FIRE PROTECTION

5

Contents

Fire protection from Lafarge

When deciding on appropriate methods of fire protection, the specifier needs to be absolutely sure that the systems selected are both reliable and totally effective. These are the most important design considerations, as lives and livelihoods are at stake, and it is imperative to make the right decisions. Not only are Lafarge **Cormet fire protection systems** reliable and effective, they are more economic and practical to install on-site than alternative constructions.

Lafarge offer a full range of passive fire protection products, from compartment walls to special systems for encasing beams and enclosing shafts. Lafarge systems have been exhaustively tested by independent test houses, tried and refined over many years to satisfy a range of regulatory standards.

Fire testing

All Lafarge Plasterboard systems are tested at one of the following:

- Building Research Establishment
- Timber Research and Development Association
- Warrington Fire Research
- Aycliffe Fire Testing Facility

This means that installers and specifiers can be absolutely sure that Lafarge **Cormet fire protection systems** are tested in accordance with BS 476: Part 21: 1987 or BS 476: Part 22: 1987 as appropriate by the UK's leading independent accredited test houses, so there is a 100% guarantee that systems work, when installed to Lafarge specification.

Details on Lafarge Plasterboard Steel Protection systems are also listed in the ASFP (Association for Specialist Fire Protection) Yellow Book.

NB: The data shown in the tables under fire resistance has been tested to BS 476: Part 21: 1987 (Beams and Columns), BS 476: Part 22: 1987 (Shaft Walls)

Cormet Shaftwall

Cormet Shaftwall is a fire protection system providing up to 120 minutes fire resistance for shafts in multi-storey buildings, including lift shafts, stairwells, service ducts and plant rooms.

It is erected from one side only. This feature also makes it ideally suited for lining and dividing large industrial or warehouse spaces and meeting Building Regulations fire resistance requirements where such premises are within 1 metre of an adjacent property.

Cormet Shaftwall is light in construction and is ideal for fast track construction programmes.

Cormet Column and Beam Clip System

In a fire, unprotected structural steel begins to lose its strength at temperatures above 550ºC. Selection of a suitable encasement system is essential. The factors which affect this selection are:

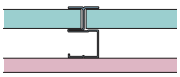
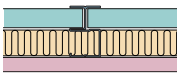
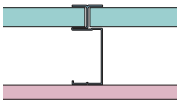
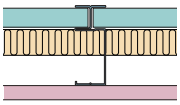
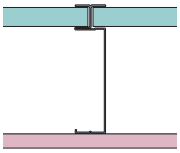
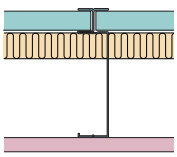
- the period of fire protection required
- the physical properties (size and mass) of the steel section
- the application – column or beam and the number of exposed faces, 2, 3 or 4.

The degree of fire protection required for a steel section has been shown to depend on its Hp/A factor, which is a function of the heated perimeter of the section related to its cross sectional area. A section with a high Hp/A factor will heat up more rapidly than one with a low Hp/A factor, and so may require a higher specification of encasement to achieve the same level of fire protection.

To select the optimum encasement solution:

1. Identify the period of protection required.
2. Confirm the number of sides to be protected.
3. If the protection factor of the column, beam or joist is not known, consult tables 5.6 to 5.8 to identify the Hp/A.
4. Decide on the appropriate **Cormet fire protection system**, details of which are given in this section, tables 5.1 to 5.5 and 5.9.
5. Choose thickness of materials from Hp/A tables for each Lafarge system
6. Design details.

Table 5.1 Cormet Shaftwall: 60 minutes fire protection systems

System reference	Specification	Weight (kg/m²)	Maximum height* (m)	Nominal thickness (mm)	Fire resistance (minutes) to BS 476	Sound insulation (dB) R_w
RCS 102 	**Studs:** 60mm wide **Cormet CHS60/B Studs** at 600mm centres **Boarding:** Inner; 25mm **Lafarge Firecheck Coreboard** Outer; one layer 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard	35	4.2	78	60	39
RCS 106 	**Studs:** 60mm wide **Cormet CHS60/B Studs** at 600mm centres **Boarding:** Inner; 25mm **Lafarge Firecheck Coreboard** Outer; one layer 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard **Insulation:** 25mm glass mineral wool density 16 kg/m³	36	4.2	78	60	45
RCS 203 	**Studs:** 90mm wide **Cormet CHS90/B Studs** at 600mm centres **Boarding:** Inner; 25mm **Lafarge Firecheck Coreboard** Outer; one layer 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard	36	6.0	107	60	43
RCS 208 	**Studs:** 90mm wide **Cormet CHS90/B Studs** at 600mm centres **Boarding:** Inner; 25mm **Lafarge Firecheck Coreboard** Outer; one layer 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard **Insulation:** 25mm glass mineral wool density 16 kg/m³	37	6.0	107	60	51
RCS 310 	**Studs:** 146mm wide **Cormet CHS146/B Studs** at 600mm centres **Boarding:** Inner; 25mm **Lafarge Firecheck Coreboard** Outer; one layer 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard	37	6.8	161	60	43
RCS 311 	**Studs:** 146mm wide **Cormet CHS146/B Studs** at 600mm centres **Boarding:** Inner; 25mm **Lafarge Firecheck Coreboard** Outer; one layer 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard **Insulation:** 25mm glass mineral wool density 16 kg/m³	38	6.8	161	60	51

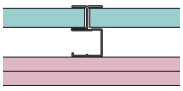
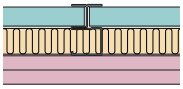
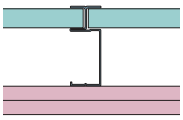
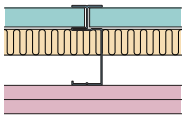
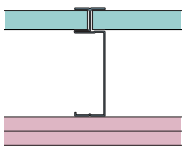
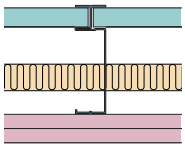
** Based on stiffness measurements to BS 5234: Part 2. These will be affected by deflection and air pressure criteria. Refer to table 5.11, page 231.*

Note: Rock mineral wool density 40 kg/m³ may be used in lieu of glass mineral wool as specified.

The Deco system is not suitable for plastering. Refer to Section 7 for finishing details.

The values shown above are for imperforate systems utilising taper edge plasterboard with all joints taped and filled and systems installed in accordance with the recommendations of Lafarge Plasterboard Ltd. The quoted performance can only be achieved by the use of Lafarge components throughout. Any variation should be referred to the Lafarge Technical Enquiryline for confirmation of acceptance.

Table 5.2 Cormet Shaftwall: 90 minutes fire protection systems

System reference	Specification	Weight (kg/m²)	Maximum height* (m)	Nominal thickness (mm)	Fire resistance (minutes) to BS 476	Sound insulation (dB) R_w
RCS 103 	**Studs:** 60mm wide **Cormet CHS60/B Studs** at 600mm centres **Boarding:** Inner 25mm **Lafarge Firecheck Coreboard**, outer two layers 12.5mm **Lafarge Firecheck** wallboard or 12.5mm **Lafarge Megadeco** wallboard	42	4.4	88	90	40
RCS 104 	**Studs:** 60mm wide **Cormet CHS60/B Studs** at 600mm centres **Boarding:** Inner 25mm **Lafarge Firecheck Coreboard**, outer two layers 12.5mm **Lafarge Firecheck** wallboard or 12.5mm **Lafarge Megadeco** wallboard **Insulation:** 25mm glass mineral wool density 16 kg/m³	43	4.4	88	90	46
RCS 205 	**Studs:** 90mm wide **Cormet CHS90/B Studs** at 600mm centres **Boarding:** Inner 25mm **Lafarge Firecheck Coreboard**, outer two layers 12.5mm **Lafarge Firecheck** wallboard or 12.5mm **Lafarge Megadeco** wallboard	43	6.4	118	90	45
RCS 207 	**Studs:** 90mm wide **Cormet CHS90/B Studs** at 600mm centres **Boarding:** Inner 25mm **Lafarge Firecheck Coreboard**, outer two layers 12.5mm **Lafarge Firecheck** wallboard or 12.5mm **Lafarge Megadeco** wallboard **Insulation:** 25mm glass mineral wool density 16 kg/m³	44	6.4	118	90	52
RCS 301 	**Studs:** 146mm wide **Cormet CHS146/B Studs** at 600mm centres **Boarding:** Inner 25mm **Lafarge Firecheck Coreboard**, outer two layers 12.5mm **Lafarge Firecheck** wallboard or 12.5mm **Lafarge Megadeco** wallboard	47	7.5	175	90	50
RCS 302 	**Studs:** 146mm wide **Cormet CHS146/B Studs** at 600mm centres **Boarding:** Inner 25mm **Lafarge Firecheck Coreboard**, outer two layers 12.5mm **Lafarge Firecheck** wallboard or 12.5mm **Lafarge Megadeco** wallboard **Insulation:** 25mm glass mineral wool density 16 kg/m³	47	7.5	175	90	52

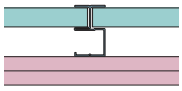
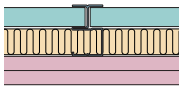
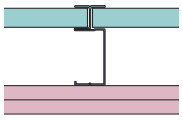
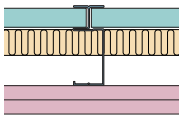
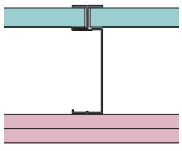
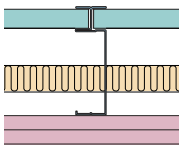
** Based on stiffness measurements to BS 5234: Part 2. These will be affected by deflection and air pressure criteria. Refer to table 5.11, page 231.*

Note: Rock mineral wool density 40 kg/m³ may be used in lieu of glass mineral wool as specified.

The Deco system is not suitable for plastering. Refer to Section 7 for finishing details.

The values shown above are for imperforate systems utilising taper edge plasterboard with all joints taped and filled and systems installed in accordance with the recommendations of Lafarge Plasterboard Ltd. The quoted performance can only be achieved by the use of Lafarge components throughout. Any variation should be referred to the Lafarge Technical Enquiryline for confirmation of acceptance.

Table 5.3 Cormet Shaftwall: 120 minutes fire protection systems

System reference	Specification	Weight (kg/m²)	Maximum height* (m)	Nominal thickness (mm)	Fire resistance (minutes) to BS 476	Sound insulation (dB) R_w
RCS 109 	**Studs:** 60mm wide **Cormet CHS60/B Studs** at 600mm centres **Boarding:** Inner 25mm **Lafarge Firecheck Coreboard**, outer two layers 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard	45	4.8	95	120	41
RCS 110 	**Studs:** 60mm wide **Cormet CHS60/B Studs** at 600mm centres **Boarding:** Inner 25mm **Lafarge Firecheck Coreboard**, outer two layers 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard **Insulation:** 25mm glass mineral wool density 16 kg/m³	46	4.8	95	120	47
RCS 206 	**Studs:** 90mm wide **Cormet CHS90/B Studs** at 600mm centres **Boarding:** Inner 25mm **Lafarge Firecheck Coreboard**, outer two layers 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard	47	6.7	120	120	47
RCS 210 	**Studs:** 90mm wide **Cormet CHS90/B Studs** at 600mm centres **Boarding:** Inner 25mm **Lafarge Firecheck Coreboard**, outer two layers 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard **Insulation:** 25mm glass mineral wool density 16 kg/m³	48	6.7	120	120	54
RCS 303 	**Studs:** 146mm wide **Cormet CHS146/B Studs** at 600mm centres **Boarding:** Inner 25mm **Lafarge Firecheck Coreboard**, outer two layers 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard	51	8.0	180	120	51
RCS 304 	**Studs:** 146mm wide **Cormet CHS146/B Studs** at 600mm centres **Boarding:** Inner 25mm **Lafarge Firecheck Coreboard**, outer two layers 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard **Insulation:** 25mm glass mineral wool density 16 kg/m³	52	8.0	180	120	54

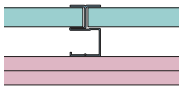
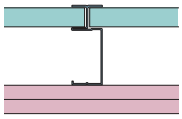
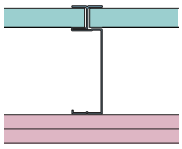
** Based on stiffness measurements to BS 5234: Part 2. These will be affected by deflection and air pressure criteria. Refer to table 5.11, page 231.*

Note: Rock mineral wool density 40 kg/m³ may be used in lieu of glass mineral wool as specified.

The Deco system is not suitable for plastering. Refer to Section 7 for finishing details.

The values shown above are for imperforate systems utilising taper edge plasterboard with all joints taped and filled and systems installed in accordance with the recommendations of Lafarge Plasterboard Ltd. The quoted performance can only be achieved by the use of Lafarge components throughout. Any variation should be referred to the Lafarge Technical Enquiryline for confirmation of acceptance.

Table 5.4 Cormet Shaftwall: horizontal metal duct enclosure

System reference	Specification	Weight (kg/m²)	Maximum height* (m)	Nominal thickness (mm)	Fire resistance (minutes) to BS 476	Sound insulation (dB) R_w
RCS 901 	**Studs:** 60mm wide **Cormet CHS60/B Studs** at 600mm centres **Boarding:** Inner 25mm **Lafarge Firecheck Coreboard**, outer two layers 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard	42	2.5	95	90	41
RCS 904 	**Studs:** 90mm wide **Cormet CHS90/B Studs** at 600mm centres **Boarding:** Inner 25mm **Lafarge Firecheck Coreboard**, outer two layers 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard	47	3.6	123	90	47
RCS 905 	**Studs:** 146mm wide **Cormet CHS146/B Studs** at 600mm centres **Boarding:** Inner 25mm **Lafarge Firecheck Coreboard**, outer two layers 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard	51	4.2	180	90	51

** Based on stiffness measurements to BS 5234: Part 2. These will be affected by deflection and air pressure criteria. Refer to table 5.11, page 231.*

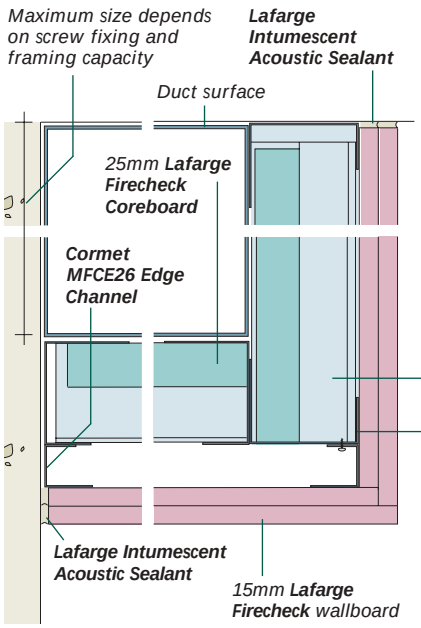
*Note: For 120 minutes fire resistance add 1 x 15mm **Lafarge Firecheck** wallboard and **Cormet Ceiling Channels** MFCC50 at 400mm centres to the systems shown*

The Deco system is not suitable for plastering. Refer to Section 7 for finishing details.

The values shown above are for imperforate systems utilising taper edge plasterboard with all joints taped and filled and systems installed in accordance with the recommendations of Lafarge Plasterboard Ltd. The quoted performance can only be achieved by the use of Lafarge components throughout. Any variation should be referred to the Lafarge Technical Enquiryline for confirmation of acceptance.

Horizontal Shaftwall assemblies

Cross section through horizontal metal duct enclosure – 90 minute



Cormet Shaftwall may be installed horizontally to provide an economical fire protection system for ducts, corridors and other ceilings and stairway soffits. 60, 90 and 120 minute fire protection can be provided.

Such systems are not designed to carry live loads or mechanical equipment, nor to provide material storage areas.

Provision and sighting of warning notices should be considered.

Horizontal metal ducts require additional protection for fire from either inside or outside the ducts. Refer to table 5.4 above.

The adjacent diagrams show typical installation details for **Cormet Horizontal Metal Duct Systems**.

Cross section through horizontal metal duct enclosure – 120 minute

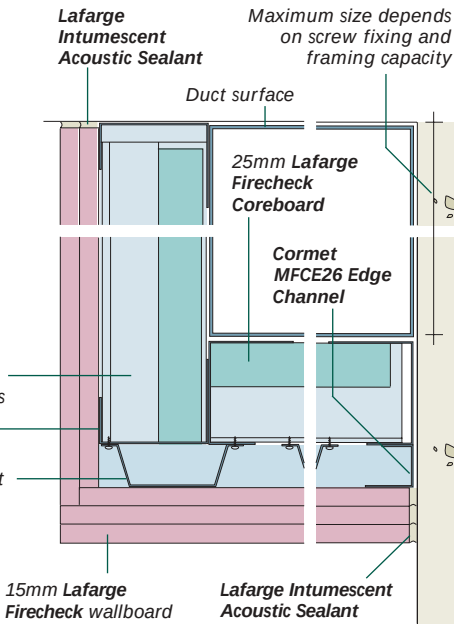
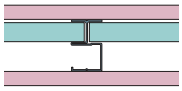
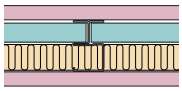
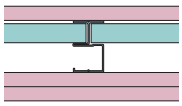


Table 5.5 Cormet Shaftwall: stairwell systems

System reference	Specification	Weight (kg/m²)	Maximum height* (m)	Nominal thickness (mm)	Fire resistance (minutes) to BS 476 and BS EN 1364	Sound insulation (dB) R_w
RCS 503 	**Studs:** 60mm wide **Cormet CHS60/B Studs** at 600mm centres **Core:** 25mm **Lafarge Firecheck Coreboard** **Boarding:** One layer 12.5mm **Lafarge Firecheck** or **Megadeco** wallboard both sides	42	4.5	88	120 90	40
RCS 504 	**Studs:** 60mm wide **Cormet CHS60/B Studs** at 600mm centres **Core:** 25mm **Lafarge Firecheck Coreboard** **Boarding:** One layer 12.5mm **Lafarge Firecheck** or **Megadeco** wallboard both sides **Insulation:** minimum 25mm glass mineral wool density 16 kg/m³	43	4.5	88	120 90	44
RCS 505 	**Studs:** 60mm wide **Cormet CHS60/B Studs** at 600mm centres **Core:** 25mm **Lafarge Firecheck Coreboard** **Boarding:** Inner 12.5mm **Lafarge Firecheck** or **Megadeco** wallboard, outer two layers 12.5mm **Lafarge Firecheck** or **Megadeco** wallboard	54	5.4	101	120 120	43

** Based on stiffness measurements to BS 5234: Part 2. These will be affected by deflection and air pressure criteria. Refer to table 5.11, page 231.*

Note: Rock mineral wool density 40 kg/m³ may be used in lieu of glass mineral wool as specified.

The Deco system is not suitable for plastering. Refer to Section 7 for finishing details.

The values shown above are for imperforate systems utilising taper edge plasterboard with all joints taped and filled and systems installed in accordance with the recommendations of Lafarge Plasterboard Ltd. The quoted performance can only be achieved by the use of Lafarge components throughout. Any variation should be referred to the Lafarge Technical Enquiryline for confirmation of acceptance.

Table 5.6 Section factor Hp/A for Universal beams with box encasement

Size of steelwork (mm)	Mass per metre (kg)	Section factor Hp/A 3 sides m^{-1}	4 sides m^{-1}
914 x 419	388	45	55
	343	50	60
914 x 305	289	60	65
	253	65	75
	224	75	85
	201	80	95
838 x 292	226	70	80
	194	80	90
	176	90	100
762 x 267	197	70	85
	173	80	95
	147	95	110
686 x 254	170	75	90
	152	85	95
	140	90	105
	125	100	115
610 x 305	238	50	60
	179	70	80
	149	80	95
610 x 229	140	80	95
	125	90	105
	113	100	115
	101	110	130
533 x 210	122	85	95
	109	95	110
	101	100	115
	92	110	125
	82	120	140
457 x 191	98	90	105
	89	100	115
	82	105	125
	74	115	135
	67	130	150
457 x 152	82	105	120
	74	115	130
	67	125	145
	60	140	160
	52	160	180
406 x 178	74	105	125
	67	115	140
	60	130	155
	54	145	170
406 x 140	46	160	185
	39	190	220
356 x 171	67	105	125
	57	125	145
	51	135	165
	45	155	185
356 x 127	39	170	195
	33	195	225
305 x 165	54	115	140
	46	130	160
	40	150	180
305 x 127	48	125	145
	42	140	160
	37	155	180
305 x 102	33	175	200
	28	200	225
	25	225	260
254 x 146	37	140	170
	31	160	200
254 x 102	28	170	200
	25	190	220
	22	215	250
203 x 133	30	145	180
	25	165	210
203 x 102	23	175	210
172 x 102	19	190	230
152 x 89	16	190	235
127 x 76	13	195	240

Table 5.7 Section factor Hp/A for Universal columns with box encasement

Size of steelwork (mm)	Mass per metre (kg)	Section factor Hp/A 3 sides m^{-1}	4 sides m^{-1}
356 x 406	634	15	20
	551	20	25
	467	20	30
	393	25	35
	340	30	35
	287	30	45
	235	40	50
	202	45	60
356 x 368	177	50	65
	153	55	75
	129	65	90
305 x 305	283	30	40
	240	35	45
	198	40	50
	158	50	65
	137	55	70
	118	60	85
	97	75	100
254 x 254	167	40	50
	132	50	65
	107	60	75
	89	70	90
	73	80	110
203 x 203	86	60	80
	71	70	95
	60	80	110
	52	95	125
	46	105	140
152 x 152	37	100	135
	30	120	160
	23	155	205

Table 5.8 Section factor Hp/A for steel joists with box encasement

Size of steelwork (mm)	Mass per metre (kg)	Section factor Hp/A 3 sides m^{-1}	4 sides m^{-1}
254 x 203	81.85	70	90
254 x 114	37.20	130	155
203 x 152	52.09	85	105
152 x 127	37.20	90	120
127 x 114	29.76	100	130
127 x 114	26.79	110	140
114 x 114	26.79	100	135
102 x 102	23.07	105	140
89 x 89	19.35	105	145
76 x 76	12.65	140	185

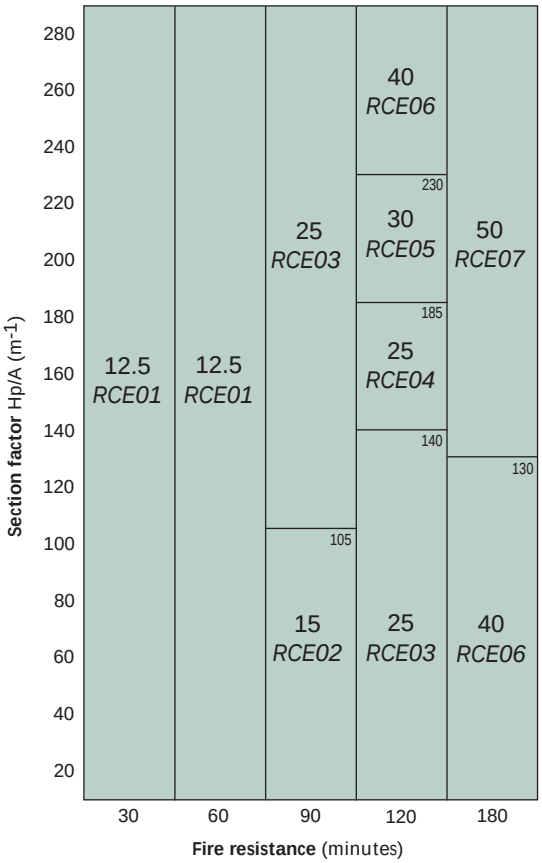
The higher the Hp/A the higher the degree of protection required.

For sections not included on this page, refer to the Association for Specialist Fire Protection (ASFP) Yellow book or go to www. asfp.org.uk or contact Lafarge Technical Enquiryline office.

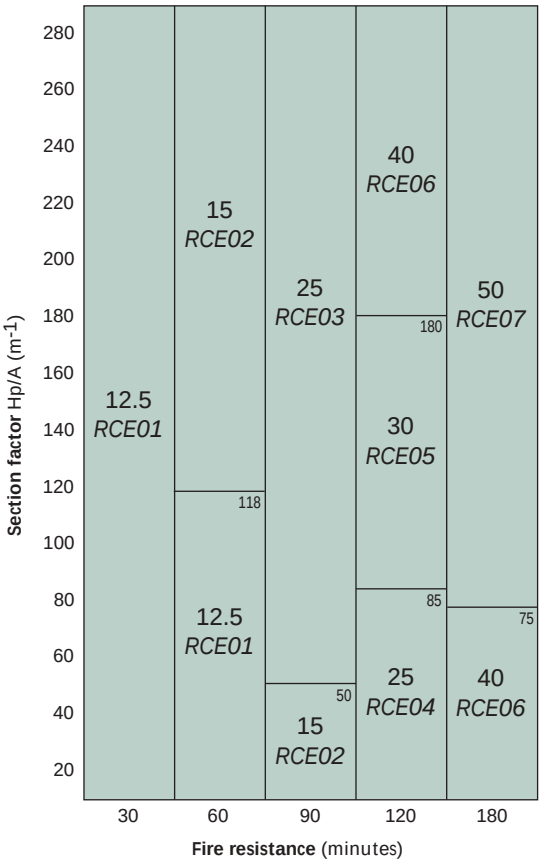
To calculate the thickness of **Lafarge Firecheck**, **Lafarge Megadeco** or **Lafarge Firecheck Coreboard** necessary, calculate the Hp/A for the steel to be protected, refer to tables 5.6 to 5.8 opposite, and use the charts below to look up the appropriate thickness of Lafarge wallboard and the Cormet system that provides the suitable level of fire protection required.

Refer to table 5.9 on page 226 for system details.

Lafarge Firecheck, Firecheck Coreboard and Megadeco to columns



Lafarge Firecheck, Firecheck Coreboard and Megadeco to beams



The values shown above are for imperforate systems utilising taper edge plasterboard with all joints taped and filled and systems installed in accordance with the recommendations of Lafarge Plasterboard Ltd. The quoted performance can only be achieved by the use of Lafarge components throughout. Any variation should be referred to the Lafarge Technical Enquiryline for confirmation of acceptance.

Worked example

Beam that will be encased on 3 sides and requires 60 minute fire rating.

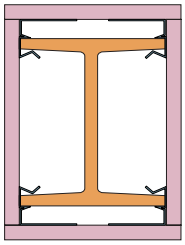
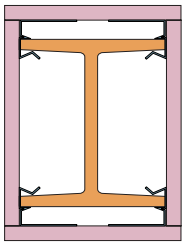
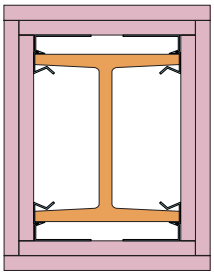
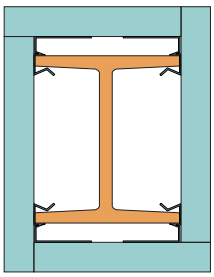
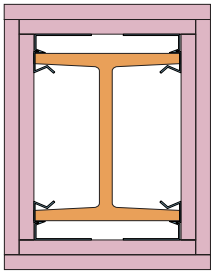
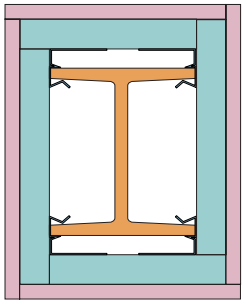
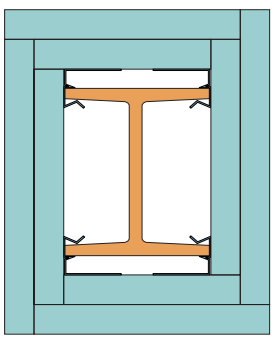
Beam section: 457 x 152mm x 60 kg/m

Calculate Hp/A value: From table 5.6, equals 140 Hp/A m^{-1} (based on 3 sided encasement)

System selection: From the charts detailed above, the system required is the Lafarge reference RCE01, which is one layer of 12.5mm Lafarge Firecheck or 12.5mm Lafarge Megadeco.

See performance table 5.9 for complete system specification on page 226.

Table 5.9 Cormet Column and Beam Clip System

System reference	Specification
RCE 01 	**Framing: Cormet Edge Channels** MFCE26 attached to **Cormet CB Clips** positioned at 600mm centres **Boarding:** one layer 12.5mm **Lafarge Firecheck** wallboard or 12.5mm **Lafarge Megadeco** wallboard, corners reinforced with **Lafarge Tape-On 90° Corners** **Fire resistance: columns** 30 minutes up to 280 Hp/A factor 60 minutes up to 280 Hp/A factor **Fire resistance: beams** 30 minutes up to 280 Hp/A factor 60 minutes up to 115 Hp/A factor
RCE 02 	**Framing: Cormet Edge Channels** MFCE26 attached to **Cormet CB Clips** positioned at 600mm centres **Boarding:** one layer 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard, corners reinforced with **Lafarge Tape-On 90° Corners** **Fire resistance: columns** 90 minutes up to 115 Hp/A factor **Fire resistance: beams** 60 minutes up to 280 Hp/A factor 90 minutes up to 50 Hp/A factor
RCE 03 	**Framing: Cormet Edge Channels** MFCE26 attached to **Cormet CB Clips** positioned at 600mm centres **Boarding:** inner layer 12.5mm **Lafarge Firecheck** wallboard, outer layer 12.5mm **Lafarge Firecheck** wallboard or 12.5mm **Lafarge Megadeco** wallboard, corners reinforced with **Lafarge Tape-On 90° Corners** **Fire resistance: columns** 90 minutes up to 280 Hp/A factor 120 minutes up to 140 Hp/A factor **Fire resistance: beams** 90 minutes up to 280 Hp/A factor
RCE 04 	**Framing: Cormet Edge Channels** MFCE26 attached to **Cormet CB Clips** positioned at 600mm centres **Boarding:** one layer 25mm **Lafarge Firecheck Coreboard**, corners reinforced with **Lafarge Tape-On 90° Corners** **Fire resistance: columns** 120 minutes up to 185 Hp/A factor **Fire resistance: beams** 120 minutes up to 85 Hp/A factor
RCE 05 	**Framing: Cormet Edge Channels** MFCE26 attached to **Cormet CB Clips** positioned at 600mm centres **Boarding:** inner layer 15mm **Lafarge Firecheck** wallboard, outer layer 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard, corners reinforced with **Lafarge Tape-On 90° Corners** **Fire resistance: columns** 120 minutes up to 235 Hp/A factor **Fire resistance: beams** 120 minutes up to 180 Hp/A factor
RCE 06 	**Framing: Cormet Edge Channels** MFCE26 attached to **Cormet CB Clips** positioned at 600mm centres **Boarding:** inner layer 25mm **Lafarge Firecheck Coreboard**, outer layer 15mm **Lafarge Firecheck** wallboard or 15mm **Lafarge Megadeco** wallboard, corners reinforced with **Lafarge Tape-On 90° Corners** **Fire resistance: columns** 120 minutes up to 280 Hp/A factor 180 minutes up to 130 Hp/A factor **Fire resistance: beams** 120 minutes up to 280 Hp/A factor 180 minutes up to 80 Hp/A factor
RCE 07 	**Framing: Cormet Edge Channels** MFCE26 attached to **Cormet CB Clips** positioned at 600mm centres **Boarding:** two layers 25mm **Lafarge Firecheck Coreboard**, corners reinforced with **Lafarge Tape-On 90° Corners** **Fire resistance: columns** 180 minutes up to 280 Hp/A factor **Fire resistance: beams** 180 minutes up to 280 Hp/A factor

To determine the necessary thickness of **Lafarge Firecheck**, **Lafarge Firecheck Coreboard** or **Lafarge Megadeco**, calculate the Hp/A for the steel to be protected (see tables 5.6 to 5.8 on page 220), and use the charts on the previous page to look up the appropriate Lafarge system reference for the level of fire resistance required.

Note: The Deco system is not suitable for plastering. Refer to Section 7 for finishing details.

The **Cormet Shaftwall** system provides up to 120 minutes fire protection to lift shafts whilst also accommodating high wind loadings.

These characteristics also make it ideally suited to use in lining and dividing large industrial or warehouse spaces and meeting Building Regulations fire resistance requirements where such premises are within 1 metre of an adjacent property.

5

Introduction

Cormet Shaftwall

Cormet Shaftwall is a high performance fire protection system for the enclosure of shafts in multi-storey buildings. These may include stairwells, lift shafts, service ducts and ventilation/air conditioning ducts. **Cormet Shaftwall** can also be used as a high performance independent wall lining system providing high levels of fire protection and sound insulation. Erected from one side only fire resistance is provided to both sides of the lining. **Cormet Shaftwall** can provide up to 120 minutes fire resistance in these applications.

Shaftwalls are non-loadbearing assemblies, installed between structural floors and designed to allow erection from outside the shaft, thus removing the need for scaffolding. Their all-dry construction makes them faster to erect and much lighter in weight than masonry construction.

The **Cormet Shaftwall** system comprises a small range of components, enhancing speed and simplicity of erection using normal drywall methods. The assembly also provides a cavity in which services can be run.

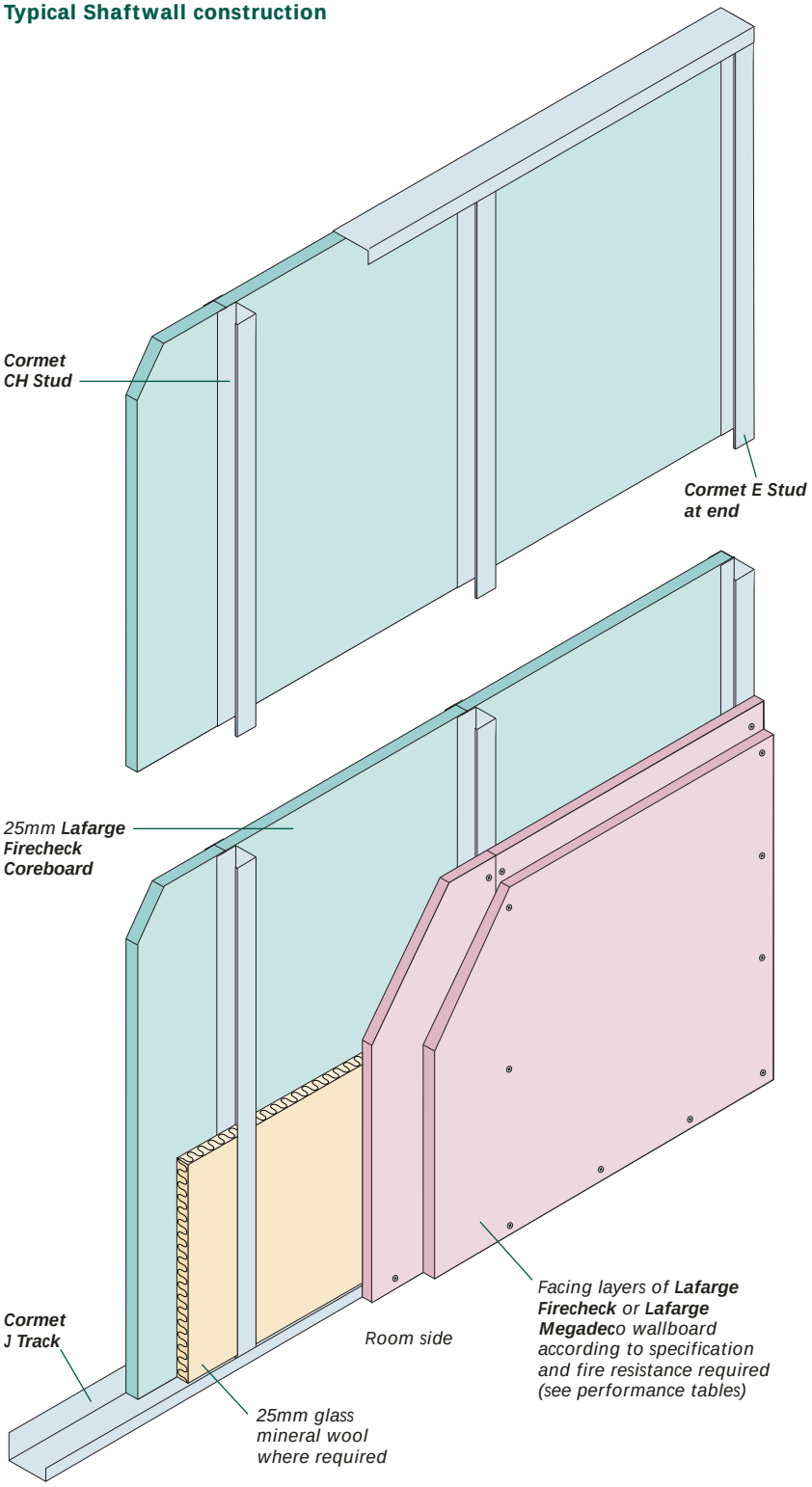
Cormet Shaftwall has good strength, impact resistance and stiffness. Lift shaft walls are subject to varying positive and negative pressures as lifts ascend and descend. The **Cormet Shaftwall** system has been shown by tests to have the ability to withstand these pressure changes. Using Lafarge **Intumescent Acoustic Sealant** the construction resists air pressure surges of up to 720 N/m², minimising whistling noise and dirt accumulation in and around lift shafts.

Performance

Refer to performance tables 5.1 to 5.5.

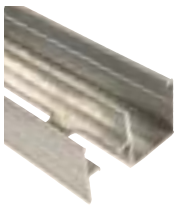
Lafarge plasterboards and components are defined as Class 0 in accordance with National Building Regulations 1991 Approved Document B1/2/3/4/5 *Fire Safety* and Building Standards (Scotland) Regulations 1990, Regulation D2 when tested to BS 476: Part 6: 1989 and Part 7: 1987 and Euroclass A2. Cormet metal sections and Lafarge gypsum based jointing compounds are non-combustible when tested in accordance with BS 476: Part 4: 1970 and Euroclass A1.

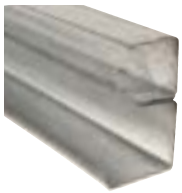
Typical Shaftwall construction

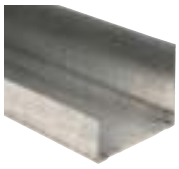


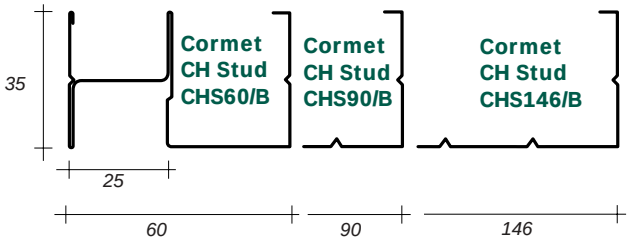
Components

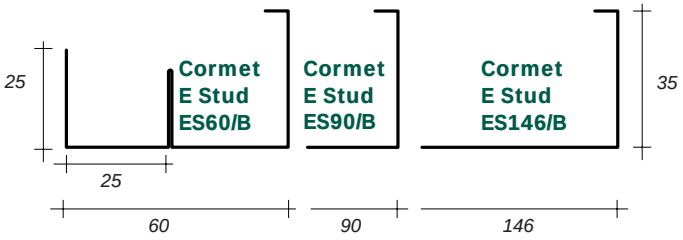
Table 5.10 Metal components

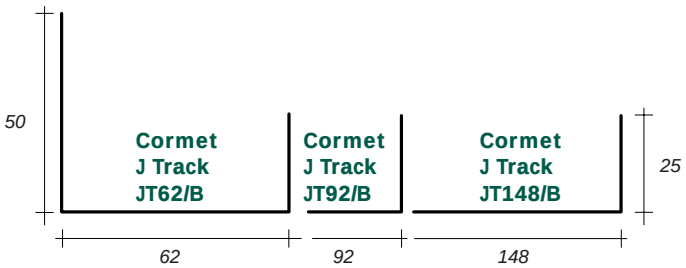
Cormet CH Studs	Description	Code reference	Metal thickness (mm)	Lengths (mm)
	Cormet CH Studs are lightweight, non- loadbearing steel sections which are installed between core boards to provide the bearing surface to which wallboard is applied. They have 25mm cutouts to accommodate service runs.	CHS60/B	0.70	3000, 3600, 4800
		CHS90/B	0.70	4800, 6600
		CH146/B	0.70	6000, 8000

Cormet E Studs	Description	Code reference	Metal thickness (mm)	Lengths (mm)
	Cormet E studs are lightweight steel sections used as starter studs, intersections, door openings and end studs.	ES60/B	0.70	3000, 3600, 4800
		ES90/B	0.70	4800, 6600
		ES146/B	0.70	6000, 8000

Cormet J Tracks	Description	Code reference	Metal thickness (mm)	Lengths (mm)
	Cormet J Tracks are lightweight steel sections positioned at floor and soffit to guide CH Studs.	JT62/B	0.70	3000
		JT92/B	0.70	3000
		JT148/B	0.70	3000







5

CORMET® COMPLETE METAL SYSTEMS

Application details

System Assembly

Metal frame and Coreboard

In steel frame construction, tracks and studs are installed before steelwork is treated with fire protective coating. Any fire protective coating on **Cormet Shaftwall** components should be removed before the boards are fixed.

Apply a 6mm bead of **Lafarge Intumescent Acoustic Sealant** along the back of the **Cormet J Tracks**. Position the **Cormet J Track** on floor and soffit with the long leg on the shaft side. Securely fix **Cormet J Tracks** with suitable fixings at 300mm centres.

Cut **Cormet E Studs** 20mm less than the floor to ceiling height and apply a 6mm bead of **Lafarge Intumescent Acoustic Sealant** along the full length. Position **Cormet E Studs** in the **Cormet J Tracks** with the narrow flange of the **Cormet E Stud** facing the shaft side. Securely fix **Cormet E Studs** with suitable fixings at 300mm centres.

Cut **Lafarge Firecheck Coreboard** 25mm less than floor to ceiling height. Position the first Coreboard vertically in the **Cormet J Track** and inside the web of the **Cormet E Stud**, leaving the 25mm gap at the top of the board.

Cut **Cormet CH Studs** 9 to 12mm less than floor to ceiling height. Position **Cormet CH Studs** in the **Cormet J Track** and fit firmly over the trailing edge of the Coreboard already in position.

Insert the next **Lafarge Firecheck Coreboard** into the **Cormet CH Stud**. Repeat this process until the last Coreboard is reached.

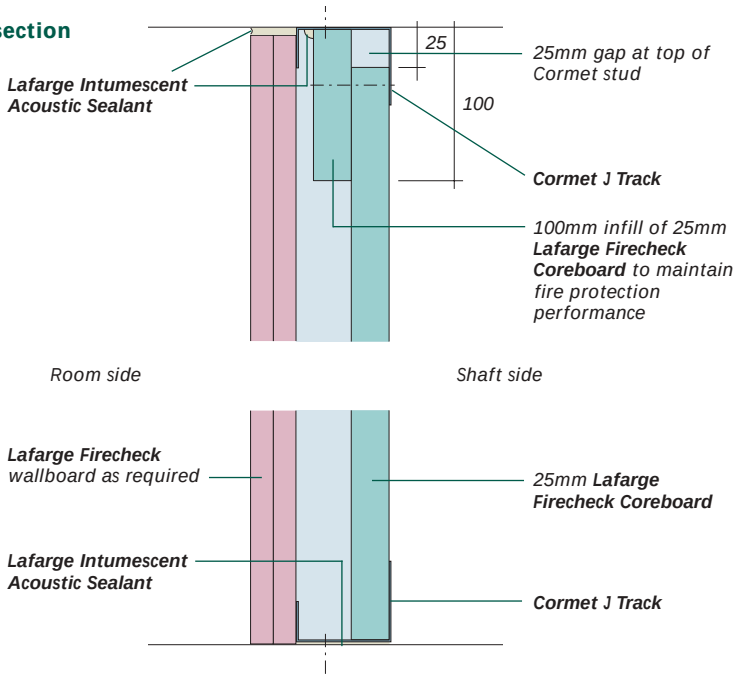
Place one **Cormet E Stud** over the trailing edge of the last **Coreboard**. Apply a 6mm bead of **Lafarge Intumescent Acoustic Sealant** along the full length of the web of the **Cormet E Stud**. Snip the short leg of the **Cormet J Track** and bend flat to allow the board to be inserted. Insert the **Coreboard** at an angle into the **Cormet CH Stud**.

Position **Lafarge Firecheck Coreboard** and **Cormet E Stud** in the **Cormet J Track** and securely fix **Cormet E Studs** to the structure with suitable fixings at 300mm centres.

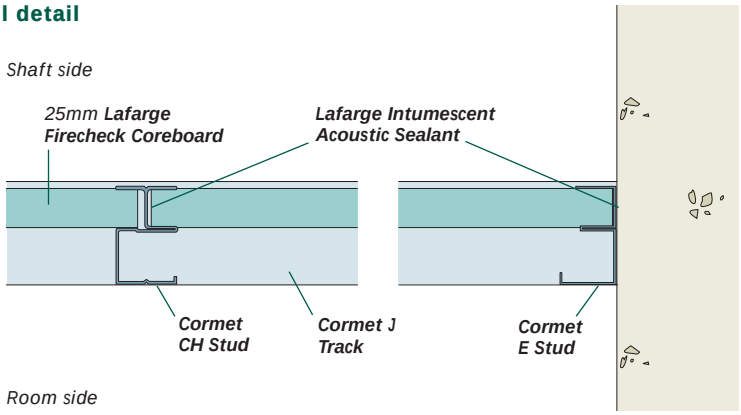
Bend the leg of the **Cormet J Track** back into vertical position.

At the head, install fire stops of 100mm deep **Lafarge Firecheck Coreboard** in between the vertical **Cormet Studs**. Butt the **Firecheck Coreboard** tightly against the **Cormet J Head Track** and screw fix the **Coreboard** infill through the inner layer of **Lafarge Firecheck Coreboard** and into the **Cormet J Track** using Lafarge 57mm **Self Tapping Drywall Screws**. Apply 6mm bead of **Lafarge Intumescent Acoustic Sealant** at the junction of the **Coreboard** and **Cormet J Track**.

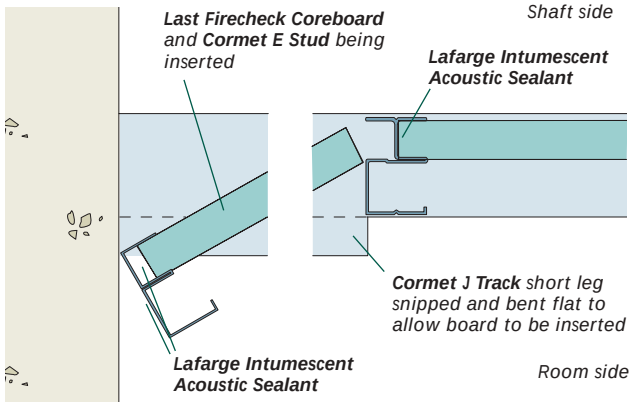
Vertical section



Start wall detail



End wall detail



Application details

Install full height **Cormet E Studs** vertically at all corners, wall junctions and door jambs.

Where the floor to ceiling height exceeds the maximum available **Coreboard** length, reinforce horizontal joints in **Coreboard** with horizontal **Cormet CH Stud** sections or using 100mm infill packer piece of 25mm Lafarge **Firecheck Coreboard**. Ensure that horizontal joints occur only within the top and bottom thirds of the wall heights. Stagger joints in adjacent panels. See drawing below.

Limiting heights

See table 5.11.

Plasterboard

For single layer systems install plasterboard with long edges vertical, from the room side, fixing to studs and tracks with 25mm **Lafarge Drywall Screws**. Space screws at 200mm centres at vertical edges of boards and 300mm in the centre of boards.

Stagger screws 100mm relative to those in adjacent board.

For double layer systems install the first layer as for single layer systems. Apply the second layer over the first layer with long edges vertical and joints staggered. Fix with 41mm **Lafarge Drywall Screws** at the same centres as the first layer, with screws staggered relative to those in the first layer.

Table 5.11 Limiting height (mm)

Lafarge Cormet system reference*	Allowable deflection**	Air Pressure N/m² system 240	360	480	720
RCS 102, 106	L/120	5400	4700	4200	3500
	L/240	4300	4300	3400	2900
	L/360	3700	3200	2900	2500
RCS 103, 104, 109, 110	L/120	6000	4900	4200	3500
	L/240	4700	4100	3800	3200
	L/360	4100	3800	3200	2800
RCS 203, 208	L/120	6700	5500	4700	3400
	L/240	5300	4600	4200	3400
	L/360	4600	4000	3700	3200
RCS 205, 206, 210	L/120	6900	6000	5500	4100
	L/240	5500	4800	4400	3800
	L/360	4800	4100	3800	3300
RCS 302, 303	L/120	8500	7600	5800	4400
	L/240	8200	7200	4800	4400
	L/360	7300	6400	5200	4100

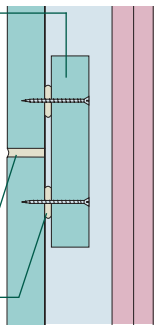
* Refer to tables 5.1 to 5.5 for specification of systems

** L = partition height in mm

Overheight Shaftwall – option 1

*Where wall height exceeds **Lafarge Firecheck Coreboard** height, reinforce joints with horizontal lengths of 100 x 25mm **Lafarge Firecheck Coreboard** fixed with 44mm **Lafarge Drywall Laminating Screws** between vertical studs.*

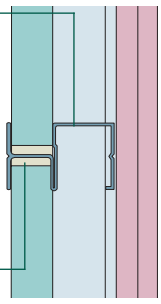
Lafarge Intumescent Acoustic Sealant



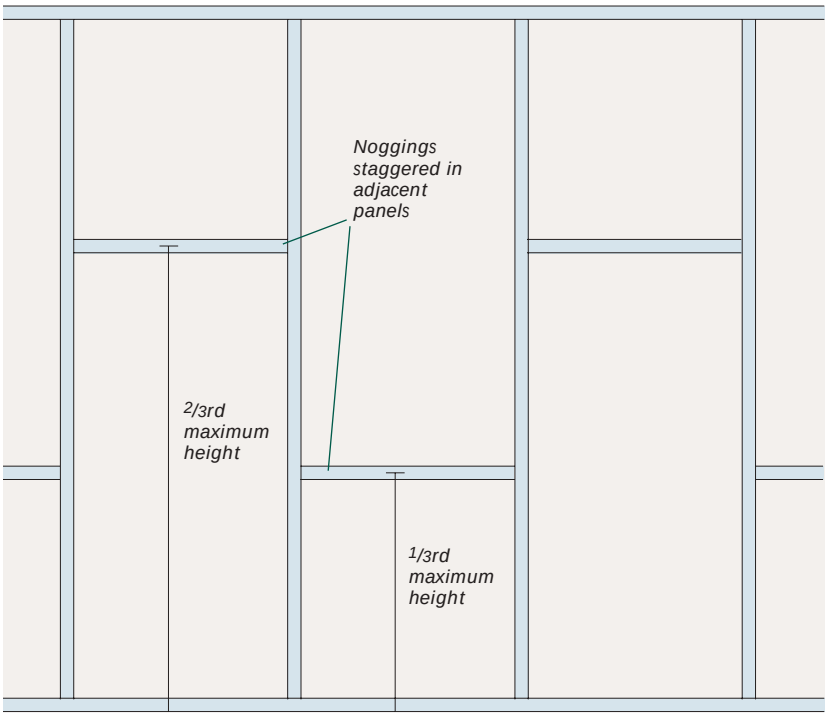
Overheight Shaftwall – option 2

*Where wall height exceeds **Lafarge Firecheck Coreboard** height, reinforce joints with horizontal lengths of **Cormet CH Stud** between vertical studs.*

Lafarge Intumescent Acoustic Sealant



Elevation of Shaftwall partition over 3m high



5

Application details

Corners

Inside

Ensure continuity of **Lafarge Firecheck Coreboard** by securing a cut length of **Lafarge Firecheck Coreboard** to outer web of the **Cormet E Stud**.

Outside

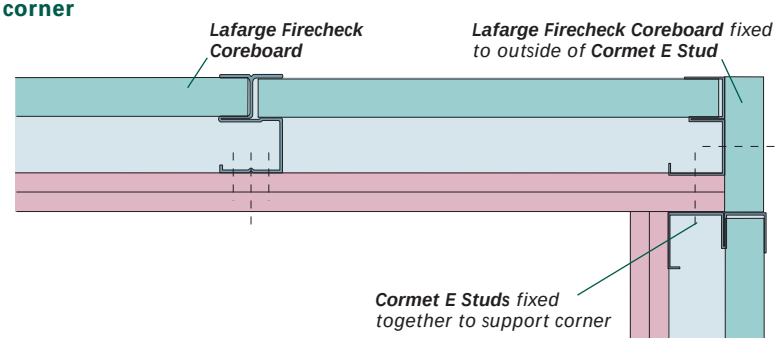
Position **Cormet E Studs** at right angles to each other. Insert **Lafarge Firecheck Coreboards**, then secure **Cormet E Studs** together with 25mm **Lafarge Self Drilling Drywall Screws** at 600mm centres.

Wall junction

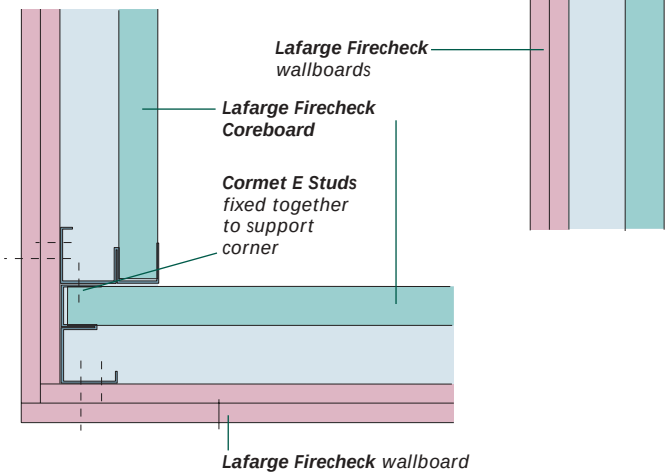
Reinforce outer plasterboards abutment with **Cormet Metal Angle**.

Ensure that a **Cormet CH Stud** coincides with the junction. Screw fix **Cormet E Stud** to **Cormet CH Stud** at 600mm centres using Lafarge Drywall Screws.

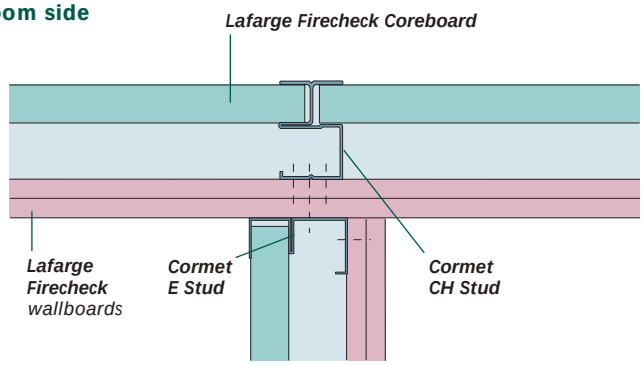
Inside corner



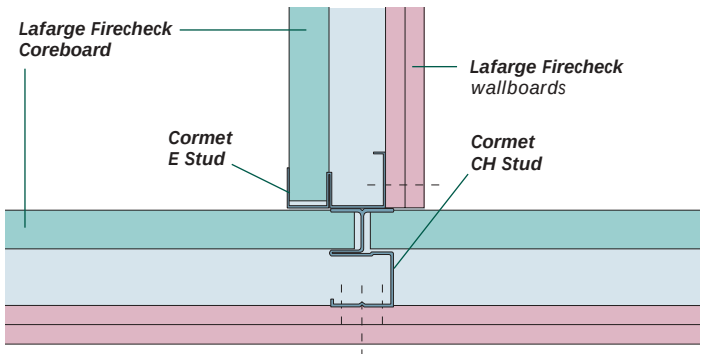
Outside corner



Wall junction, room side



Wall junction, shaft side



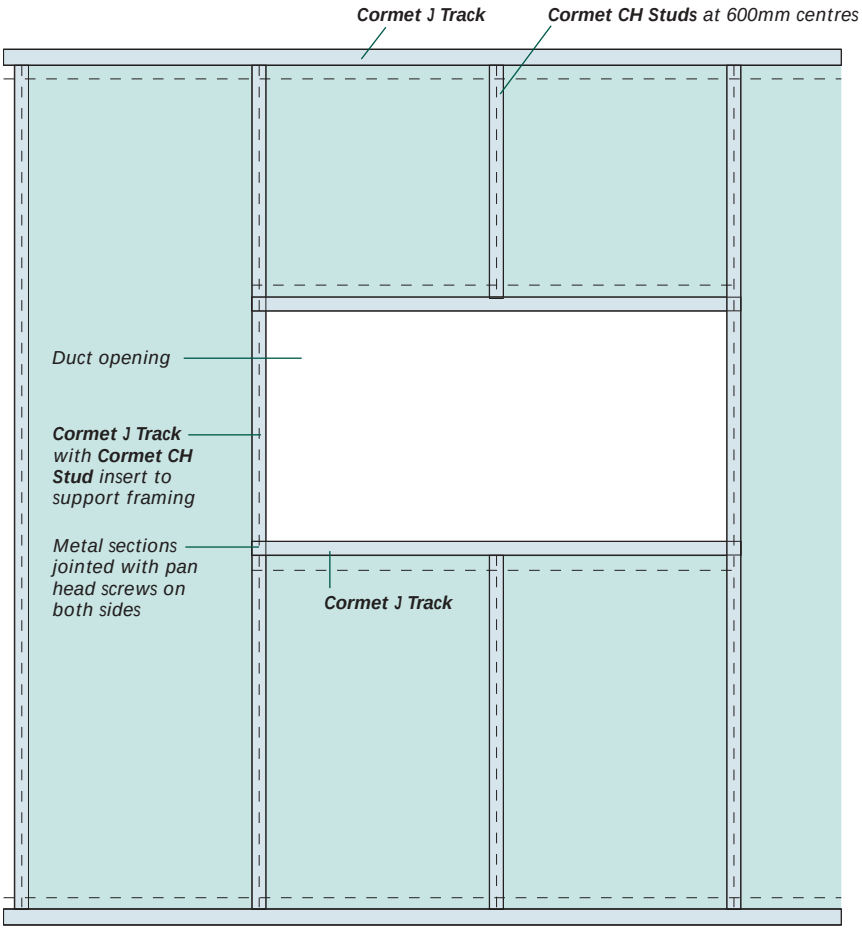
Application details

Duct penetrations

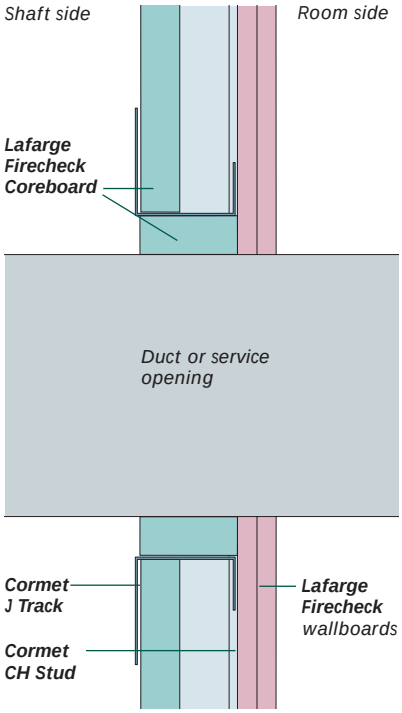
Where **Cormet Shaftwall** is penetrated by ducts, maintain the fire integrity of the Shaftwall with cut strips of 25mm **Lafarge Firecheck Coreboard**. Use **Cormet J Track** to support the framing as required.

The duct must be independently supported so the weight is not transferred to the **Cormet Shaftwall** partition.

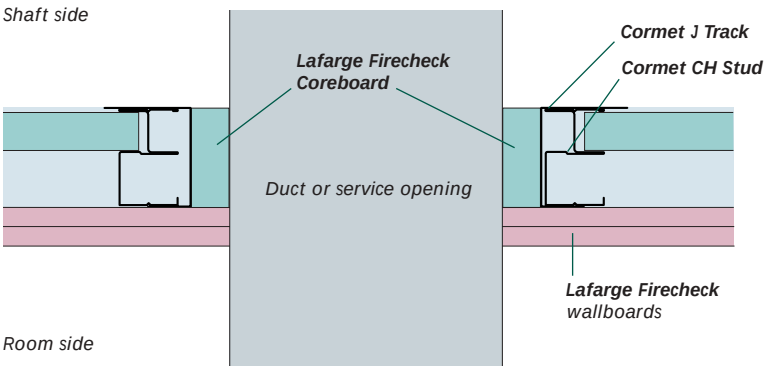
Elevation from room side



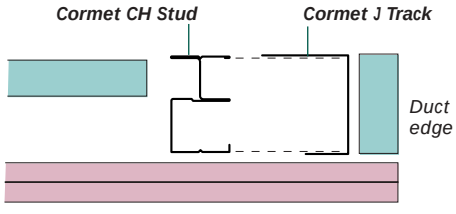
Duct penetration section



Duct penetration plan



Exploded detail of wall at duct penetration



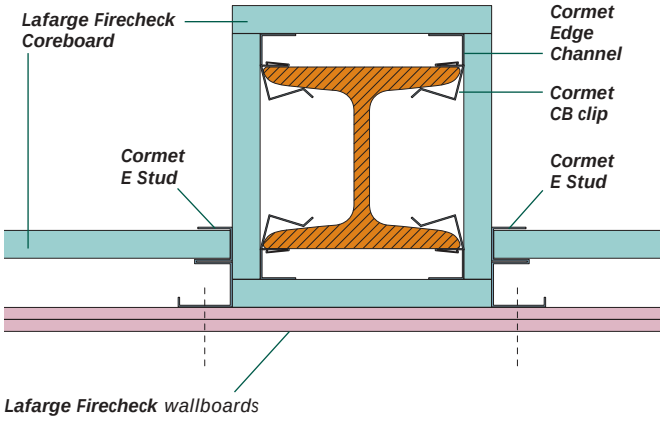
5

Application details

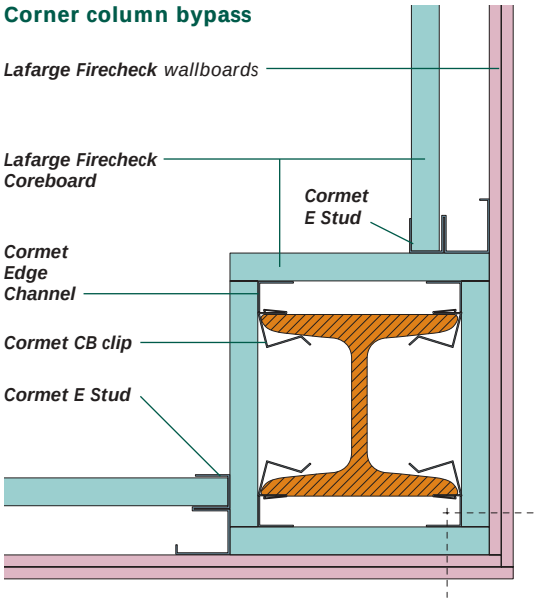
Junctions with structural steel work

Care should be taken to ensure that the fire integrity of the **Cormet Shaftwall** is maintained at junctions with structural steelwork.

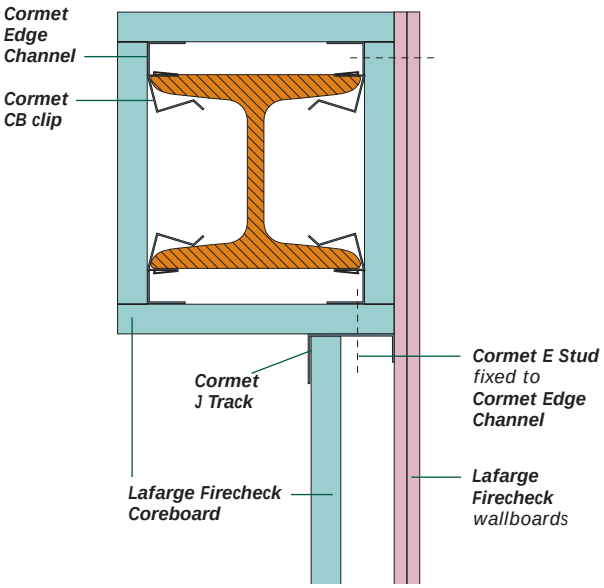
Column bypass



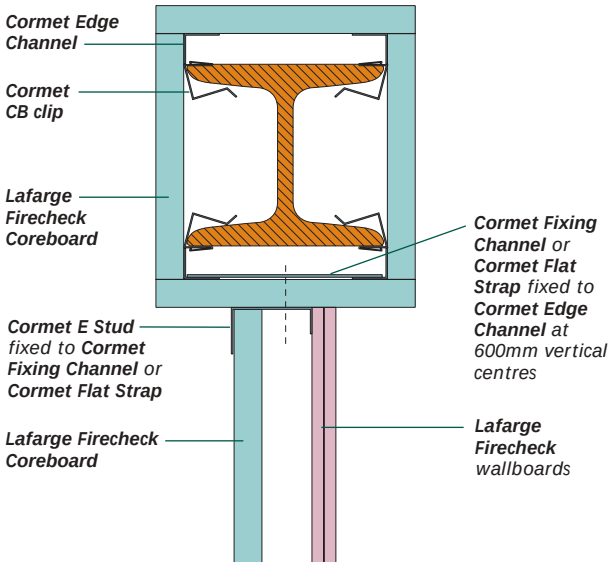
Corner column bypass



Steel beam, offset wall



Steel beam



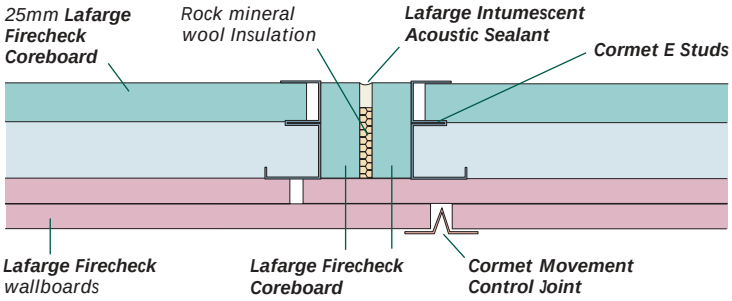
Application details

Movement control joint

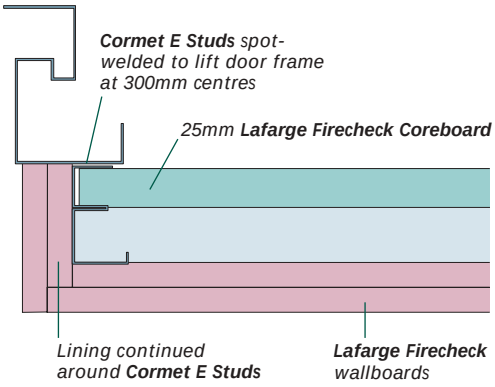
Movement control joints are required at 10 metre intervals or where the assembly abuts or crosses a structural movement joint.

At movement joints leave a 12.5mm gap in the **Cormet Shaftwall**, and cap each end of **Lafarge Firecheck Coreboard** with a **Cormet E Stud**. Apply **Lafarge Intumescent Acoustic Sealant** in the gap between the **Cormet E Studs**. Attach **Cormet Movement Control Joint** to the outer layer of plasterboard with 13mm stainless steel staples at 150mm centres.

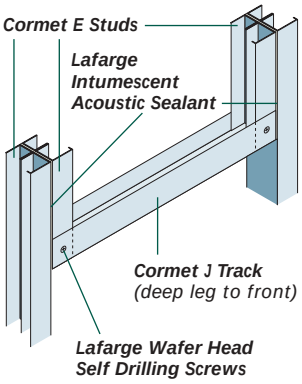
Movement control joint (plan)



Lift door jamb (plan)



Lift shaft door head (framing only)

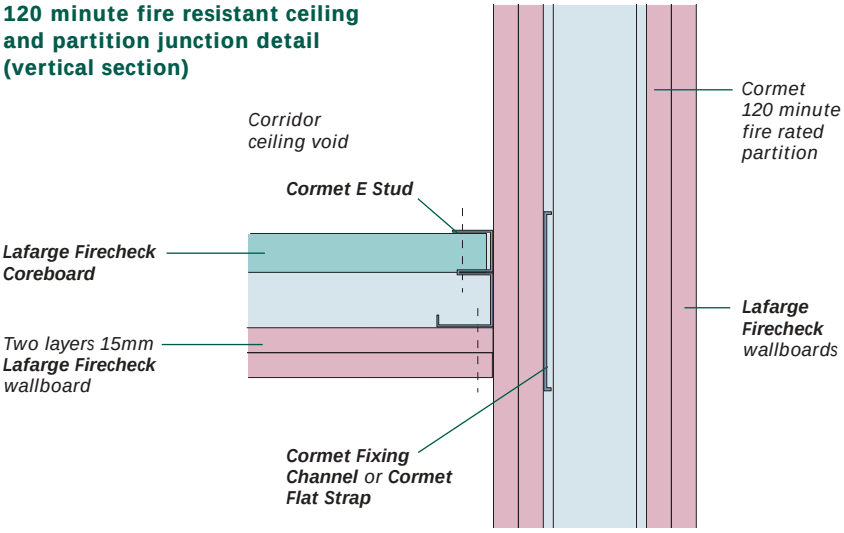


Corridor ceilings and stair soffits

At abutments with metal stud partitions, secure **Cormet J Track** through plasterboards and into metal studs using **Lafarge Drywall Screws** at 600mm centres.

At abutments with masonry secure **Cormet J Track** with suitable fixings at 300mm centres.

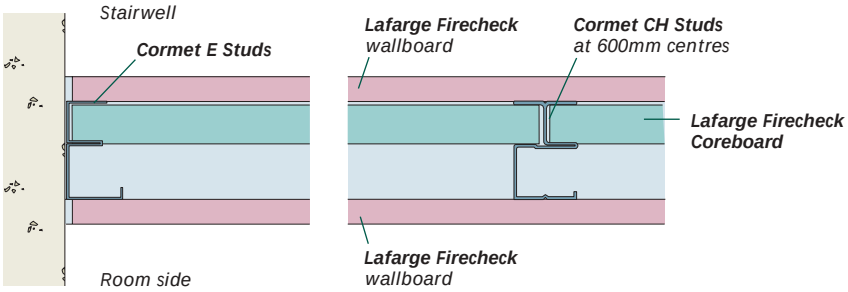
120 minute fire resistant ceiling and partition junction detail (vertical section)



Stairwells

For stairwells or other areas where a flush jointed finish is required on the shaft side, one layer of plasterboard can be transferred from the room side to the shaft side – see table 5.5. Apply this layer over **Lafarge Firecheck Coreboard**, screw-fixing to the exposed flanges of the **Cormet CH Studs**.

Stairwell wall detail (plan)



5

CORMET®
COMPLETE METAL SYSTEMS

Specification clauses

Cormet Shaftwall System

Scope

A non-loadbearing, high performance fire protection system for the enclosure of shafts in multi-storey buildings where access can only be gained from one side. These may include stairwells, lift shafts, service ducts and ventilation/air conditioning ducts. The system can also be used as independent wall linings where a high degree of fire resistance is a requirement.

The selection of studs and the type, number and thickness of plasterboard layers will depend on the partition height and the performance required for fire resistance and sound insulation. All framing components comprise of hot dipped galvanised steel to BS EN 10143:1993 and BS EN 10142: 1990.

Additional Clauses

Add general clauses if required for:

– Expansion/movement joints

– Health and safety

– Storage of Materials

– Site conditions and workmanship

NBS clauses

When using the NBS Specification, use clause K10 PLASTERBOARD DRY LININGS/PARTITIONS/CEILINGS.

The Lafarge Plasterboard website contains a full set of NBS clauses, completed for each Lafarge Plasterboard system. See: www.lafargeplasterboard.co.uk/nbssearch/index.asp

NBS Plus

Notes:

Red text lists alternative product specifications.

(Italic red text within brackets gives advice on selecting the information needed).

System reference *(Insert Lafarge system reference from the Performance tables)*

Location .....

Client reference .....

Performance

Maximum height .....m

Fire rating .....mins *(Insert information from Lafarge system reference)*

Airborne insulation .....dB *(Insert information from Lafarge system reference)*

Thickness .....mm *(Insert information from Lafarge system reference)*

Damp proof course

Install ..... mm wide damp proof course ..... by .....

Floor and head tracks

Cormet J Track, reference *(JT62/B, JT92/B or JT148/B)* to BS 7364: 1990, fixed at maximum 300mm centres to substrate using proprietary fixings.

Studs

Cormet CH Studs, reference *(CHS62/B, CHS92/B or CHS148/B)* to BS 7364:1990, at .....mm centres.

End studs

Cormet E Studs, reference *(ES62/B, ES92/B or ES148/B)* to BS 7364: 1990, fixed at maximum 300mm centres to abutments using suitable proprietary fixings.

Support to horizontal joints

Cormet MFIX Channel fixed to faces of studs to support boards along horizontal joints in [outer layer of] boards.

Noggings

Cut lengths of Cormet CH Stud, reference *(CHS62/B, CHS92/B or CHS148/B)* to fit between vertical studs at horizontal joints between Coreboards. Stagger noggings between adjacent panels.

Insulation

Fit ..... mineral wool insulation by ....., thickness .....mm.

Boarding

Core board of Lafarge Coreboard, 25mm thick.

Boarding to room side of framework:

Inner layer Lafarge Firecheck wallboard, ...mm thick.

Outer layer Lafarge *(Firecheck wallboard, Megadeco)*, ...mm thick. All board joints to be staggered between layers.

Boarding to stairwell side:

Layer of Lafarge *(Firecheck wallboard, Megadeco)*, 12.5mm thick.

Fixings (repeat for all layers of wallboard as required)

Lafarge Drywall Screws at 300mm centres.

Type, *Drywall Self Tapping or Megadeco Self Tapping*

Length, inner layer *(Select from 25, 32, 38, 41, 44, 51, 57, 63, 67, 76)*mm

Length, outer layer *(Select from 25, 32, 38, 41, 44, 51, 57, 63, 67, 76)*mm

Finishing

Lafarge Taping and jointing system, or

Lafarge Supreme Skim Plaster, or

Lafarge Predeco taping and jointing system

Finished lining tolerance

Finished system to comply with tolerances in BS 8212: 1995, section 3.3.

Installation

All materials unless otherwise indicated shall be supplied by Lafarge Plasterboard Ltd, and shall be installed in accordance with their current literature and in accordance with BS 8212: 1995.

5

The **Cormet CB clip Encasement System** allows drywall techniques to be used to provide fire protection up to 180 minutes to structural steel columns and beams.

The system is fast and efficient, avoids the need for intumescent paints and sprays and provides a smooth, flat surface allowing high standards of decoration to be achieved.

From factories to call centres and prestige public buildings, Lafarge encasement systems provide the effective, high performance solution.

Introduction

Cormet Column and Beam Clip system

The **Cormet Column and Beam Clip** system is a high performance system providing fire protection to structural steel I section columns and beams. Systems have been tested and shown to provide up to 180 minutes fire resistance.

The **Cormet Column and Beam Clip** system has been designed to enhance speed and simplicity of installation using normal drywall methods. No special installation techniques are required.

The system features a special clip manufactured from 0.55mm mild steel, cold formed and protected by a hot dip galvanised zinc coating. Used with **Cormet Metal Angles** and **Channels** this provides a strong, rigid metal structure to which **Lafarge Firecheck**, **Firecheck Coreboard** or **Megadeco** board is applied.

Completed column and beam linings provide a strong, impact resistant, smooth surface which accepts most types of decoration and makes the system particularly suitable for use in conjunction with plasterboard lined metal stud partitions and ceilings. Common materials and fixings allow increased site efficiency and considerable time saving over traditional methods.

Performance

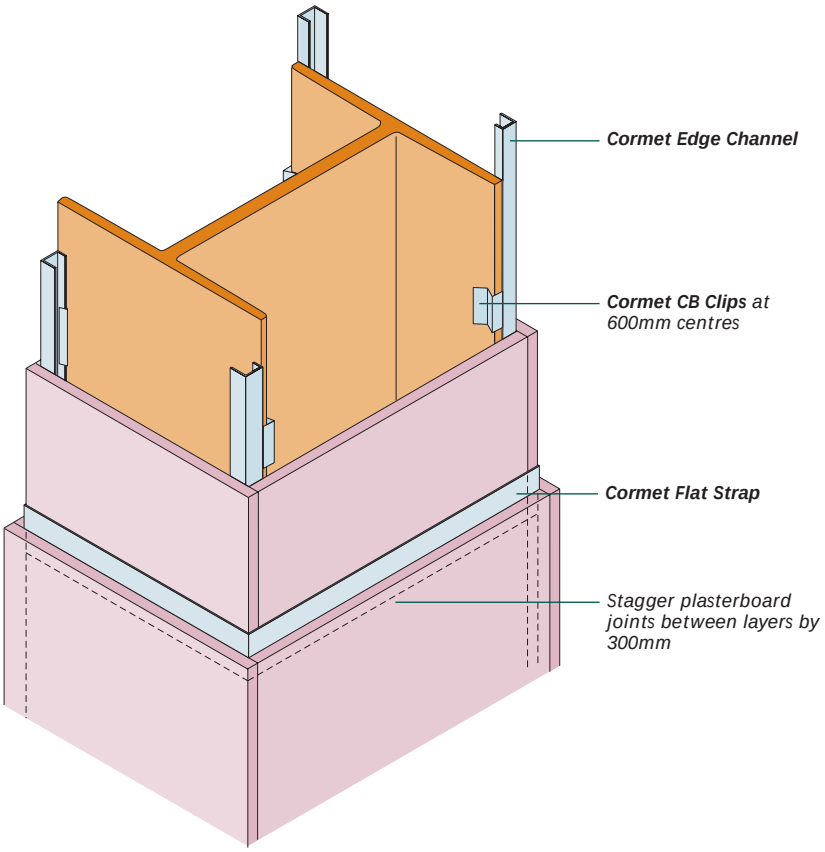
Fire resistance

Lafarge plasterboards and components are defined as Class 0 in accordance with National Building Regulations 1991 Approved Document B1/2/3/4/5 *Fire Safety* and Building Standards (Scotland) Regulations 1990, Regulation D2 when tested to BS 476: Part 6: 1989 and Part 7: 1987. Cormet metal sections and Lafarge gypsum based jointing compounds are non-combustible when tested in accordance with BS 476: Part 4: 1970 and Euroclass A1.

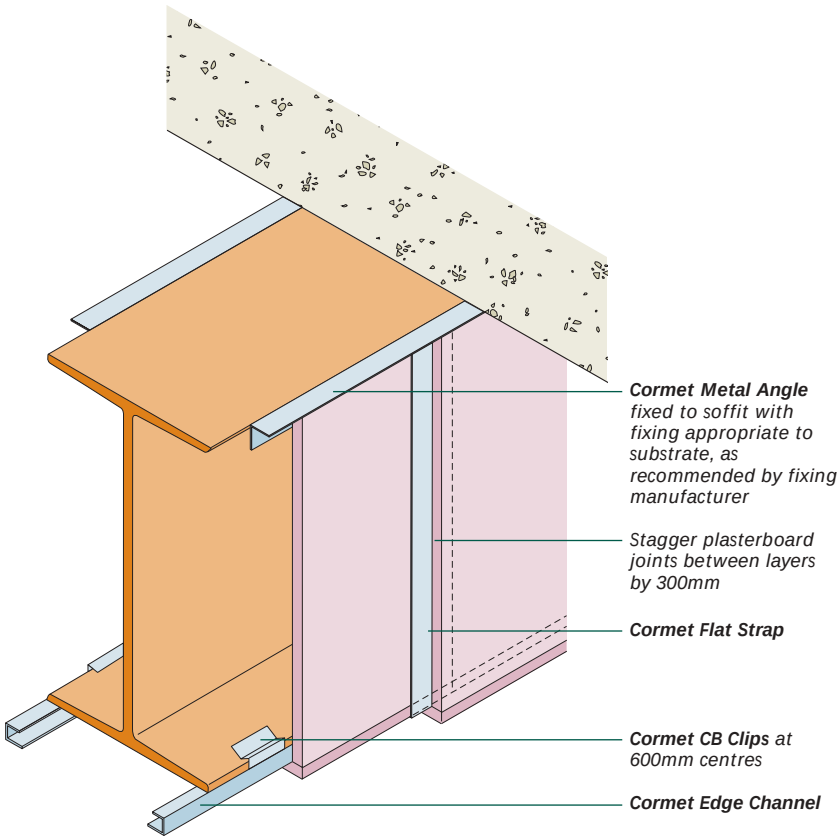
Impact resistance

For columns situated in heavy traffic areas, **Lafarge Firecheck Coreboard** or **Lafarge Megadeco** can be substituted for **Lafarge Firecheck** to provide a lining which is more resistant to impact damage.

Typical steel column encasement: double boarded

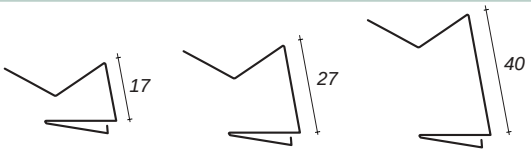


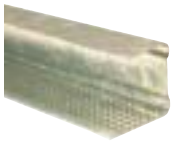
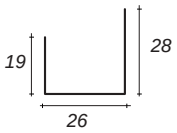
Typical steel beam encasement: double boarded

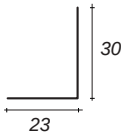


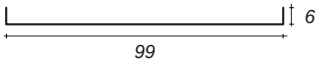
Components

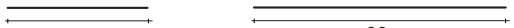
Table 5.12 Metal components

Cormet CB Clip	Description	Code reference	To fit flange size (mm)
	Cormet CB clips are lightweight steel clips friction fitted at the flange of columns and beams to provide main fixing for edge channels. Three sizes of CB clip are available to accommodate different column and beam sizes.	CB 17	7-17
		CB 27	17-27
		CB 40	27-40
			

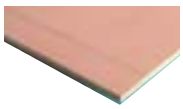
Cormet Edge Channel	Description	Code reference	Length (mm)
	Cormet Edge Channels are lightweight steel sections friction fitted to CB clips to provide metal support and bearing surfaces for plasterboard.	MFCE 26	3600
			

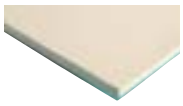
Cormet Metal Angle	Description	Code reference	Length (mm)
	Cormet Metal Angles are lightweight steel sections positioned at column/beam and soffit abutments to provide fixing surfaces for plasterboard.	MFC 2330	3600
			

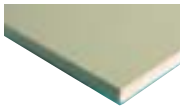
Cormet Fixing Channel	Description	Code reference	Length (mm)
	Galvanised metal channel used to provide support for plasterboard joints and heavy fixtures	MFIX	2400
			

Cormet Flat Strap	Description	Code reference	Length (mm)
	Galvanised metal flat strap to provide support for plasterboard joints. Also provides a fire stop	FS50/R	2400
		FS90/W	2400
			

Lafarge Drywall Self Tapping Screws		Construction	Plasterboard thickness (mm)	Screw length (mm)
	The table gives the recommended screw lengths for single and double layer plasterboards	Single layer	12.5	25
			15	25
			25	38
		Double layer	12.5 + 12.5	38
			15.0 + 15.0	41
			15.0 + 25.0	51
			25.0 + 25.0	63

Firecheck	Description	Thickness (mm)	Width (mm)	Length (mm)
	A fire resistant plasterboard with one face coloured pink for ease of identification. It is available with tapered and square edges.	12.5	900	1800
			1200	2400, 2700, 3000, 3600
		15.0	1200	2400, 2700, 3000

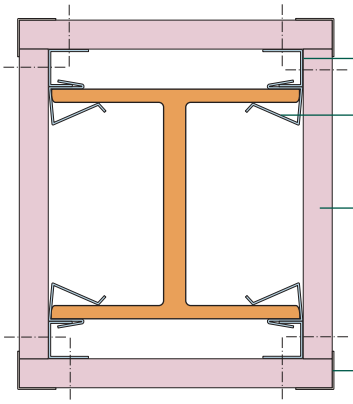
Megadeco	Description	Thickness (mm)	Width (mm)	Length (mm)
	A fire resistant, sound and impact resistant pre-sealed plasterboard.	12.5	1200	2400, 2700, 3000
		15.0	1200	2400, 2700, 3000

Firecheck Coreboard	Description	Thickness (mm)	Width (mm)	Length (mm)
	A high strength fire resistant plasterboard with a green dyed liner for identification. It is moisture resistant and has square edges.	25	600	3000

5

Application details

Column encasement: single layer



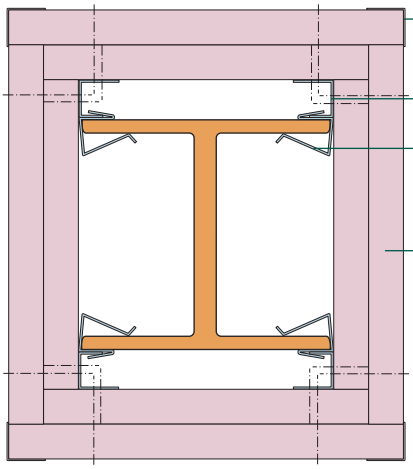
Cormet Edge Channel**, providing 26mm cavity, pressed into **Cormet CB Clips

***Cormet CB clips** positioned at 600mm maximum centres*

*One layer screw-fixed to **Cormet Edge Channels** at 300mm maximum centres*

*Corners reinforced with **Lafarge Tape-On 90° Corners***

Column encasement: double layer



*Corners reinforced with **Lafarge Tape-On 90° Corners***

***Cormet Edge Channel** pressed into clips*

***Cormet CB clips** positioned at 600mm maximum centres*

*Two layers, joints staggered by 300mm and screw-fixed to **Cormet Edge Channels** at 300mm maximum centres*

Cut-away column elevation: double layer

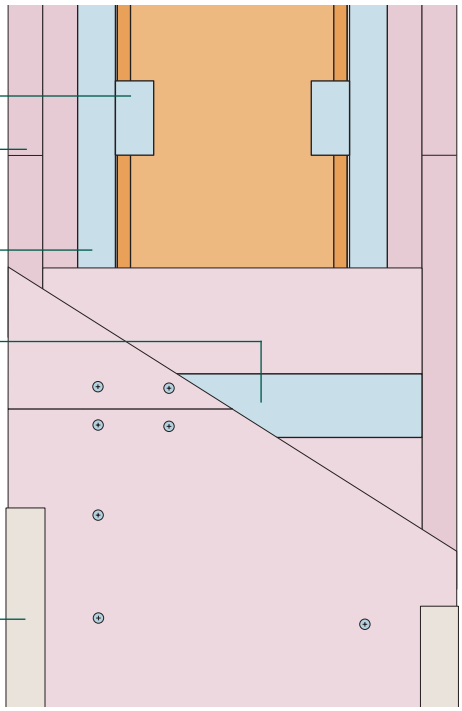
***Cormet CB Clips** positioned at 600mm centres*

*Two layers **Firecheck** wallboard staggered and screw fixed to **Cormet Edge Channels** at 300mm maximum centres*

Cormet Edge Channel** pressed into **Cormet CB Clips

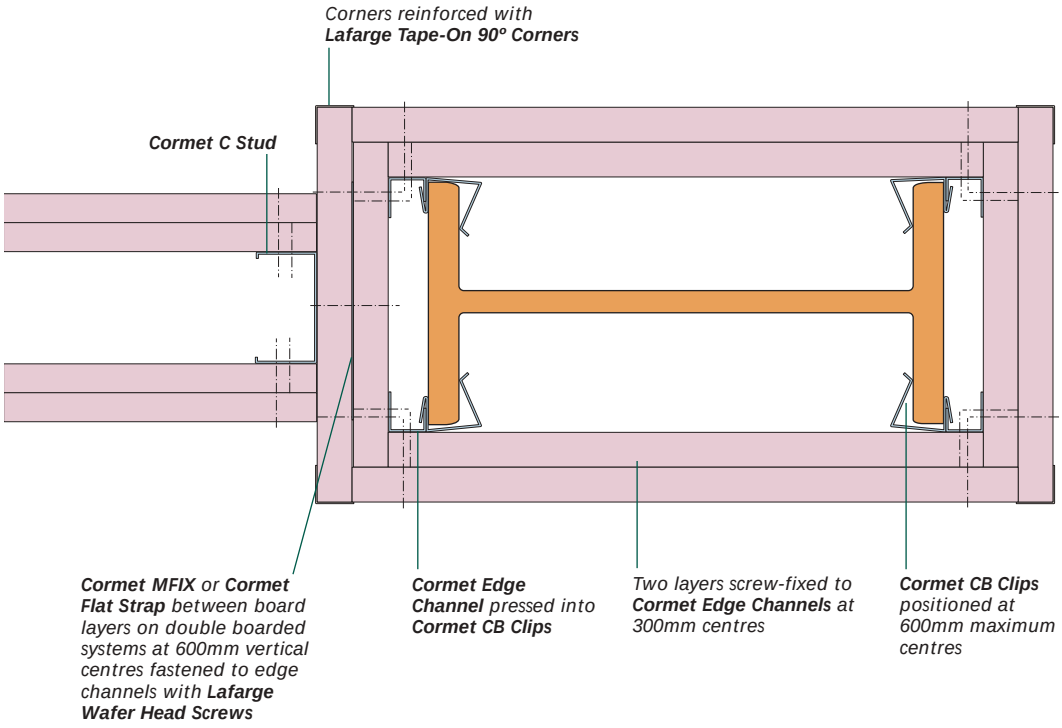
***Cormet MFIX Fixing Channel** fixed with **Lafarge Wafer Head Screws** to **Cormet Edge Channel** on a single board system. **Cormet Flat Strap** (shown) between board layers on double board systems.*

*Corners reinforced with **Lafarge Tape-On 90° Corners***

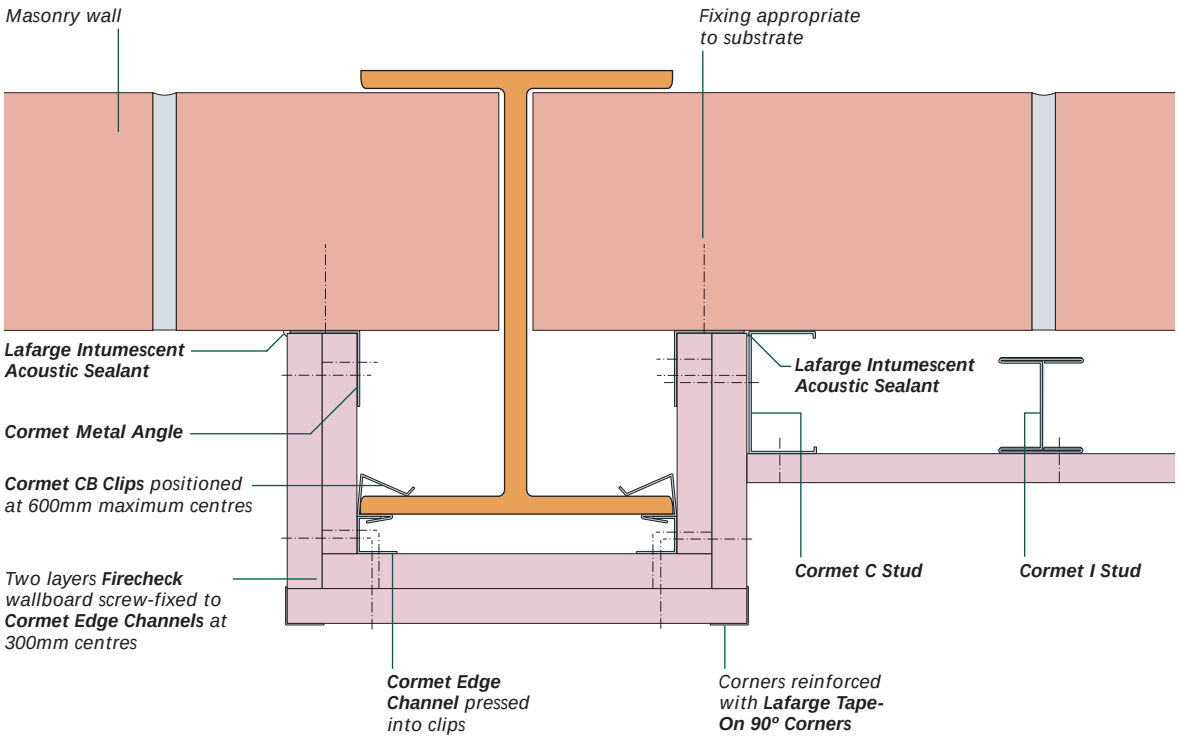


Application details

Column encasement: partition abutment



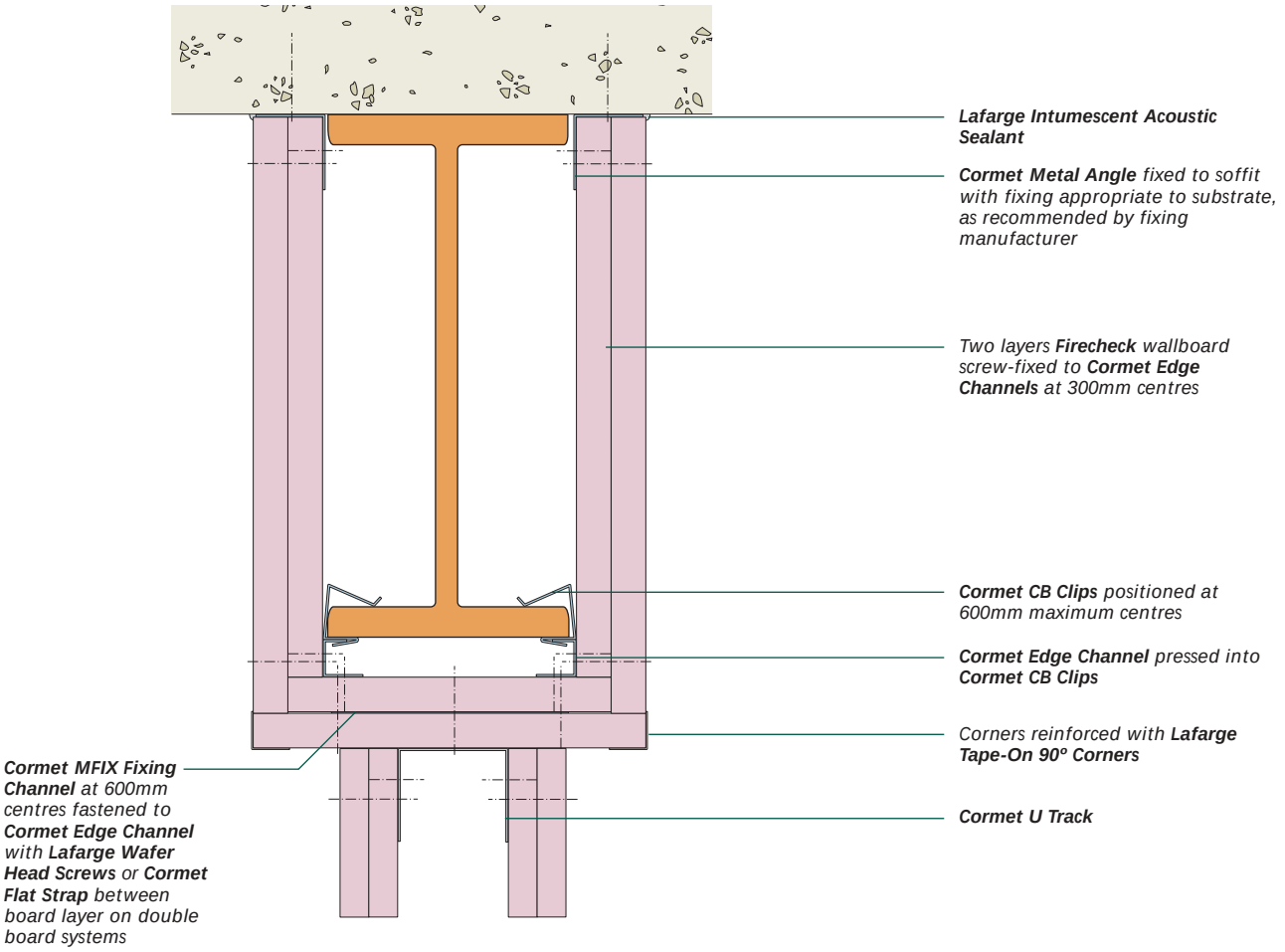
Column encasement: junction with masonry wall



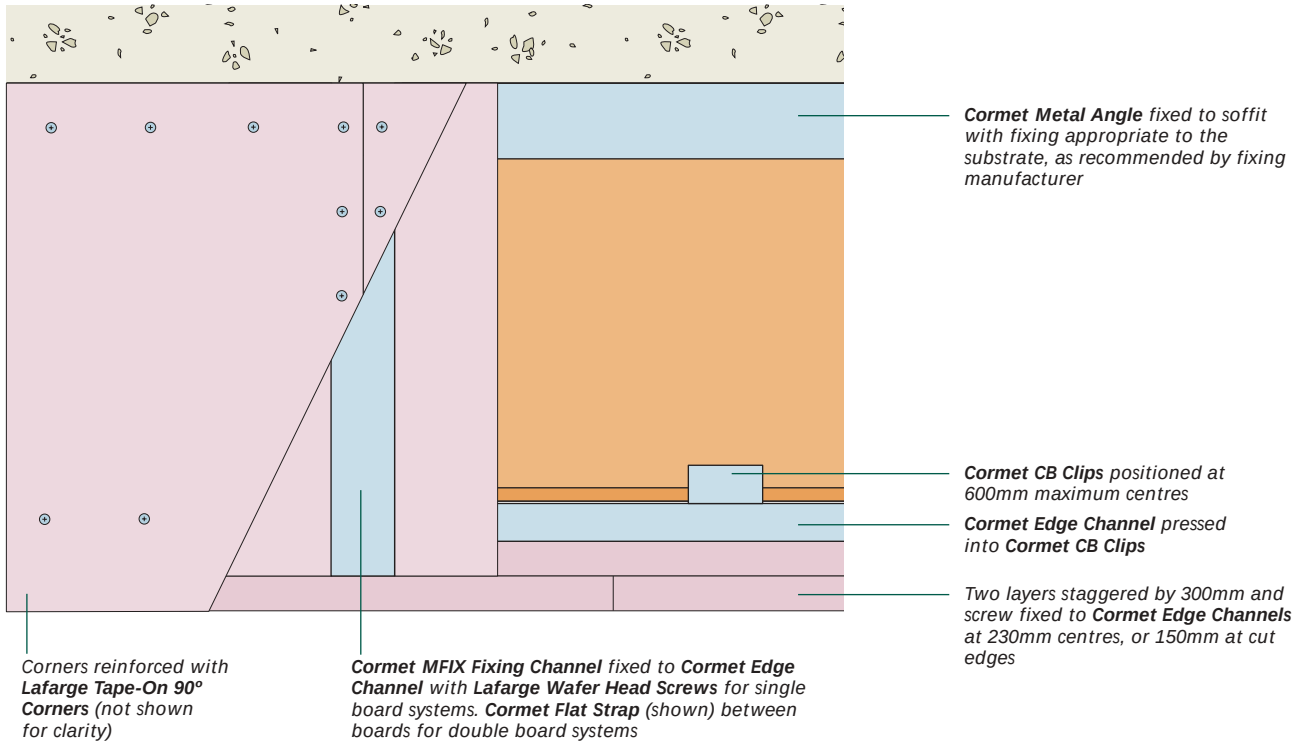
5

Application details

Beam encasement: partition abutment



Cut-away beam elevation: double layer



Installation

Metal frame

Fiction-fit **Cormet CB Clips** to all free edges of the flanges on the column or beam, starting at a distance of 150mm from the end of the column/beam, spaced at 600mm centres, and with the long leg of the clip on the inside of the flange.

Install **Cormet Edge Channels** along each of the flange edges by tapping the short leg of the **Cormet Edge Channel** into the **Cormet CB Clips**.

Where a column/beam abuts a wall or other structure install **Cormet Metal Angles**, positioned with the long leg hard against the column/beam flange. Fix the short leg to the structure with suitable fixings at 600mm centres.

For beams up to 300mm deep no reinforcement is required to support the plasterboard.

Where any face exceeds 300mm the vertical joints in the plasterboard must be supported by **Cormet Fixing Channel** (in double boarded systems support outer layer only with **Cormet Flat Strap** between board layers).

Where any face exceeds 600mm **Cormet Fixing Channel** must be provided at maximum 600mm centres and to coincide with board edges.

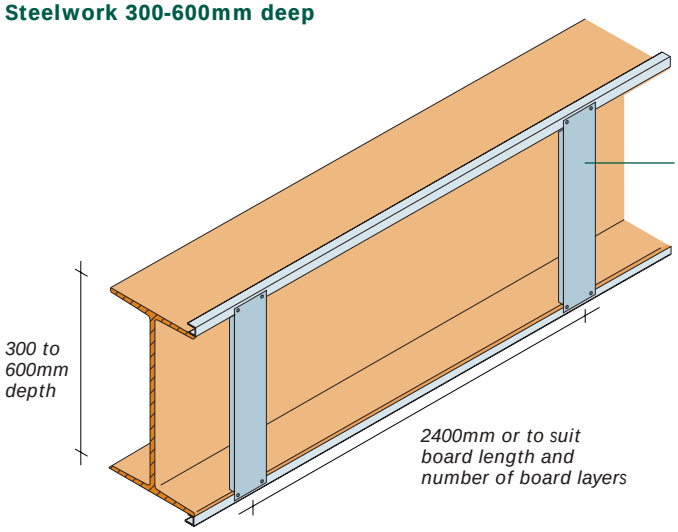
Plasterboard

For single layer systems install plasterboard to **Cormet Fixing Channels** or **Cormet Metal Angle** with **Lafarge Drywall Screws** at 300mm centres.

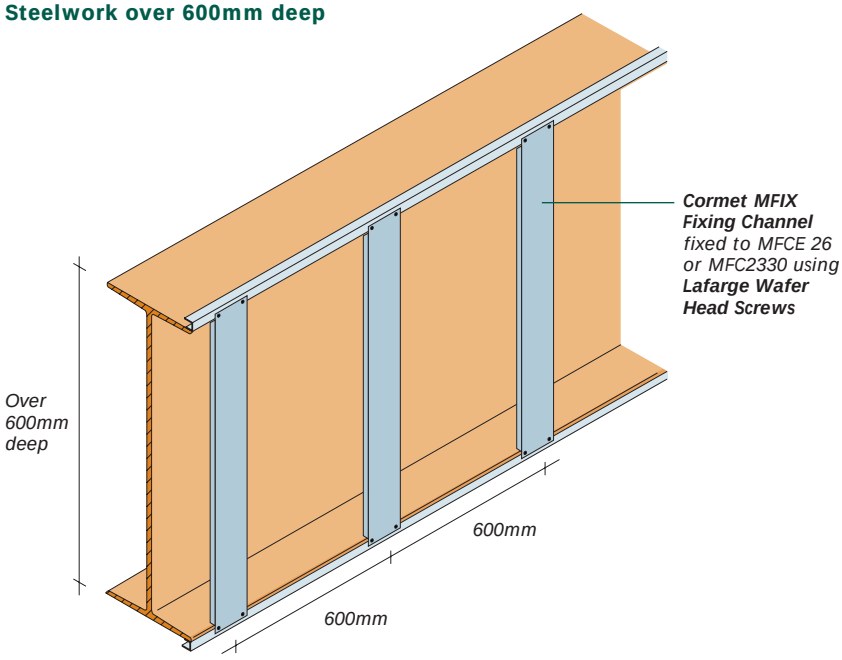
For multi layer systems, install the first layer as for single layer systems. Apply the further layers over the first with joints staggered by 300mm minimum. Fix with **Lafarge Drywall Screws** at 300mm centres.

Reinforce all external corners with **Lafarge Tape-On 90° Corners**.

Steelwork 300-600mm deep



Steelwork over 600mm deep



5

Specification clauses

Cormet Column and Beam Clip System

Scope

Fire resisting encasements to steel beams and columns with maximum Hp/A factor of 260/m using **Lafarge Firecheck** plasterboards or **Lafarge Megadeco** supported on Cormet lightweight metal framing.

Additional Clauses

Add general clauses if required for:

– Expansion/movement joints

– Health and safety

– Storage of Materials

– Site conditions and workmanship

NBS clauses

When using the NBS Specification, use clause K10 PLASTERBOARD DRY LININGS/PARTITIONS/CEILINGS.

The Lafarge Plasterboard website contains a full set of NBS clauses, completed for each Lafarge Plasterboard system. See: www.lafargeplasterboard.co.uk/nbssearch/index.asp

Notes:

Red text lists alternative product specifications.

(Italic red text within brackets gives advice on selecting the information needed).

System reference *(Insert Lafarge system reference from the Performance tables)*

Location .....

Client reference .....

Performance

Fire rating .....mins *(Insert information from Lafarge system reference))*

Thickness .....mm *(Insert information from Lafarge system reference)*

Metal framing components

Framing components to be hot dip galvanised steel to BS EN 10143: 1993 and BS EN 10142: 1990 and Approved Document A1: 1995 designated DX51D and Z275 NAO. Sections rolled to BS 2994: 1987.

Framing

Cormet CB Clips, reference *(CB17, CB27, CB40)* at 600mm centres along flanges with Cormet Edge Channel MFCE 26 and Cormet MFC2330 Metal Angles.

Support to lateral board edges

Cormet Fixing Channel, reference MFIX or Cormet Flat Strap FS50/R or FS90/W at .....mm centres (to coincide with lateral board edges).

Boarding

Single or double layer of wallboard.

Inner layer *(Specify wallboard from the Performance tables)*

Outer layer *(Specify wallboard from the Performance tables)*

All board joints to be staggered between layers.

Fixings

Lafarge Drywall Screws at 300mm centres.

Type, *Drywall Self Tapping or Megadeco Self Tapping*

Length, inner layer *(Select from 25, 32, 38, 41, 44, 51, 57, 63, 67, 76)*mm

Length, outer layer *(Select from 25, 32, 38, 41, 44, 51, 57, 63, 67, 76)*mm

Finishing

Lafarge Taping and jointing system, or

Lafarge Supreme Skim Plaster, or

Lafarge Predeco taping and jointing system.

Corners reinforced with Lafarge Tape-On 90º corners.

Finished lining tolerance

Finished system to comply with tolerances in BS 8212: 1995, section 3.3.

Installation

All materials unless otherwise indicated shall be supplied by Lafarge Plasterboard Ltd, and shall be installed in accordance with their current literature and in accordance with BS 8212: 1995.

Installation

*Friction fit all the **Cormet CB Clips** on to the web of the steel at 600mm maximum vertical centres.*

*Install the **Cormet Edge Channel** into the flange of the **Cormet CB Clips** by pushing the small leg of the **Cormet Edge Channel** into the **Cormet CB Clips**.*

*For ease of installation, angle the **Cormet Edge Channel** as shown.*

*Ensure that the **Cormet Edge Channels** are fully pushed into the **Cormet CB Clips**.*

*Completely install all the **Cormet CB Clips** and **Cormet Edge Channels** before starting the fixing of wallboards.*

*Screw fix wallboards at maximum 300mm centres through the wallboards and into the **Cormet Edge Channels** using **Lafarge Self Tapping Drywall Screws**. Ensure all wallboard joints are supported and install either **Cormet Flat Strap** or **Cormet Fixing Channel** as required.*

*Reinforce the corners with **Lafarge Tape-On 90° Corners** and tape and joint as shown in Section 7.*

Fire Protection Solutions

Items to check	Yes (✓)	No (✓)	Date completed
For Cormet Shaftwall			
1. Has Lafarge Intumescent Acoustic Sealant been applied to the back of the Cormet J Tracks and E Tracks before fixing in position? *This is required to seal gaps and airpaths against smoke.*	☐	☐	
2. Have fire stops of 100mm deep Lafarge Firecheck Coreboard been inserted and screwed in position at the head of the shaftwall? *This is required to close off the shaft side of the partition against fire.*	☐	☐	
3. Where two layers of plasterboard are used, are the joints staggered?	☐	☐	
4. At inside corners has the steel frame been protected by a cut piece of Lafarge Firecheck Coreboard? *This is to maintain the fire performance of the partition.*	☐	☐	
5. Are movement joints provided at maximum 10m centres?	☐	☐	
For Cormet Column and Beam Clip System			
1. Are Cormet MFIX Fixing Channels (single layer systems) and Cormet Flat Straps (double layer systems) provided for fixing the plasterboard edges? *These are necessary for the integrity of the system.*	☐	☐	
2. Are the thickness and layers of plasterboards as specified to meet the required fire resistance? *Depending on the mass of the steel section being protected, the board thicknesses will vary even where the same level of fire protection is provided.*	☐	☐	