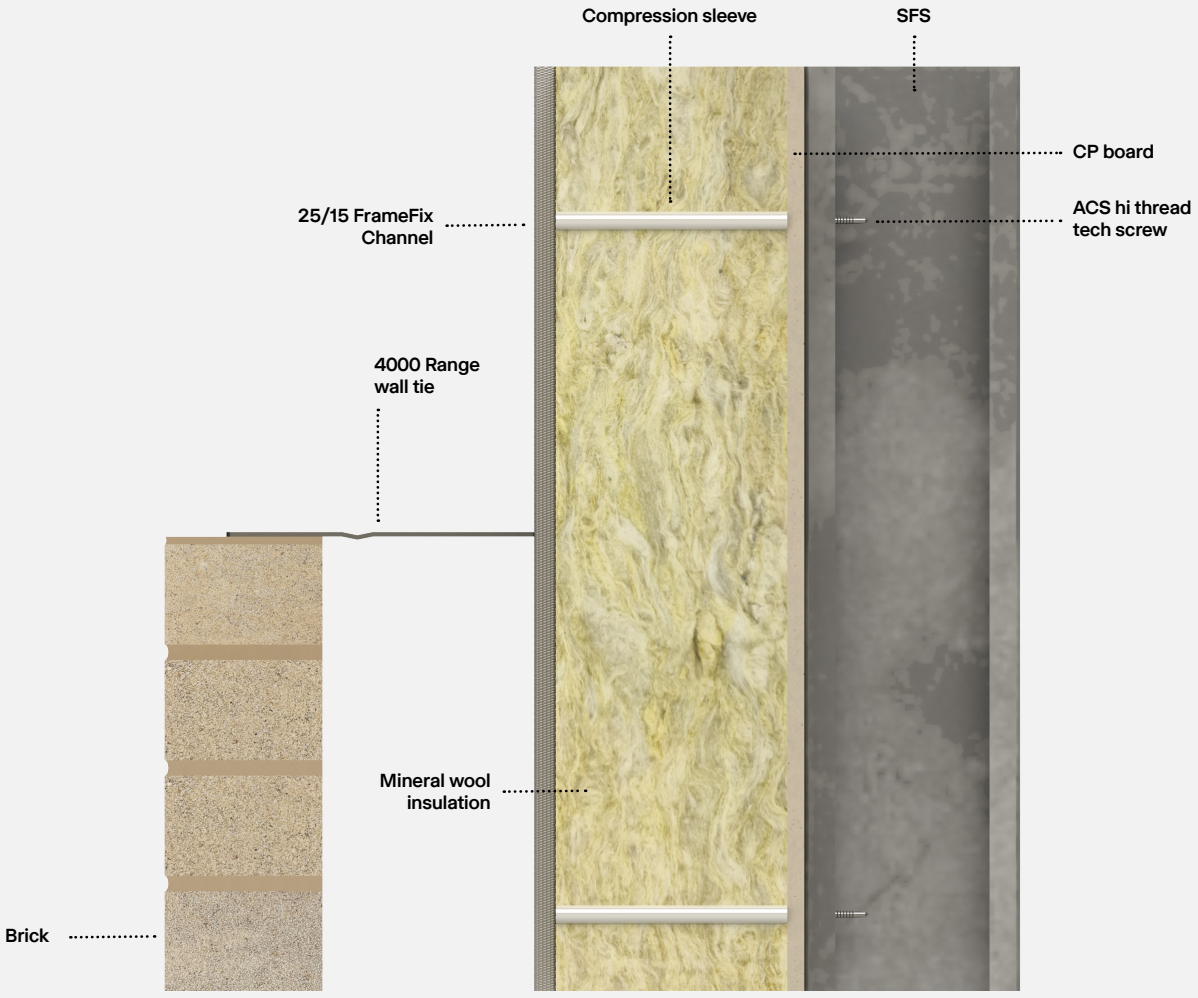
5. Embed tie into the mortar joint.

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System warranty

The ACS SFS Framefix™ system comes with a full warranty. For full warranty conditions, please contact ACS.



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Product summary

ACS Concrete Framefix™ is designed to allow an outer leaf of a cavity wall constructed from masonry to be tied to a concrete frame or another structural element through mineral wool using a suitable fixing. The system comprises of a number of elements that work together to create a high strength structural restraint assembly.

The channel itself is formed from Ultra Steel allowing higher capacities than plain steel channels. Along the channel are a number of pre-punched holes which are spaced at close centres to allow the fixing point to be selected depending on the application. For concrete applications the larger hole is designed to be used with ACS concrete fixings. All ACS fixings used with Framefix™ systems are supplied in stainless steel based upon independent reporting and testing by leading industry consultants Sandberg LLP.

At each fixing point, a composite, high compressive strength sleeve is located to provide a high capacity fixing detail at even the largest of insulation thickness' used on modern construction sites.

Once fixed, ACS 4000 range wall ties can be positioned at any point along the channel to suit the coursing of the masonry panel.

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Product highlights

Fully compatible system
Austenitic stainless steel (Grade 1.4301)
Lucideon tested
2.7m standard lengths
Compression sleeves
Stainless steel fixings

CCPi ASSESSED PRODUCT INFORMATION 003070079/0826 25/15 Framefix Ultra System including 4000 Range Wall Ties

System performance

Table 1.2 below provides the wall tie type performance values from PD6697 based on the standard stud centres of 600mm.

Panel Required Type (PD 6697)	Wall Tie Vertical CTRS (mm)	Fixing Vertical CTRS (mm)	Panel Design Resistance (kN/m²)
Type 1	300	337.5	2.40
	300	450	2.24
Type 2	450	337.5	1.60
Type 3	450	450	0.88

Table 1.2 — Channel Tie / Fixing Centres

For alternative performance requirements or spacings please contact the ACS Technical Department for further information.

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Compression sleeves

The Concrete Framefix™ system is supplied with compression sleeves which correspond to the thickness of the insulation specified as selected in table 1.3. The sleeves are designed to ensure that the compressive strength and stability of the channel tie system are both achieved and maintained by preventing the channel deflecting during installation, and whilst under normal load. The sleeves are manufactured from a composite material with thermal conductivity of 0.600 W/mK.

Concrete screws

ACS concrete screws are designed for concrete applications and require a pilot hole to be drilled prior to installation. The required hole size can be found in the table below. The table can also be used to select the correct fixing for your application. Fixings should be selected and installed with an embedment length of between 30mm and 50mm.

Installation

Each fixing point will need marking out and a pilot hole drilling. For the required hole diameter, please see the fixing box. Compression sleeves can then be installed through the insulation and sat against the concrete behind. The fixing can then be installed through the channel (large hole) and compression sleeve, then into the concrete behind with an embedment of between 30mm and 50mm.

Ties can then be positioned at any point along the channel length to suit the bed joint coursing at the required vertical centres. (Refer to Table 1.0).

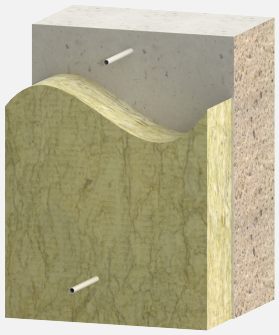
Insulation thickness (mm)	Sleeve size (mm)	Screw length (mm) concrete
50-60	50	100
70-75	70	100
80-90	80	125
100-110	100	150
120-125	120	150
130-140	130	175
150	150	200
160-170	160	200
180-190	180	230
200-210	200	250
220-230	220	275
240-250	240	275

Table 1.3 — Concrete Screw Lengths

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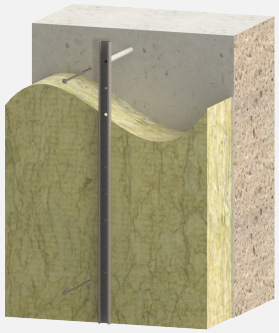
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1



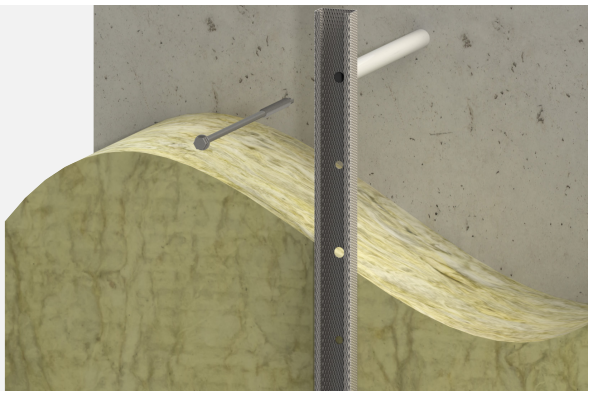
1. Mark out and install sleeves through insulation at centres shown in table 1.2

2



2. Drill pilot hole at diameter shown in table 1.2 at each fixing location

3



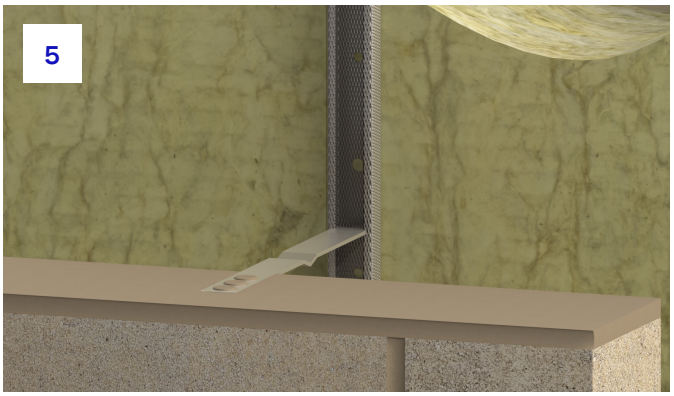
3. Install fixing through channel and sleeve back to internal structure.

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4. Rotate ACS 4000 range tie into channel lips.



5. Embed tie into the mortar joint.

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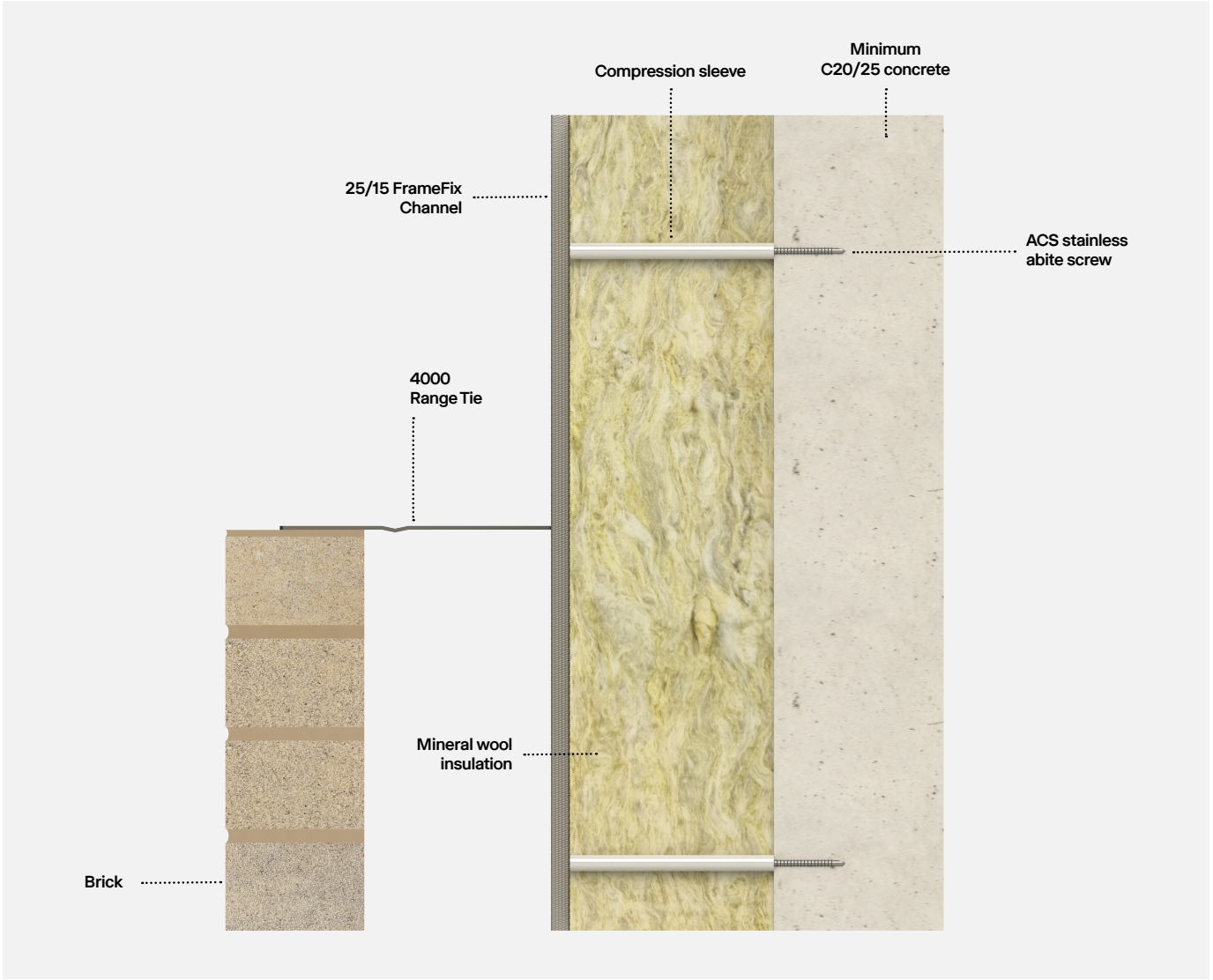
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System warranty

The ACS Concrete Framefix™ system comes with a full warranty. For full warranty conditions, please contact ACS.

Installation parameters

Minimum concrete thickness — 100mm
Minimum hole depth — 60mm
Minimum fixing spacing — 40mm
Minimum edge distance — 40mm



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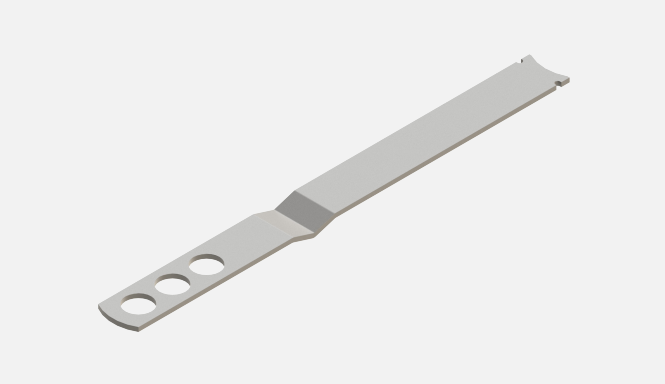
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Tie lengths

An ACS 4000 Range Channel Tie length should be selected to ensure a minimum of 50mm and a maximum of 75mm embedment is achieved. ACS recommends that ties should be selected to an embedment (Eb) of 62.5mm.



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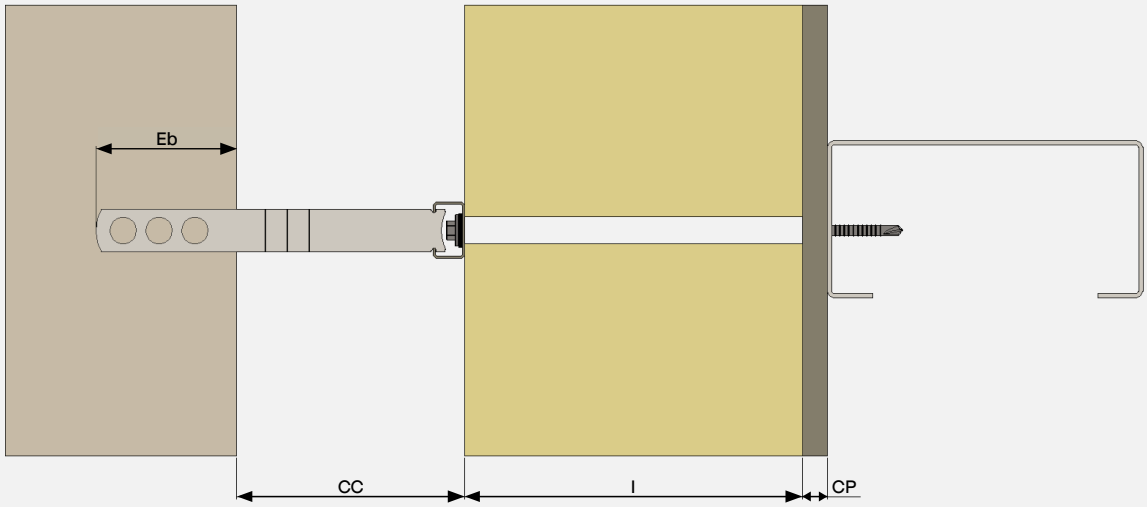
BS EN 845-1

Tie reference	Tie length (mm)	Clear cavity range (mm)
ACS4000/100	100	40-65
ACS4000/125	125	66-90
ACS4000/150	150	91-115
ACS4000/175	175	116-140
ACS4000/200	200	141-165
ACS4000/225	225	166-190
ACS4000/250	250	191-215
ACS4000/275	275	216-240
ACS4000/300	300	241-265
ACS4000/325	325	266-290
ACS4000/350	350	291-315
ACS4000/375	375	316-340

Table 1.4 — Tie Lengths

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Although ACS Framefix™ channel is supplied in 2.7m lengths, it is likely that smaller pieces will be required on site. The channel can be cut down on site as required, however there must always be 2no. fixings minimum in the length of channel.

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Get in touch to learn more about how Framefix™ can help you deliver your next project.

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