

FLOORS AND CEILINGS



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Timber Joist Floors and Insulated Roofs

Plasterboard ceilings on timber framing are typically for domestic applications, the plasterboards being attached directly to the underside of floor joists, the bottom chords of the roof trusses or rafters. They allow upgrading of a basic ceiling construction, whether new or existing, to provide fire resistance as required.

Cormet Dryliner Ceilings

Cormet Dryliner is a metal frame ceiling system fixed directly to timber joists or concrete soffits to provide high levels of fire protection or sound reduction. It is particularly suitable for use on uneven timber joists to provide a flat ceiling surface, and to provide a cavity for the accommodation of services.

Cormet Suspended Ceilings

Cormet Suspended Ceilings are typically for commercial applications. Ceiling voids may be varied to accommodate services, ducting etc. They can provide a high performance ceiling with sound insulation and fire protection, and can be used to upgrade and protect existing structures.

Cormet Acoustic Floor

Cormet Acoustic Floor is a sound insulating floor system for use on timber joisted floors. The system has wide applications for new build, conversion and improvement work. It is particularly suitable for upgrading existing timber joist floors to separating floors.

System selection

Selection criteria:

		Timber joisted floor and ceiling	Cormet dryliner ceiling	Cormet suspended ceiling	Cormet acoustic floor	Steel joists
Ceiling void	mm	joist depth	up to 130	any	joist depth	41
Fire Resistance*	minutes	30 – 120	30 – 120	30 – 120	60	60
Sound Resistance airborne	dB	36 – 61	42 – 56	43 – 62	53 – 63	61 – 63
Sound Resistance impact	dB	83 – 54	72 – 60	72 – 57	65 – 54	57 – 53
Weight	kg/m ²	30 – 71	11 – 49	13 – 308	60	–
U-value	W/m ² K	0.16 – 0.30	–	–	–	–

Common application areas:

Residential:	New Housing	■	–	–	–	■
	Flats	■	■	■	■	■
	Renovation	■	■	■	■	–
Commercial:	Offices	–	■	■	–	–
	Entertainment	–	■	■	–	–
	Institutional	–	■	■	■	–
	Shops	–	■	■	–	–
Industrial:	Factories	■	■	■	–	■
	Warehouses	■	■	■	–	■
Specials:	Cinemas	–	■	■	–	–
	Hospitals	–	■	■	–	–

**Some selection criteria figures cannot be given, as they are partly determined by their background. For higher values contact our Technical Enquiryline 01275 377789.*

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Table 4.1
Floors with engineered joists

System reference	Specification	Sound insulation (R_w dB) (C_{tr} if applicable)			
		Weight (kg/m ²)	Fire resistance (minutes) to BS 476, and BS EN 1365-2	Airborne Sound insulation (R_w dB) (C_{tr} if applicable)	Impact Sound insulation (L_{nw} dB)
REJ 023	Flooring: Tongued and grooved sheets of chipboard which must be glued and screw fixed to the engineered joists Flooring: 22mm tongued and grooved chipboard Joists: 240mm minimum timber I-Joists at 600mm centres Ceiling: one layer 12.5mm Lafarge dBcheck wallboard on Cormet Resilient Bars (RBD3000) at maximum 450mm centres	29	30	47	74
REJ 024	Flooring: 22mm tongued and grooved chipboard Joists: 240mm minimum timber I-Joists at 600mm centres Ceiling: one layer 15mm Lafarge Standard or Predeco wallboard	27	30	40	83
REJ 025	Flooring: 22mm tongued and grooved chipboard Joists: 240mm minimum timber I-Joists at 400mm centres Ceiling: one layer 12.5mm Lafarge Echeck wallboard on Cormet Resilient Bars (RBD3000) at maximum 450mm centres	29	30	42	76
REJ 026	Flooring: 22mm tongued and grooved chipboard Joists: 240mm minimum timber I-Joists at 400mm centres Insulation: 100mm glass mineral wool density 10.5 kg/m ³ Ceiling: one layer 12.5mm Lafarge Echeck wallboard	31	30	40	80
REJ 027	Flooring: 22mm tongued and grooved chipboard Joists: 240mm minimum timber I-Joists at 400mm centres Insulation: 100mm glass mineral wool density 10.5 kg/m ³ Ceiling: one layer 15mm Lafarge Standard or Predeco wallboard	31	30	43	75
REJ 028	Flooring: 22mm tongued and grooved chipboard Joists: 240mm minimum timber I-Joists at 450mm centres Ceiling: one layer 15mm Lafarge Firecheck wallboard	30	30	41	80

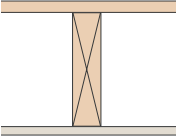
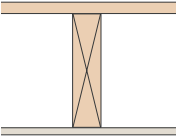
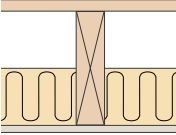
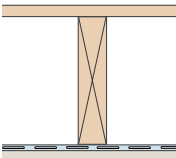
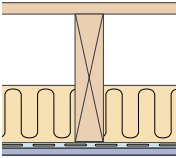
Performance values are for imperforate, jointed systems using only Lafarge components and installed to the Lafarge specification given. Any alterations may well impair the quoted performance criteria.

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

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

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Table 4.2
Ceilings under timber floor

System reference	Specification	Weight (kg/m ²)	Fire resistance (minutes) to BS 476, and BS EN 1365-2	Airborne Sound insulation (R _w dB) (C _r if applicable)	Impact Sound insulation (L _{nw} dB)
RTC 52 	Flooring: 18mm tongued and grooved chipboard Joists: 47 x 200mm at 400mm centres without noggings Ceiling: one layer 15mm Lafarge Standard wallboard or Predeco wallboard	37	30 30	38	77
RTC 12 	Flooring: 22mm tongued and grooved chipboard Joists: 47 x 200mm at 400mm centres without noggings Ceiling: one layer 12.5mm Lafarge Standard wallboard or Predeco wallboard	35	30 0	38	78
RTC 28 	Flooring: 22mm tongued and grooved chipboard Joists: 47 x 200mm at 400mm centres with noggings Insulation: 100mm glass mineral wool density 10.5 kg/m ³ Ceiling: one layer 12.5mm Lafarge Standard wallboard or Predeco wallboard	38	30 0	41	75
RTC 61 	Flooring: 22mm tongued and grooved chipboard Joists: 47 x 200mm at 450mm centres Ceiling: one layer 15mm Lafarge Standard wallboard or Predeco wallboard on Cornet Resilient Bars (RBD3000) at maximum 450mm centres	43	30 30	40	76
RTC 17 	Flooring: 22mm tongued and grooved chipboard Joists: 47 x 200mm at 600mm centres Insulation: 100mm glass mineral wool density 10.5 kg/m ³ Ceiling: one layer 12.5mm Lafarge Echeck wallboard on Cornet Resilient Bars (RBD3000) at maximum 450mm centres	38	30 30	45	69

Performance values are for imperforate, jointed systems using only Lafarge components and installed to the Lafarge specification given. Any alterations may well impair the quoted performance criteria.

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

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

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Table 4.2 (continued)
Ceilings under timber floor

System reference	Specification	Weight (kg/m ²)	Fire resistance (minutes) BS 476 and BS EN 1365-2	Airborne Sound insulation (R _w dB) (C _r if applicable)	Impact Sound insulation (L _{nw} dB)
RTC 03	Flooring: 22mm tongued and grooved chipboard Joists: 47 x 200mm at 600mm centres with noggings Ceiling: inner layer 12.5mm Lafarge Standard wallboard, outer layer 12.5mm Lafarge Standard wallboard or Predeco wallboard	48	30 30	40	78
RTC 04	Flooring: 22mm tongued and grooved chipboard Joists: 47 x 200mm at 600mm centres with noggings Insulation: 100mm glass mineral wool density 10.5 kg/m ³ Ceiling: inner layer 12.5mm Lafarge Standard wallboard, outer layer 12.5mm Lafarge Standard wallboard or Predeco wallboard	48	30 30	42	75
RTC 28	Flooring: 22mm tongued and grooved chipboard Joists: 47 x 200mm at 600mm centres with noggings Insulation: 100mm glass mineral wool density 10.5 kg/m ³ supported on noggings Ceiling: one layer 12.5mm Lafarge Echeck wallboard	38	30 30	40	75
RTC 37	Flooring: 22mm tongued and grooved chipboard Joists: 47 x 200mm at 600mm centres with noggings Ceiling: one layer 12.5mm Lafarge Firecheck wallboard or Megadeco wallboard	34	30 30	41	77
RTC 18	Flooring: 22mm tongued and grooved chipboard Joists: 47 x 200mm at 600mm centres with noggings Ceiling: one layer 15mm Lafarge Firecheck wallboard or Megadeco wallboard fixed with 63mm Lafarge Drywall High Thread Screws	37	60 30	40	76
RTC 16	Flooring: 22mm tongued and grooved chipboard Joists: 47 x 200mm at 600mm centres with noggings Ceiling: inner layer 15mm Lafarge Standard wallboard, outer layer 15mm Lafarge Standard wallboard or Predeco wallboard	50	60 30	43	72

Performance values are for imperforate, jointed systems using only Lafarge components and installed to the Lafarge specification given. Any alterations may well impair the quoted performance criteria.

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

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

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Table 4.2 (continued)
Ceilings under timber floor

Below 22mm timber floor (continued)					
System reference	Specification	Weight (kg/m ²)	Fire resistance (minutes) BS 476 and BS EN 1365-2	Airborne Sound insulation (R _w dB) (C _r if applicable)	Impact Sound insulation (L _{nw} dB)
RTC 14	Joists: 47 x 200mm at 450mm centres without noggings Insulation: 100mm glass mineral wool density 10.5 kg/m ³ Ceiling: two layers 12.5mm Lafarge Echeck wallboard	52	30 30	44	75
RTC 29	Ceiling: existing lath and plaster supported with chicken wire fixed to joists, cross battened with 50 x 50mm softwood battens at 400mm centres to receive one layer 12.5mm Lafarge Standard wallboard or Predeco wallboard	54	30 30	47	71
RTC 20	Ceiling: existing lath and plaster supported with chicken wire fixed to joists, cross battened with 50 x 50mm softwood battens at 400mm centres to receive one layer 15mm Lafarge Firecheck wallboard or Megadeco wallboard fixed with 63mm Drywall High Thread Screws	55	60 60	48	70
RTC 51	Joists: 47 x 200mm at 450mm centres Insulation: 100mm rock mineral wool roll batt density 23 kg/m ³ Ceiling: two layers 15mm Lafarge dBcheck wallboard on Cormet Resilient Bar (RBD3000) at maximum 450mm centres	55	60 60	55	62
RTC 23	Joists: 47 x 200mm at 600mm centres with noggings Ceiling: inner layer 15mm Lafarge Firecheck wallboard, outer layer 15mm Lafarge Firecheck wallboard or Megadeco wallboard. Inner layer secured with 50mm Drywall High Thread Screws, outer layer secured with 75mm Drywall High Thread Screws	50	90 60	45	70

Performance values are for imperforate, jointed systems using only Lafarge components and installed to the Lafarge specification given. Any alterations may well impair the quoted performance criteria.

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

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

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Table 4.3
Ceilings to garages below habitable rooms

System reference	Specification	Weight (kg/m ²)	Fire resistance (minutes) BS 476 and BS EN 1365-2	Airborne Sound insulation (R _w dB) (C _r if applicable)	Impact Sound insulation (L _{nw} dB)	U-value (W/m ² K)
RTC 76	Floor: 22mm chipboard on 500 gauge polythene Joists: 47 x 200mm at 400mm centres Insulation: 150mm glass mineral wool density 10.5 kg/m ³ Ceiling: one layer 12.5mm Lafarge Firecheck Moisturecheck wallboard	38	30 30	41	75	0.35
RTC 77	Floor: 22mm chipboard on 500 gauge polythene Joists: 47 x 200mm at 400mm centres Insulation: 150mm glass mineral wool density 10.5 kg/m ³ Ceiling: two layers 12.5mm Lafarge Firecheck Moisturecheck wallboard	48	60 60	40	75	0.35

Performance values are for imperforate, jointed systems using only Lafarge components and installed to the Lafarge specification given. Any alterations may well impair the quoted performance criteria.

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

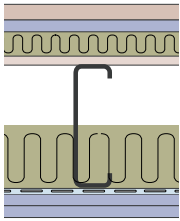
FLOORS AND CEILINGS

Table 4.5
Separating floors - steel

System reference

Specification

RSF 02



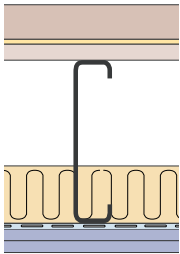
Floating floor: 18mm Caberfloor P5 on 15mm Lafarge dBcheck wallboard on 30mm 120 kg/m³ Rockwool slab on 11mm OSB 3 Sterling Board T & G flooring.

Joists: 150mm structural steel joists 1.5mm thick at 400mm centres.

Insulation: 100mm glass mineral wool, density 23 kg/m³

Ceiling: two layers 15mm Lafarge dBcheck wallboard on Cormet Resilient Bars (RBD3000) at maximum 450mm centres.

RSF 03



Floating floor: 40mm Lafarge Gyvlon screed on 6mm Ethafoam on 20mm OSB 3 Sterling Board.

Joists: 200mm structural steel joists 2mm thick at 600mm centres.

Insulation: 100mm glass mineral wool density 10 kg/m³ in joist cavity.

Ceiling: two layers 15mm Lafarge dBcheck wallboard on Cormet Resilient Bars (RBD3000) at maximum 450mm centres.

Weight (kg/m²)	Fire resistance (minutes) to BS 476, and BS EN 1365-2	Airborne Sound insulation (R_w dB) (C_{tr} if applicable)	Impact Sound insulation (L_{nw} dB)	Maximum span (m)
44	60 60	65 -12 C_{tr}	53	3.5
112	60 60	61 -7 C_{tr}	57	4.2

Performance values are for imperforate, jointed systems using only Lafarge components and installed to the Lafarge specification given. Any alterations may well impair the quoted performance criteria.

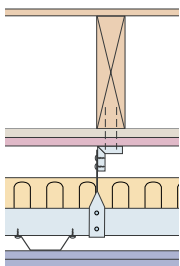
Note: Rock mineral wool density 40 kg/m³ may be used in lieu of glass mineral wool as specified.

Table 4.6
Refurbishment as Approved Document E 4-3

System reference

Specification

RCC 15 (modified)



Floor: 18mm tongued and grooved chipboard

Existing ceiling: existing lath and plaster plus 15mm Lafarge Firecheck wallboard

Insulation: 100mm glass mineral wool density 10.5 kg/m³

New ceiling: two layers 12.5mm Lafarge dBcheck wallboard on Cormet MF Suspended Ceiling system supported on MFC Strap Hanger at 900mm centres fixed to bent MFPC44 Channel to create minimum 125mm void

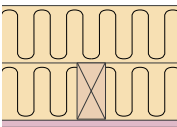
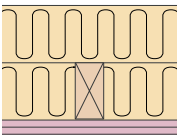
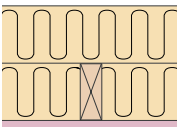
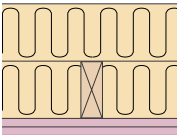
Weight (kg/m²)	Fire resistance (minutes) BS 476 and BS EN 1365-2	Sound insulation (dB) airborne R_w or ($R_w + C_{tr}$)	Sound insulation (dB) impact L_{nw}
80	60 60	—	—

Performance values are for imperforate, jointed systems using only Lafarge components and installed to the Lafarge specification given. Any alterations may well impair the quoted performance criteria.

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

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Table 4.7
Ceilings under roof trusses (cavity loft space, no decking, no loading to trusses)

System reference	Specification	Weight (kg/m ²)	Fire resistance (minutes) to BS 476, and BS EN 1365-2	Fire resistance (minutes) insulation
RTC 31 	Trusses: 47 x 100mm at 600mm centres with noggings Insulation: one layer of 100mm glass mineral wool quilt infilled between joists, one layer 150mm glass mineral wool quilt across joists, density 10.5 kg/m ³ Ceiling: one layer 12.5mm Lafarge Firecheck wallboard or Megadeco wallboard fixed with 38mm Lafarge Drywall High Thread Screws at 150mm centres	-	30	30
RTC 32 	Trusses: 47 x 100mm at 600mm centres with noggings Insulation: one layer of 100mm glass mineral wool quilt infilled between joists, one layer 150mm glass mineral wool quilt across joists, density 10.5 kg/m ³ Ceiling: inner layer 12.5mm Lafarge Firecheck wallboard, outer layer 12.5mm Lafarge Firecheck wallboard or Megadeco wallboard, inner layer fixed with 38mm Lafarge Drywall High Thread Screws at 300mm centres, outer layer fixed with 63mm Lafarge Drywall High Thread Screws at 150mm centres	-	60	60
RTC 33 	Trusses: 38 x 100mm at 600mm centres with noggings Insulation: one layer of 100mm glass mineral wool quilt infilled between joists, one layer 150mm glass mineral wool quilt across joists, density 10.5 kg/m ³ Ceiling: one layer 12.5mm Lafarge Firecheck wallboard or Megadeco wallboard fixed with 38mm Lafarge Drywall High Thread Screws at 150mm centres	-	30	30
RTC 34 	Trusses: 38 x 100mm at 600mm centres with noggings Insulation: one layer of 100mm glass mineral wool quilt infilled between joists, one layer 150mm glass mineral wool quilt across joists, density 10.5 kg/m ³ Ceiling: inner layer 15mm Lafarge Firecheck wallboard, outer layer 15mm Lafarge Firecheck wallboard or Megadeco wallboard, inner layer fixed with 38mm Lafarge Drywall High Thread Screws at 150mm centres, outer layer fixed with 63mm Lafarge Drywall High Thread Screws at 150mm centres	-	60	60

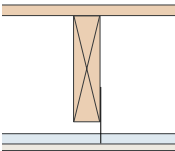
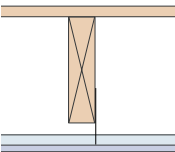
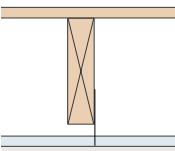
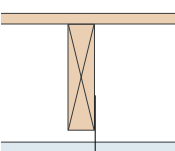
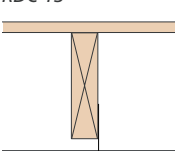
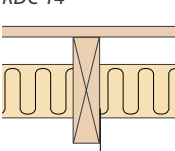
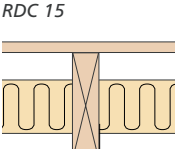
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The Deco system is not suitable for plastering. Refer to Section 7 for finishing details.

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

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Table 4.8
Cormet Dryliner ceilings to timber joist floor

System reference		Weight (kg/m ²)	Fire resistance (minutes) to BS 476, BS EN 1365-2	Airborne sound insulation (R _w dB) (C _{tr} if applicable)	Impact sound insulation (L _{nw} dB)
Flooring: tongued-and-grooved boarding or sheets of tongued-and-grooved oriented strand board or wood chipboard not less than 18mm finished thickness					
RDC 21		29	30	40	74
	Joists: 47 x 200mm at 600mm centres Ceiling: one layer 12.5mm Lafarge Standard or Predeco wallboard on Cormet Dryliner Channels at maximum 450mm centres		0		
RDC 11		30	30	42	72
	Joists: 47 x 200mm at 600mm centres Ceiling: one layer 12.5mm Lafarge Echeck wallboard on Cormet Dryliner Channels at maximum 450mm centres		30		
RDC 22		38	30	44	72
	Joists: 47 x 200mm at 600mm centres Ceiling: two layers 12.5mm Lafarge Standard or Predeco wallboard on Cormet Dryliner Channels at maximum 450mm centres		30		
RDC 12		41	60	46	69
	Joists: 47 x 200mm at 600mm centres Ceiling: two layers 12.5mm Lafarge Echeck wallboard on Cormet Dryliner Channels at maximum 450mm centres		30		
RDC 13		33	60	43	72
	Joists: 47 x 200mm at 600mm centres Ceiling: one layer 12.5mm Lafarge Firecheck wallboard or Megadeco wallboard on Cormet Dryliner Channels at maximum 450mm centres		30		
RDC 14		45	90	53	63
	Joists: 47 x 200mm at 600mm centres Insulation: 100mm glass mineral wool density 10.5 kg/m ³ Ceiling: inner layer 12.5mm Lafarge Firecheck wallboard, outer layer 12.5mm Lafarge Firecheck wallboard or Megadeco wallboard on Cormet Dryliner Channels at maximum 450mm centres		60		
RDC 15		49	90	56	60
	Joists: 47 x 200mm at 600mm centres Insulation: 100mm glass mineral wool density 10.5 kg/m ³ Ceiling: inner layer 15mm Lafarge Firecheck wallboard, outer layer 15mm Lafarge Firecheck wallboard or Megadeco wallboard on Cormet Dryliner Channels at maximum 450mm centres		90		

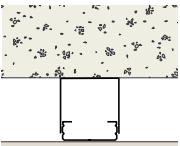
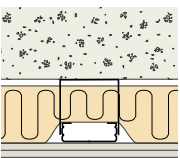
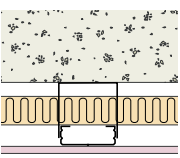
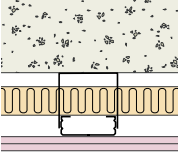
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The Deco system is not suitable for plastering. Refer to Section 7 for finishing details.

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

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Table 4.9
Cornet Dryliner ceilings to concrete floor slabs

System reference	Any concrete soffit	Weight (kg/m ²) (ceiling system only)	Fire resistance (minutes) integrity to BS 476, and BS EN 1365-2	Fire resistance (minutes) insulation to BS 476, and BS EN 1365-2
RDC 16 	Ceiling: one layer 12.5mm Lafarge Standard wallboard or Predeco wallboard on Cornet Dryliner Channel RD1 at 450mm maximum centres	11	0	0
RDC 17 	Insulation: 100mm glass mineral wool density 10.5 kg/m ³ Ceiling: inner layer 12.5mm Lafarge Standard wallboard, outer layer 12.5mm Lafarge Standard wallboard or Predeco wallboard on Cornet Dryliner Channel RD1 at 450mm maximum centres	22	30	30
RDC 18 	Insulation: 50mm glass mineral wool density 24 kg/m ³ Ceiling: one layer 12.5mm Lafarge Firecheck wallboard or Megadeco wallboard on Cornet Dryliner Channel RD1 at 450mm maximum centres	13	30	30
RDC 19 	Insulation: 50mm glass mineral wool density 24 kg/m ³ Ceiling: inner layer 12.5mm Lafarge Firecheck wallboard, outer layer 12.5mm Lafarge Firecheck wallboard or Megadeco wallboard on Cornet Dryliner Channel RD1 at 450mm maximum centres	23	60	30

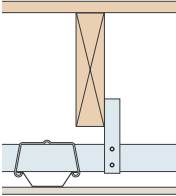
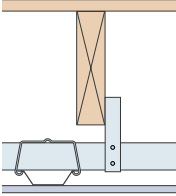
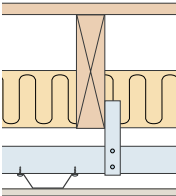
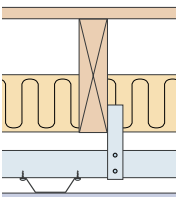
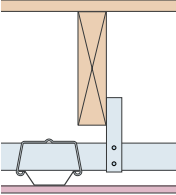
Performance values are for imperforate, jointed systems using only Lafarge components and installed to the Lafarge specification given. Any alterations may well impair the quoted performance criteria.

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

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

FLOORS AND CEILINGS

Table 4.10
Cormet M.F. Suspended Ceiling to timber joist floor

System reference		Weight (kg/m ²)	Fire resistance (minutes) to BS 476, and BS EN 1365-2	Airborne Sound insulation (R _w dB) (C _r if applicable)	Impact Sound insulation (L _{nw} dB)
RCC 41	<p><i>Flooring: tongued-and-grooved boarding or sheets of tongued-and-grooved oriented strand board or wood chipboard not less than 18mm finished thickness</i></p> <p>Joists: 47 x 200mm at 600mm centres</p> <p>Ceiling: one layer 12.5mm Lafarge Standard wallboard or Predeco on Cormet Ceiling Channels at 450mm maximum centres</p> 	32	30 0	40	74
RCC 11	<p>Joists: 47 x 200mm at 600mm centres</p> <p>Ceiling: one layer 12.5mm Lafarge Echeck wallboard on Cormet Ceiling Channels at 450mm maximum centres</p> 	33	30 30	43	72
RCC 42	<p>Joists: 47 x 200mm at 600mm</p> <p>Insulation: 100mm glass mineral wool density 10.5 kg/m³</p> <p>Ceiling: two layers 12.5mm Lafarge Standard wallboard or Predeco as the outer layer on Cormet Ceiling Channels at 450mm maximum centres</p> 	40	60 30	44	72
RCC 12	<p>Joists: 47 x 200mm at 600mm</p> <p>Insulation: 100mm glass mineral wool density 10.5 kg/m³</p> <p>Ceiling: two layers 12.5mm Lafarge Echeck wallboard on Cormet Ceiling Channels at 450mm maximum centres</p> 	42	60 60	46	69
RCC 13	<p>Joists: 47 x 200mm at 600mm</p> <p>Ceiling: one layer 12.5mm Lafarge Firecheck wallboard or Megadeco wallboard on Cormet Ceiling Channels at 450mm maximum centres</p> 	34	60 30	44	70

Performance values are for imperforate, jointed systems using only Lafarge components and installed to the Lafarge specification given. Any alterations may well impair the quoted performance criteria.

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

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

FLOORS AND CEILINGS

Table 4.10 (continued)
Cormet M.F. Suspended Ceiling to timber joist floor

System reference					
		Weight (kg/m ²)	Fire resistance (minutes) to BS 476, and BS EN 1365-2	Airborne Sound insulation (R _w dB) (<i>C_r if applicable</i>)	Impact Sound insulation (L _{nw} dB)
RCC 14	<p><i>Flooring: tongued-and-grooved boarding or sheets of tongued-and-grooved oriented strand board or wood chipboard not less than 18mm finished thickness</i></p> <p>Joists: 47 x 200mm at 600mm centres Insulation: 100mm glass mineral wool density 10.5 kg/m³ Ceiling: inner layer 12.5mm Lafarge Firecheck wallboard, outer layer 12.5mm Lafarge Firecheck or Megadeco wallboard on Cormet Ceiling Channels at 450mm maximum centres</p> 	45	90 60	54	62
RCC 15	<p>Joists: 47 x 200mm at 600mm centres Insulation: 100mm glass mineral wool density 10.5 kg/m³ Ceiling: inner layer 15mm Lafarge Firecheck wallboard, outer layer 15mm Lafarge Firecheck or Megadeco wallboard on Cormet Ceiling Channels at 450mm maximum centres</p> 	50	120 90	56	60

Performance values are for imperforate, jointed systems using only Lafarge components and installed to the Lafarge specification given. Any alterations may well impair the quoted performance criteria.

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

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

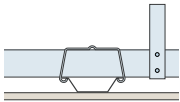
FLOORS AND CEILINGS

Table 4.11
Cormet M.F. Suspended Ceilings to any soffit,
giving a fire rating to the ceiling void

System reference

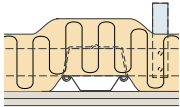
Specification

RCC 16



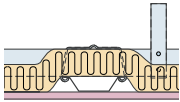
Ceiling: one layer 12.5mm **Lafarge Standard** wallboard or **Predeco** wallboard on **Cormet Ceiling Channels** at 450mm max centres

RCC 17



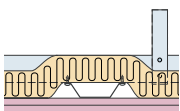
Insulation: 100mm glass mineral wool density 10.5 kg/m³
Ceiling: inner layer 12.5mm **Lafarge Standard** wallboard, outer layer 12.5mm **Lafarge Standard** wallboard or **Predeco** wallboard on **Cormet Ceiling Channels** at 450mm max centres

RCC 18



Insulation: 50mm glass mineral wool density 24 kg/m³
Ceiling: one layer 12.5mm **Lafarge Firecheck** wallboard or **Megadeco** wallboard on **Cormet Ceiling Channels** at 450mm max centres

RCC 19



Insulation: 50mm glass mineral wool density 24 kg/m³
Ceiling: inner layer 12.5mm **Lafarge Firecheck** wallboard, outer layer 12.5mm **Lafarge Firecheck** wallboard or **Megadeco** wallboard on **Cormet Ceiling Channels** at 450mm maximum centres

Weight (kg/m ²)	Fire resistance (minutes) integrity to BS 476, and BS EN 1365-2	Fire resistance (minutes) insulation to BS 476, and BS EN 1365-2
11	0	0
22	30	30
13	30	30
26	60	30

Performance values are for imperforate, jointed systems using only Lafarge components and installed to the Lafarge specification given. Any alterations may well impair the quoted performance criteria.

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

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

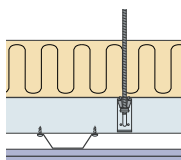
FLOORS AND CEILINGS

Table 4.12
Cormet Mass Barrier ceiling

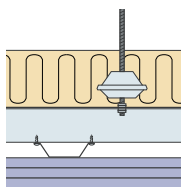
System reference

Specification

RCC 60

**Insulation:** 100mm glass mineral wool density 10.5 kg/m³**Ceiling:** two layers 12.5mm Lafarge dBcheck wallboard on Cormet Ceiling Channels at maximum 400mm centres and Cormet Heavy Duty Primary Channels (UTS2/Y) at 1200mm centres suspended from Phonissimo Acoustic Hangers at 1200mm centres

RCC 61

**Insulation:** 100mm glass mineral wool density 10.5 kg/m³**Ceiling:** three layers 15mm Lafarge dBcheck wallboard on Cormet Ceiling Channels at maximum 400mm centres and Cormet Heavy Duty Primary Channels (UTS2/Y) at 1200mm centres suspended from Phonistar Resilient Hangers at 1200mm centres

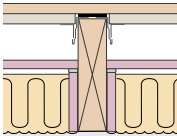
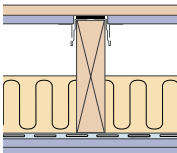
Weight (kg/m ²)	Fire resistance (minutes) integrity to BS 476, and BS EN 1365-2	Fire resistance (minutes) insulation to BS 476, and BS EN 1365-2
30	60	60
	60	30
46	90	90
	90	90

Performance values are for imperforate, jointed systems using only Lafarge components and installed to the Lafarge specification given. Any alterations may well impair the quoted performance criteria.

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

FLOORS AND CEILINGS

Table 4.13
Cormet Acoustic Floor

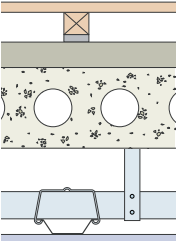
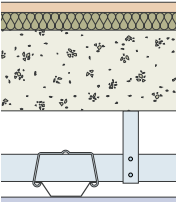
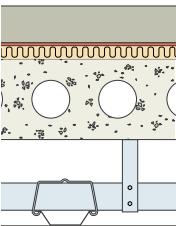
System reference		Flooring: tongued-and-grooved boarding or sheets of tongued-and-grooved oriented strand board or wood chipboard not less than 18mm finished thickness				
RAF 06		Floor: Cormet Acoustic Floor system with 19mm plank and an additional layer of 15mm Lafarge Firecheck wallboard inserted inside the cavity to form a bridge and to protect sides of joist Joists: 47 x 200mm at 450mm centres Insulation: 100mm glass mineral wool density 10.5kg/m ³ Ceiling: existing lath and plaster	Weight (kg/m ²) 60	Fire resistance to BS 476, and BS EN 1365-2 60 60	Airborne Sound insulation (R _w dB) (C _{tr} if applicable) 53	Impact Sound insulation (L _{nw} dB) 65
RAF 50		Floor: Cormet Acoustic Floor system using 22mm tongue-and-groove chipboard plus single layer 15mm Lafarge dBcheck wallboard Joists: 47 x 200mm at 450mm centres Insulation: 100mm glass mineral wool density 10.5kg/m ³ Ceiling: two layers 15mm Lafarge dBcheck wallboard on Cormet Resilient Bar (RBD3000) at maximum 450mm centres <i>Note: In this system, when using 15mm Lafarge dBcheck below chipboard flooring, 57mm trim head screws should be used to fix flooring through wallboard to metal angle</i>	60	60 60	63 -10 C _{tr}	54

Performance values are for imperforate, jointed systems using only Lafarge components and installed to the Lafarge specification given. Any alterations may well impair the quoted performance criteria.

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

FLOORS AND CEILINGS

Table 4.14
Separating floors - concrete

System reference	Specification	Fire resistance (minutes) Insulation to ceiling void to BS 476, and BS EN 1365-2	Fire resistance (minutes) integrity to BS 476, and BS EN 1365-2	Airborne Sound insulation (R_w dB) (C_w if applicable)	Impact Sound insulation (L_{nw} dB)
<p>E-FC-1</p>  <p>Ceiling CT3 shown</p>	<p>Floating floor: 18mm tongue-and-groove floorboards on resilient composite timber battens (type FFT1)</p> <p>Screed: 40mm sand:cement or Lafarge Gylvon screed (minimum weight 80 kg/m²)</p> <p>Structural floor: 150mm minimum precast concrete planks (minimum weight 300 kg/m²)</p> <p>Applicable ceilings</p> <p>(CT1) Metal ceiling system: Cormet Dryliner or Cormet MF Ceiling system providing 100mm (min) ceiling void with one layer 12.5mm Lafarge Standard wallboard*</p> <p>(CT2) Timber battens and counter battens: 50 x 50mm softwood battens with 50 x 50mm counter battens below and one layer 12.5mm Lafarge Standard wallboard*</p> <p>(CT3) Metal ceiling system: Cormet Dryliner SR or MF Ceiling system providing 75mm (min) ceiling void with one layer 12.5mm Lafarge Echeck wallboard**</p> <p>(CT4) Timber battens and resilient bar: 50 x 50mm softwood with Cormet Resilient bars RBD3000 mounted at right angles to softwood battens at max 450mm centres and one layer 12.5mm Lafarge Echeck wallboard**</p>	0	0	Robust Detail	Robust Detail
		0*	0*	Solution	Solution
		0**	30**		
<p>E-FC-2</p>  <p>Metal ceiling shown</p>	<p>Floating floor: 18mm tongue-and-groove floorboards on 25mm mineral wool batt insulation density 150 kg/m³ (type FFT4)</p> <p>Structural floor: 250mm min in-situ concrete slab, minimum density 2400 kg/m³, without screed</p> <p>Applicable ceilings</p> <p>Metal ceiling system: Cormet Dryliner or Cormet MF Ceiling system providing 75mm (min) ceiling void with one layer 12.5mm Lafarge Echeck wallboard</p> <p>Timber ceiling system: any ceiling system providing a 75mm ceiling void with one layer 12.5mm Lafarge Echeck wallboard</p>	0	30	Robust Detail	Robust Detail
		0	30	Solution	Solution
<p>E-FC-3</p> 	<p>Screed: 65mm (min) sand/cement screed, or 40mm Lafarge Gylvon screed (nominal weight 80 kg/m²)</p> <p>Upper resilient layer: 5mm foamed polyethylene 30-36 kg/m³</p> <p>Lower resilient layer: 25mm mineral wool batt 140 kg/m³ (min) or 25mm expanded SD grade polystyrene or extruded polystyrene</p> <p>Structural floor: 150mm minimum precast concrete planks (minimum weight 300 kg/m²)</p> <p>Applicable ceilings</p> <p>Metal ceiling system: Cormet Dryliner or Cormet MF Ceiling system providing 100 or 150mm ceiling void with one layer 12.5mm Lafarge Standard wallboard</p> <p>Timber ceiling system: battens and counter battens providing a 100mm ceiling void with one layer 12.5mm Lafarge Standard wallboard</p>	0	30	Robust Detail	Robust Detail
		0	0	Solution	Solution

Performance values are for imperforate, jointed systems using only Lafarge components and installed to the Lafarge specification given. Any alterations may well impair the quoted performance criteria.

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



In new build and renovation, fixing plasterboard to timber joists provides a fast and effective means of creating ceilings. Boards can be nailed directly to timbers, although screw-fixing provides superior performance.

Incorporation of a Cormet Resilient Bar between the board and joist offers further enhanced acoustic performance and helps prevent timber movement causing cracking along board joints.

4

Introduction

Timber Frame Ceilings

Plasterboard ceilings on timber framing are typically for domestic applications, the plasterboard being attached directly to the underside of floor joists or the bottom chords of roof trusses. Fixing is simple. Once attached they:

- Provide a smooth finish for direct decoration after taping and jointing
- Can be given a textured finish
- May form a base for gypsum skim plaster manufactured in accordance with BS 1191: Part 1: 1973, Types b1 and b2

They also allow upgrading of a basic ceiling construction, whether new or existing, to provide greater fire resistance and sound insulation as required.

Performance

The selection of boards will depend on the performance required for fire resistance and sound insulation: refer to the performance tables 4.1 to 4.7 and 4.12.

Lafarge plasterboards and components are defined as Class 0 in accordance with the 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: 1997 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

Best practice recommendation

Screw fixing using **Lafarge High Thread Screws** provides super performance and helps prevent timber movement causing 'nail-popping' and cracking along the board joints.

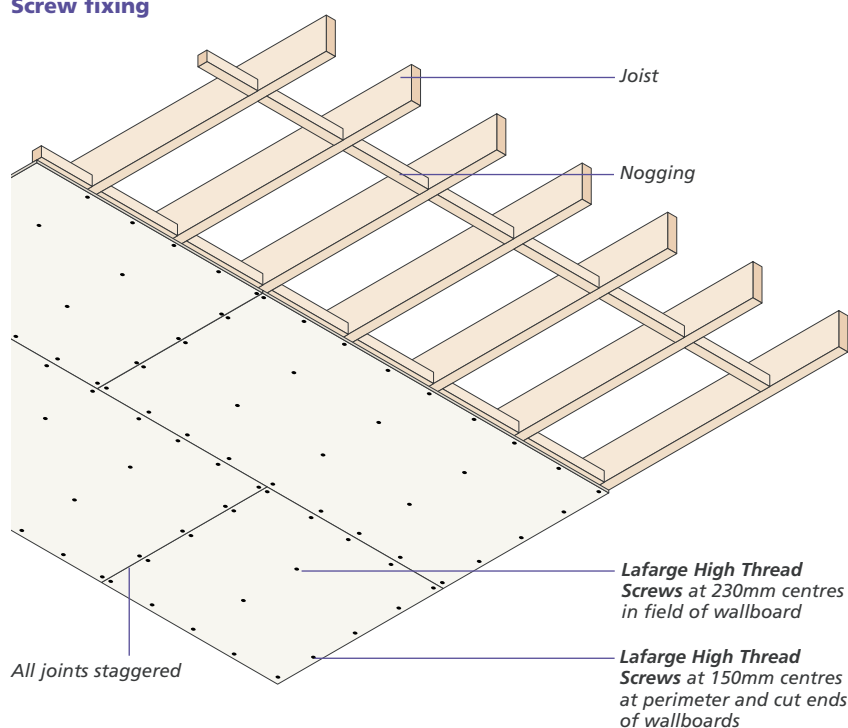
For fixing lengths refer to tables 8.8 and 8.9 on page 333.

System components:

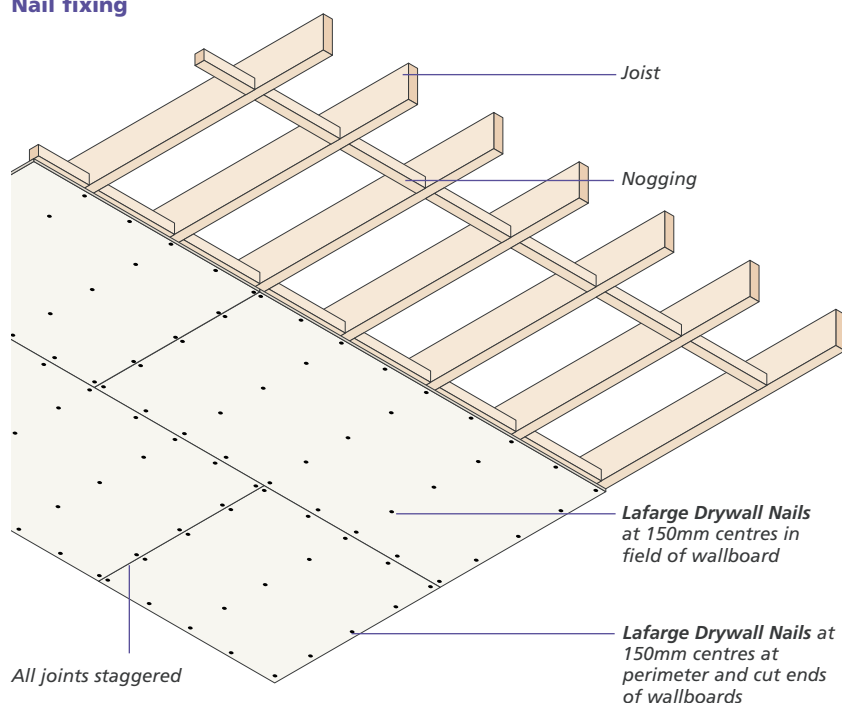
See section:

Boards	8
Compounds	
Screws	
Resilient Bar	
Finishes	7

Screw fixing



Nail fixing



Application details

System assembly

Framing

Maximum joist spacings are given in table 4.14. Fixing lengths and spacings are given in Section 8 of this manual. Fixings should not break the paper surface.

Fix noggings around the ceiling perimeter and, if required, to support any board edges not already supported by joists. Joists and noggings must have a bearing face width of at least 44mm. A bearing face width of 38mm is permissible in the case of trussed rafters manufactured to BS 5268: Part 3: 1985.

When using Lafarge wallboards, provide noggings to support the long board edges. For two layer boarding, position the noggings to suit the second (outer) layer. Always apply plasterboard with the ivory face exposed.

Best practice recommendations

Note: that only the front (Ivory) side should be plastered. Lafarge wallboards are designed to receive a skim coat on the face without the paper overlap (Greyface).

Noggings may be required. See tables 4.1 to 4.7 and 4.10.

Boarding

Fix plasterboards with their paper bound (long) edges at right angles to the joists. Align wallboards leaving a nominal 3mm gap between each other and centre edges of the plasterboard over the joists.

A 3mm gap is always required with Lafarge Lath to allow for keying of the plaster and on Lafarge Standard plasterboard when texturing.

Stagger joints between cut (short) edges and centre over joists or noggings. With two layer boarding, stagger joints and fixings between layers.

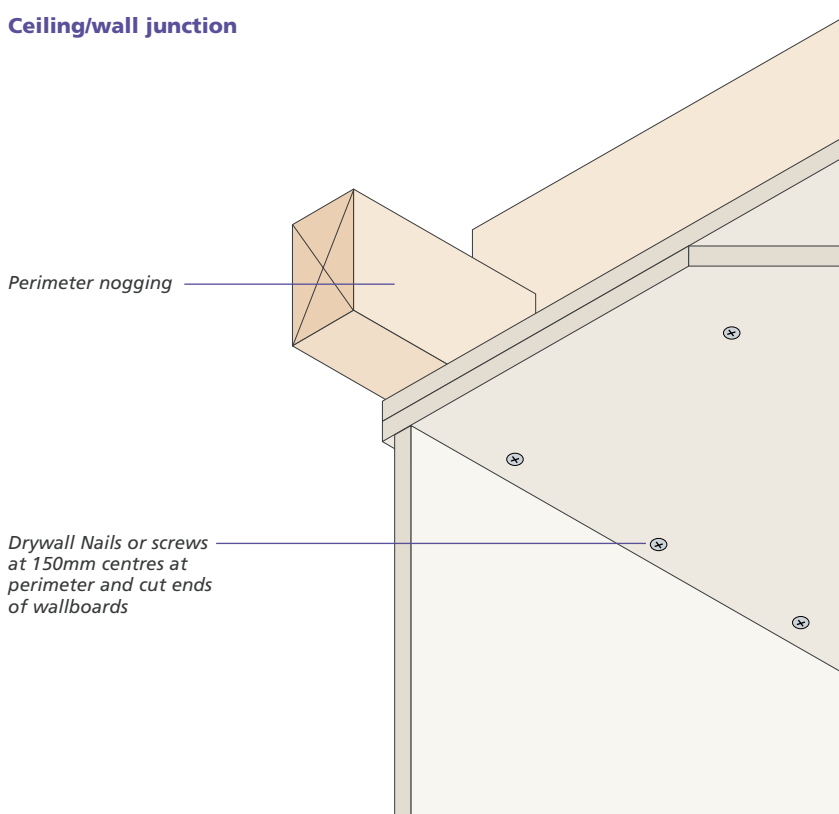
Fix wallboards, working from the centre of each board using either Lafarge High Thread Screws at 230mm centres in the main field of the board and at 150mm centres at the perimeter and cut edges, or Lafarge Zinc Drywall Nails fixed at 150mm centres throughout. Fixings should be no closer than 10mm to the bound edges and 13mm to the cut edges of the wallboards.

Table 4.15 Maximum joist spacings

Thickness (mm)	Board type	Joist centres maximum (mm)	
		with noggings	without noggings
12.5	Standard wallboard/Predeco	600	450
	lath, round edge baseboard	600	450
	Firecheck wallboard*/Megadeco	600	450
	Vapourcheck wallboard*	600	450
	Moisturecheck wallboard	600	450
15	Standard wallboard/Predeco	600	450
	Firecheck wallboard*/Megadeco	600	450
19	Plank	600	600

*when using Vapourcheck wallboard and Firecheck wallboard noggings may be required to comply with the degree of vapour control and fire resistance required.

Ceiling/wall junction



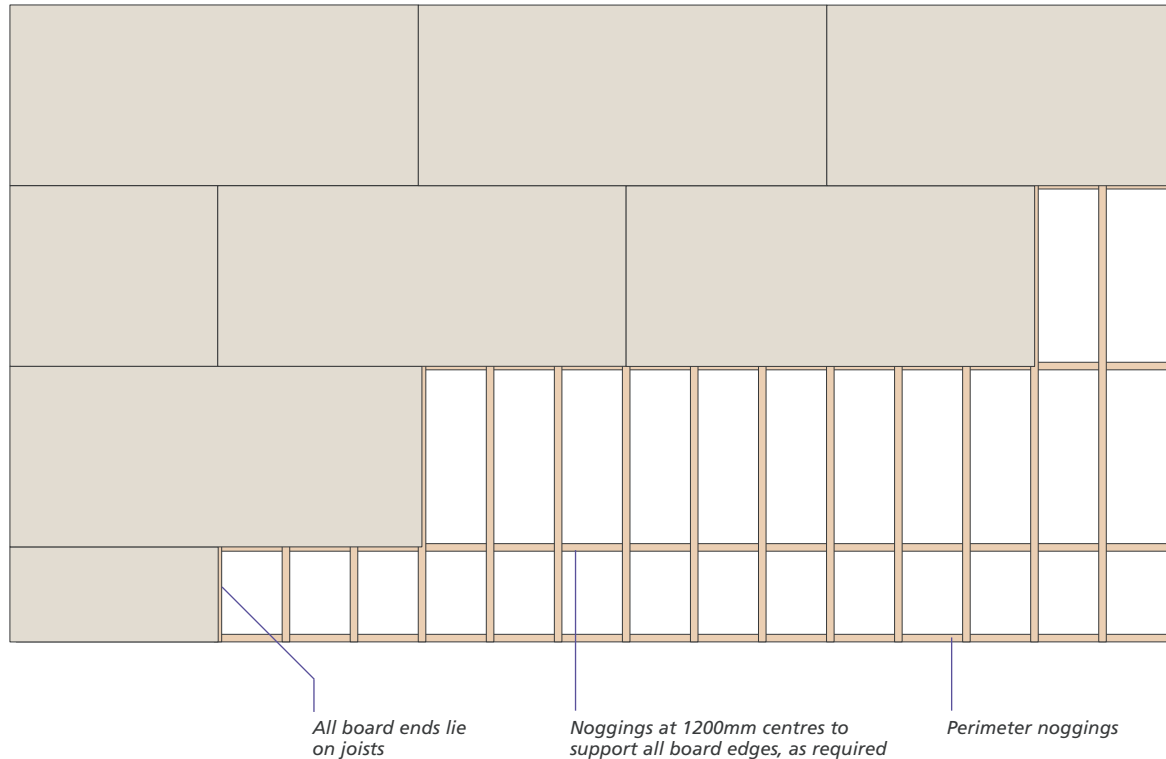
Where there may be risk of interstitial condensation, use Lafarge Vapourcheck wallboard as the inner layer (cavity side) of the ceiling, with the metallised film facing the joists.

In ceilings incorporating Lafarge Firecheck wallboard, the Firecheck must always be used as the outer layer (room side).

Application details

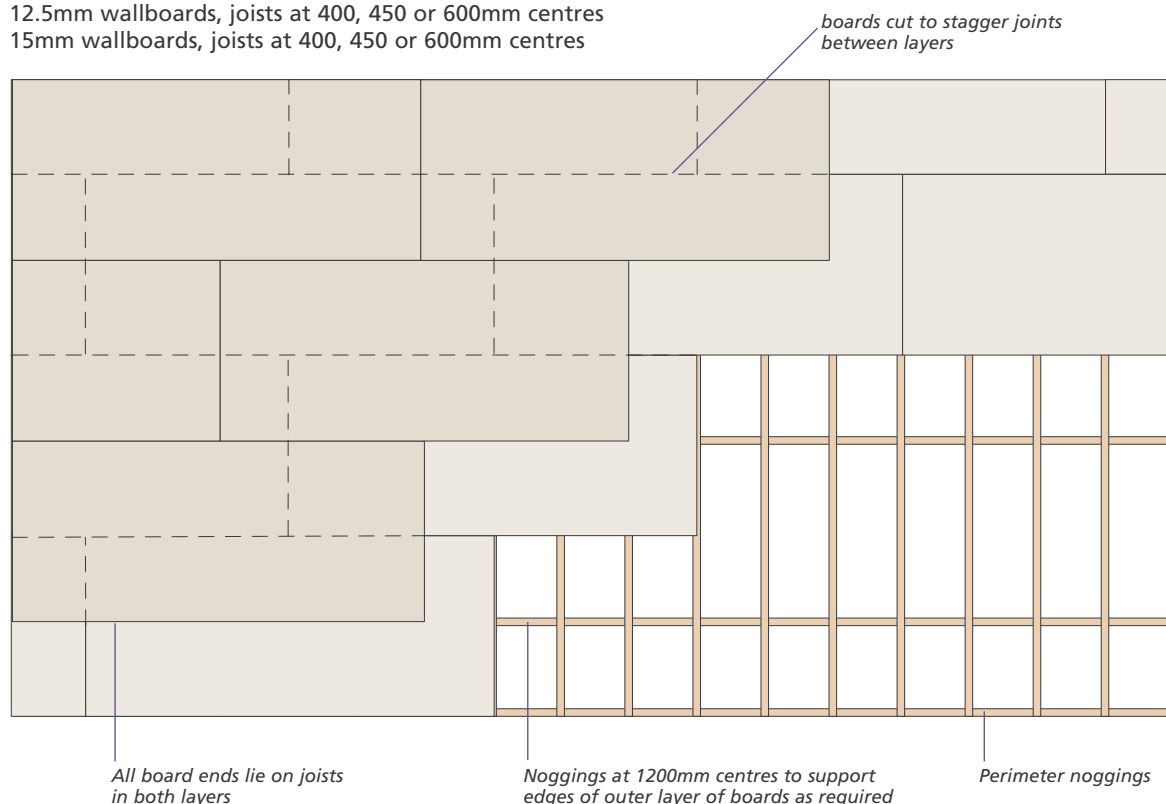
Board and noggings layout: single layer plasterboard

12.5mm wallboards, joists at 400, 450 or 600mm centres
 15mm wallboards, joists at 400, 450 or 600mm centres
 19mm Plank, joists at 400, 450 or 600mm centres



Board and noggings layout: double layers of plasterboard

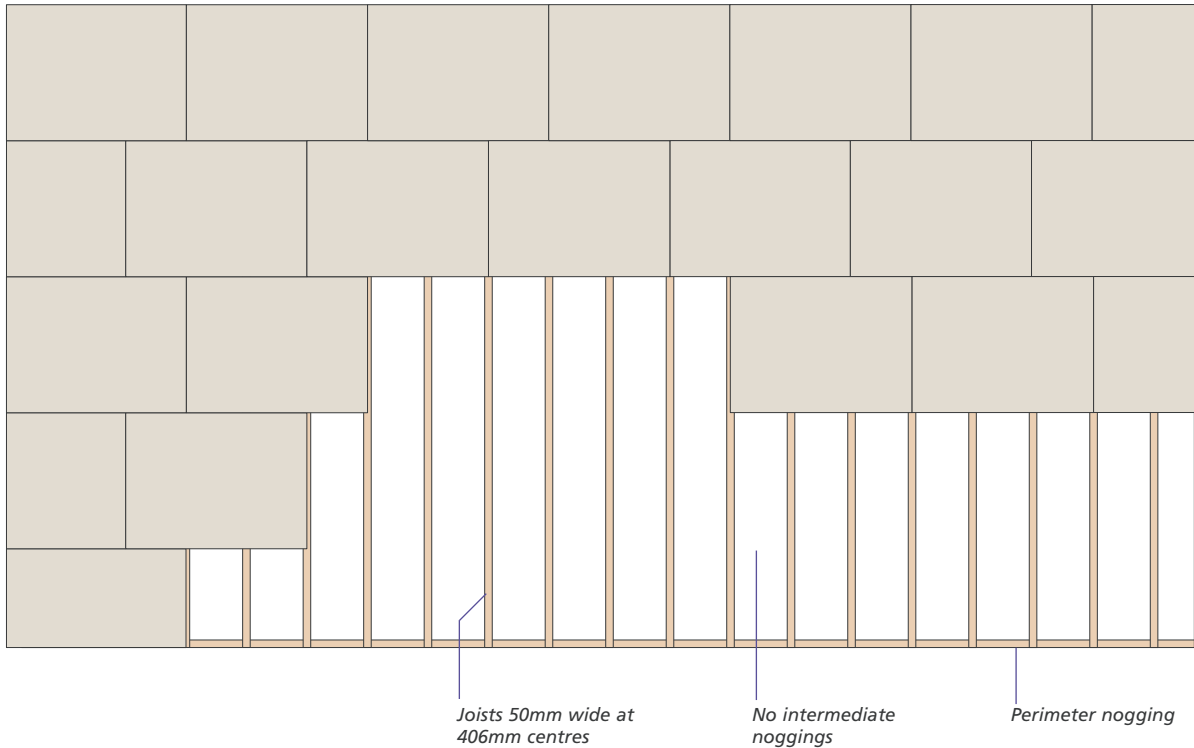
12.5mm wallboards, joists at 400, 450 or 600mm centres
 15mm wallboards, joists at 400, 450 or 600mm centres



Application details

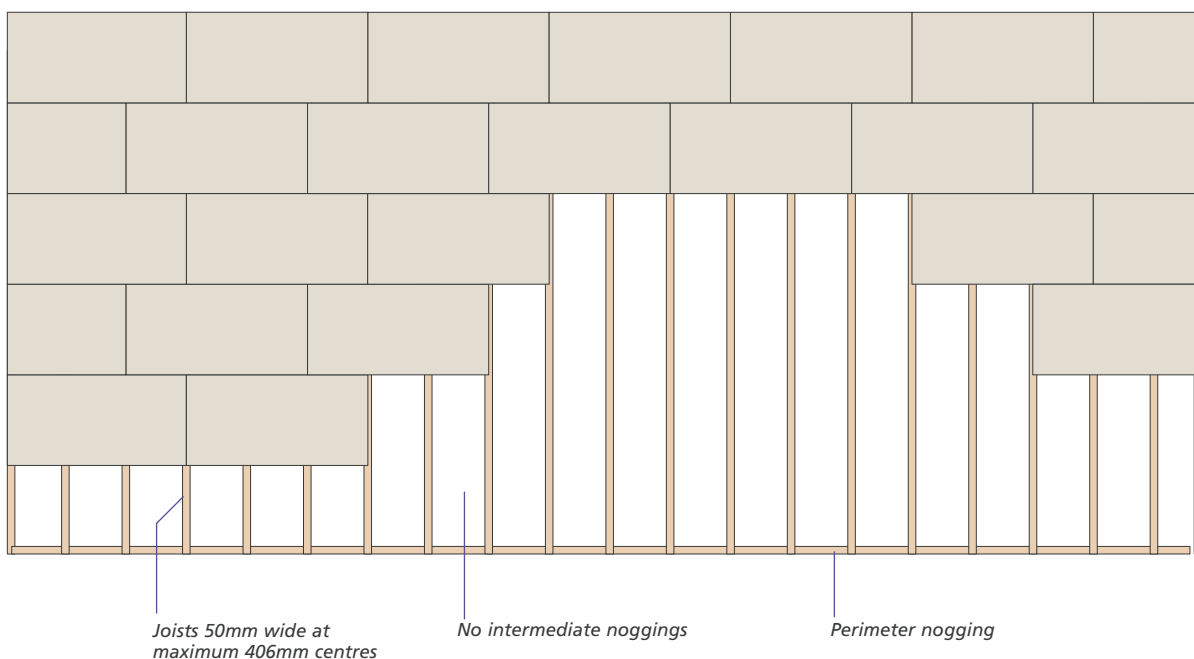
Board layout for Baseboard:

Suitable for finishing with one coat plasterwork up to 3mm thickness. Plaster manufactured to BS 1191: Part 1: 1973, class B, types b1 and b2.
Square edged baseboard 1220 x 900 x 9.5mm, joists at maximum 406mm centres



Board layout for Lath:

Suitable for finishing with two coat plasterwork up to 5mm thickness to BS 1191: 1973, Class B, types b1 and b2
lath 1220 x 600 x 12.5mm, joists at maximum 406mm centres



Application details

Cormet Resilient Bar

The sound insulation performance of some systems is dependent upon the attachment of a **Cormet Resilient Bar**, to the underside of the joists and perimeter noggings on all four sides of room. See tables 4.1 to 4.12.

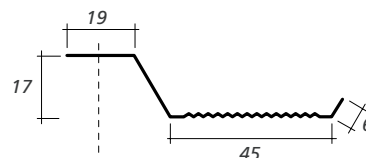
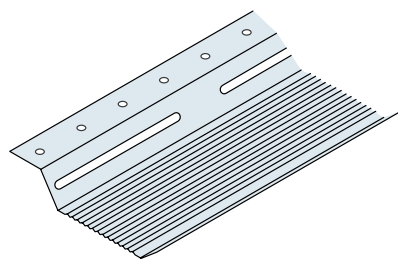
Cormet Resilient Bar is fixed at right angles to the joists at 450mm maximum centres (400mm for 2400mm boards), through pre-punched holes in the flange using **32mm Lafarge Drywall High Thread Screws**, with one fixing per joist/bar intersection. Bars are jointed by overlapping directly over joists, with a minimum 200mm overlap. Short lengths of **Cormet Resilient Bar** should be used to infill between main runs of **Cormet Resilient Bar** at perimeter noggings on walls parallel to joists.

Plasterboards are fixed with long edges at right angles to **Cormet Resilient Bars** at 230mm centres using **Lafarge Drywall Self Tapping Screws**. At cut ends and perimeter fix at 150mm centres. See table 4.14 for length.

To ensure maximum sound insulation performance, screws **must not** be in contact with the joists. This will mean screw fixing off the line of the joists.

Attention should be paid to fixing length as too long a screw through board and **Cormet Resilient Bar** may cause acoustic bridging.

Cormet Resilient Bar RBD3000



Timber joist with Cormet Resilient Bar

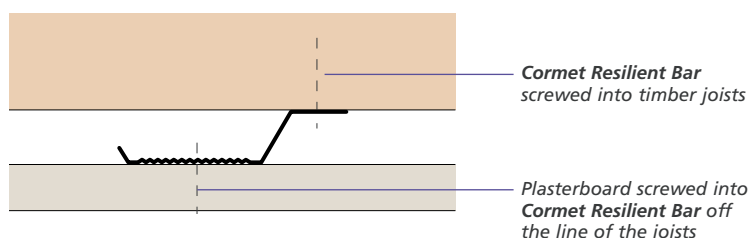


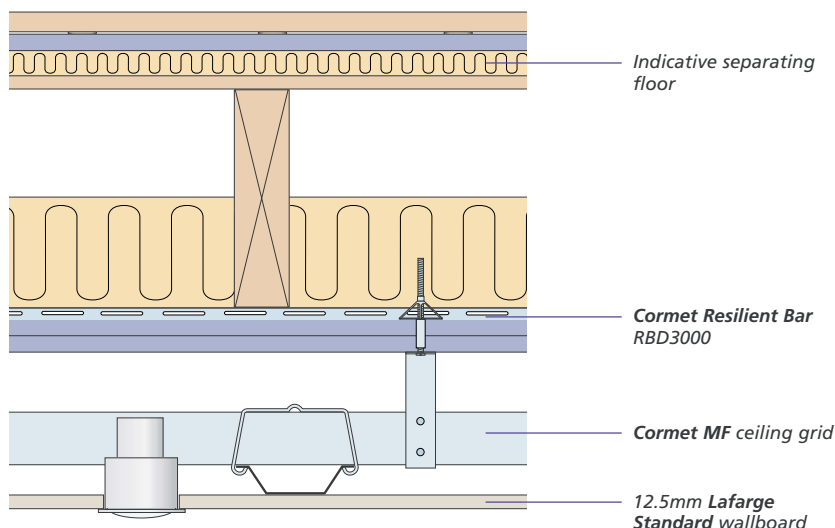
Table 4.16 Recommended screw lengths for fixing plasterboard to Cormet Resilient Bars

Plasterboard thickness (mm)	Screw length (mm)
12.5	25
15.0	25
19.0	32
12.5 + 12.5	32
19.0 + 12.5	44
15.0 + 15.0	44

Table 4.17 Best practice recommendations for maximum loadings for Cormet Resilient Bars

Centres (mm)	Loading (kg/m ²)
400	35
450	30

Downlighter in separating floor



Specification clauses

Lafarge Timber Framed Ceilings

Scope

Ceilings framed using Lafarge plasterboards mechanically fixed to the underside of timber floor or ceiling joists.

Additional clauses

Add general clauses in Section 8 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.

To complete the clause select the appropriate data as indicated on the right.

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

NBSPlus

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 Performance Tables)*

Location

Client reference

Framing

Timber shall be of the appropriate grades and sizes to support the imposed loads in accordance with BS 5266: Part 2 and BS 4978 and in accordance with dimensional standards in BS 8212: 1995. Moisture content of the timber shall be no greater than 21% and falling at time of installation.

Joists/rafters

Sizemm xmm. Spacingmm centres.

Perimeter noggings

Around perimeter fix full depth timber noggings, widthmm.

Intermediate noggings

Timber noggings, size 50 x 50mm to support long edges of boards securely fixed to joists atmm centres. *(Intermediate noggings are required where: Fire resistance is required or Vapourcheck wallboard is used.)*

Resilient Bars

Cormet Resilient Bar RBD3000 fixed at right angles to joists atmm centres using Lafarge High Thread Screws, length 32mm.

Floor boards

Tongue-and-grooved chipboard/ plywood/ softwood boarding, thicknessmm.

Nailed or screw fixed to joists atmm centres

Spot bonded with Lafarge Drywall Adhesive to Lafarge Standard wallboard, thicknessmm to BS 1230: Part 1: 1985 on 30mm rock mineral wool. Minimum density 100 kg/m³ laid onto 12mm structural grade plywood to BS 6566 nailed atmm centres to top of joists. *(Required for separating floors - see the Performance Tables)*

Insulation

(Specify insulation thickness and grade/density from the Performance Tables)

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

Nail fixing to timber joists

Lafarge Drywall Nails at maximum 150 mm centres at the board perimeter and maximum 200mm centres in the field of the board,

Length, inner layer *(Select from 30, 40, 50, 65)mm*

Length, outer layer *(Select from 30, 40, 50, 65)mm*

Screw fixing to timber joists

Lafarge Drywall High Thread Screws at 230mm centres in field of plasterboard and 150mm centres at cut end and perimeter of room,

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

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

Screw fixing to Cormet Resilient Bars

Lafarge Drywall Self Tapping Screws at 230mm centres in field of plasterboard and 150mm centres at cut end and perimeter of room,

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

Materials and Installation

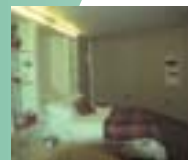
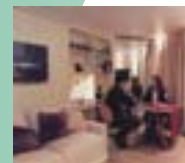
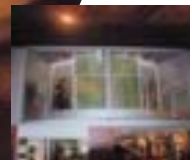
All materials, unless otherwise indicated, shall be supplied by Lafarge Plasterboard Ltd. and shall be installed in accordance with their current literature and in accordance with BS 8212: 1995.

Case study

LivIn Quarters



Drywall systems from Lafarge are set to play a key role in creating homes that could hold the key to providing affordable housing. The company's boards are specified by LivIn Quarters for its revolutionary modular dwellings that can be used as single units or brought together in multi-storey developments. Each unit is factory-built using light gauge galvanised cold rolled steel structural sections. The necessary fire and sound performance for the interior wall linings is then provided by fixing Lafarge boards directly to the steelwork. Megadeco provides 60 minutes fire resistance and a sound insulation index of up to 60Rw dB.



Client: LivIn Quarters

LAFARGE
PLASTERBOARD
MEGADECO



4



Even in new buildings joists may be uneven and such problems are commonly encountered in renovation work, particularly in the case of older properties.

The **Cormet Dryliner Ceiling System** uses adjustable metal brackets to compensate for any unevenness, making it much easier to achieve a true, flat surface.

The system offers improved sound and fire performance and avoids the risk of cracking due to boards being directly fixed to timbers which may themselves be subject to movement.

Cormet Dryliner ceilings provide a convenient means of creating a cavity to accommodate services without the need to drill joists which could potentially weaken the overall structure.

Introduction

Cormet Dryliner to timber joist floors

Cormet Dryliner is a simple, quick, cost-effective and completely dry ceiling system.

It is fixed directly to timber joists to provide high levels of fire protection and sound reduction and is particularly suitable for use on uneven timber joists to achieve a flat ceiling surface.

Performance

The selection of boarding will depend on the performance required for fire resistance and sound insulation. Refer to performance table 4.8.

Lafarge plasterboards and components are defined as Class 0 in accordance with the 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: 1997 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.

Components

The range of components is shown in table 4.18.

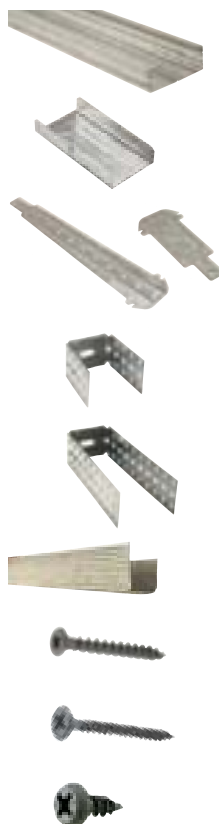
System components:

See section:

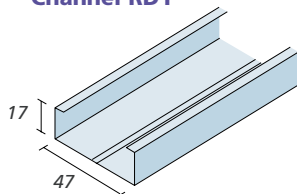
Boards	8
Compounds	
Screws	
Metal	
Finishes	7

Table 4.18 Cormet Dryliner system components

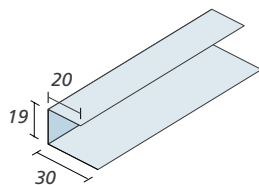
Component	Lafarge code	Dimensions (mm)	Maximum cavity (mm)	Minimum cavity (mm)
Cormet Dryliner Channel	RD1	17 x 47	–	–
Cormet Dryliner Channel Connector	RD3	16 x 47	–	–
Cormet Dryliner Joist Connector	RD5	47 x 100	65	25
	RD10	47 x 180	120	25
Cormet Dryliner SR Bracket	RD2	63 x 47 x 35	60	25
Cormet Dryliner XR Bracket	RD11	133 x 47 x 35	130	25
Cormet Dryliner Track	RD9	20 x 19 x 30	–	–
Lafarge High Thread Screws	32DHT25	32	–	–
Lafarge Drywall Screws	As appropriate for board thickness			
Lafarge Pan Head Screws	11PHST25	11		
	11PHSD25	11		



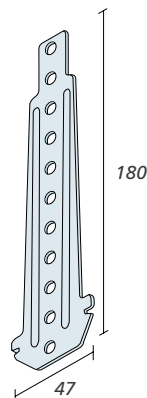
Cormet Dryliner Channel RD1



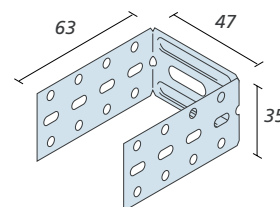
Cormet Dryliner Track RD9



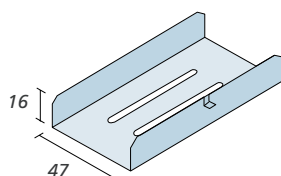
Cormet Dryliner Joist Connector RD10



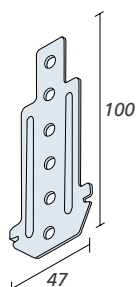
Cormet Dryliner SR Bracket RD2



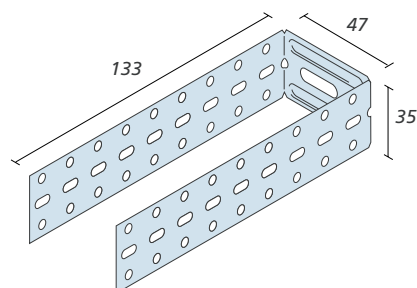
Cormet Dryliner Channel Connector RD3



Cormet Dryliner Joist Connector RD5

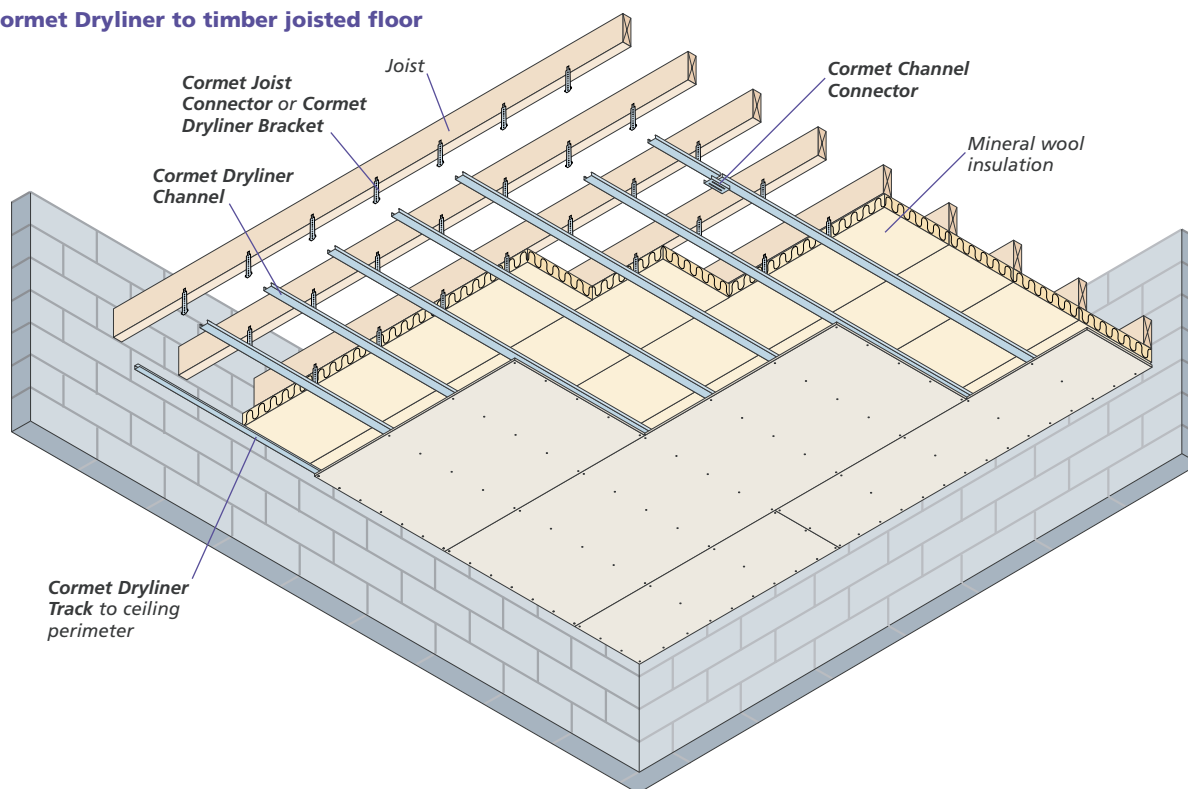


Cormet Dryliner XR Bracket RD11

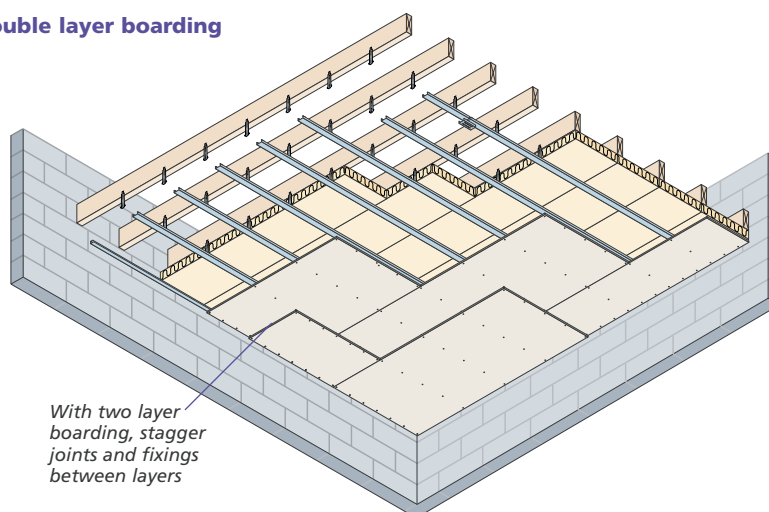


Application details

Cormet Dryliner to timber joisted floor



Double layer boarding



System assembly

Fix **Cormet Dryliner Track RD9** to walls and around columns etc at 600mm maximum centres, making allowances in the ceiling height for the thickness and number of layers of plasterboards to be used.

Mark on underside of **Cormet Dryliner Track** parallel to joist for positioning of RD1 **Cormet Dryliner Channels**. Spacing as table 4.19.

Set levels and secure **Cormet Dryliner Joist Connector RD5** or **RD10** depending on cavity depth to side of joist on line of **Cormet Dryliner Track RD9** with two 32mm **Lafarge High Thread Screws** (32DHT25) at maximum spacing as specified in table 4.20. Ensure connectors are level.

Locate **Cormet Dryliner Channel RD1** into **Cormet Dryliner Track**. Where necessary extend the length of the **Dryliner Channel** by connecting lengths of channel together with **Dryliner Channel Connector RD3**.

Offer **Dryliner Channel** to joist connectors and twist to secure.

Table 4.19 Maximum framing centres

Board thickness (mm)	Board length (mm)	Dryliner Channel centres (mm)
12.5	2400	400
	1800, 2700	450
	3000	450
	3600	450
15 and 19	2700	450
	3000	600

Table 4.20 Joist connector centres

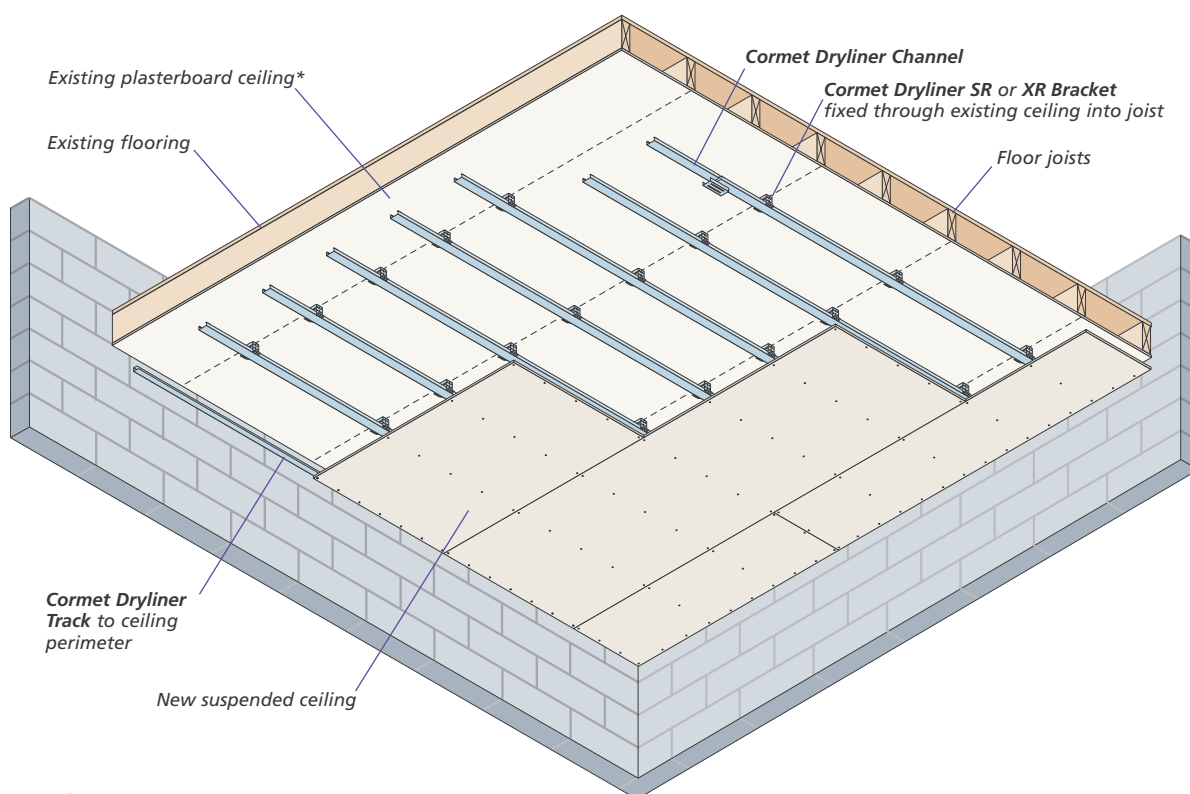
Board thickness	Maximum (mm)
12.5 mm plasterboard single layer	900
15.0 mm plasterboard single layer	900
All double layer boarding	600

Application details

Upgrading

The **Cormet Dryliner** system may also be used to upgrade the fire and/or sound insulation properties of timber joist floors where the existing ceiling is to be retained. See drawing below.

Upgrading existing timber joist floor with Cormet Dryliner



**If existing ceiling is comprised of wood lath and plaster it will be necessary to support the existing ceiling by using chicken wire stapled to existing joists.*

System assembly

Fix the **Cormet Dryliner Track** RD9 to walls and around columns/ staircase perimeters at 600mm maximum centres, using suitable fixings, making allowances in the ceiling height for the thickness and number of layers of plasterboards.

Set levels and mark centre line of each joist on the existing ceiling, fix a **Cormet Dryliner Bracket** RD2 or RD11, depending on the cavity required, to the joists with two 38mm **Lafarge High Thread Screws** at maximum centres as defined in Table 4.20.

Locate **Cormet Dryliner Channels** RD1 into the **Cormet Dryliner Track**, where necessary extend the length of the **Cormet Dryliner Channels** by using a **Cormet Dryliner Channel Connector** RD3, and align with the position of the **Cormet Dryliner Bracket**.

Ensure that the **Cormet Dryliner Channel** is level and secure the **Cormet Dryliner Channels** to each leg of the **Cormet Dryliner Bracket** using **Lafarge Pan Head** self tapping screws 11PH5T25.

Note: where required bend back the legs of the **Cormet Dryliner Bracket** if they protrude past the face of the channel.

Specification clauses

Cormet Dryliner Suspended Ceilings to Timber Joists

Scope

Plasterboard suspended ceilings supported on **Cormet Dryliner** metal framework from softwood joists, cavity depth 20-130mm.

Additional clauses

Add general clauses in Section 8 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.

To complete the clause select the appropriate data as indicated on the right.

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 Performance Tables)*

Location

Client reference

Joists

Timber shall be of the appropriate grades and sizes to support the imposed loads in accordance with BS 5266: Part 2 and BS 4978 and in accordance with dimensional standards in BS 8212: 1995.

Moisture content shall be no greater than 21% and falling at time of installation.

Joist sizemm xmm, spacingmm centres.

Floor boards

Tongue-and-grooved chipboard/tongue and grooved plywood/square edge softwood boarding, thicknessmm. Nailed or screw fixed to joists atmm centres.

Metal framing components

Framing components to be hot dipped 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.

Metal framework

Cormet Dryliner Channels RD1 to BS 7364: 1990 atmm centres connected to substrate using Lafarge Joist Connector *RD2/RD5/RD10/RD11 atmm maximum centres along joist. Joist Connectors fixed to side of joists using 2 No Lafarge High Thread Screws length 32mm, with minimum 30mm overlap of joist connector onto joists.

Dryliner Channels connected together using Cormet Dryliner Channel Connectors RD3. *(Where ceiling length exceeds length of dryliner channel.)*

Insulation

(Specify insulation thickness and grade/density from the Performance Tables)

Boarding

Single or double layer of wallboard.

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

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

Screw fixings

Lafarge Drywall Screws at maximum 230mm centres in field of board, 150mm at cut ends and perimeter of room, type Drywall 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*, or

Lafarge Drywall High Thread Screws, two per hanger, length 32mm.

Finishing

Lafarge Taping and jointing system, or

Lafarge Supreme Skim Plaster, or

Lafarge Predeco taping and jointing system

Materials and 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

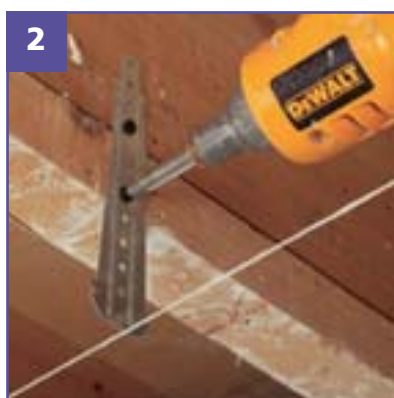


Step one

Mark position on walls for desired clear space/ceiling height, taking into account the thickness and number of layers of plasterboards to be used. Fix **Cormet Dryliner Track RD9** to walls and around columns etc at 600mm maximum centres.

Mark walls on underside of **Cormet Dryliner Tracks** that are parallel to joists for position of **Cormet Dryliner Channels RD1**. Spacing as table.

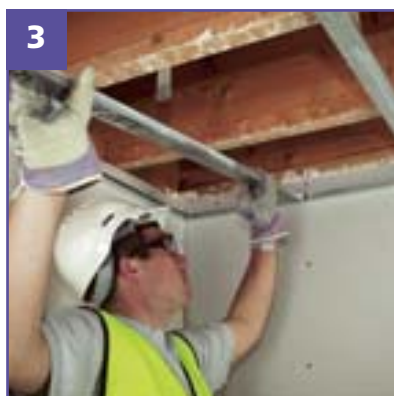
Board thickness (mm)	Board length (mm)	Dryliner Channel centres (mm)
12.5	2400	400
	1800, 2700, 3600	450
	3000	600
15 and 19	2700	450
	3000	600



Step two

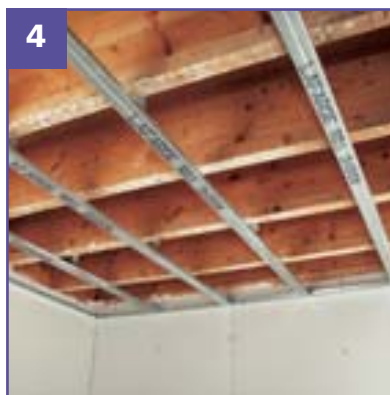
Set levels and secure **Cormet Dryliner Joist Connector RD5** or **RD10**, depending on cavity depth, to side of joist, on line of **Cormet Dryliner Channel** with two 32mm **Lafarge High Thread Screws 32DHT25** spaced as table. Ensure **Cormet Dryliner Joist Connectors** are level.

Board thickness	Maximum spacing of brackets to joists (mm)
9.5mm plasterboard single layer	900
12.5mm plasterboard single layer	900
15.0mm plasterboard single layer	900
All double layer boarding	600



Step three

Offer one edge of **RD9 Cormet Dryliner Channel** to the Joist Connector, once it is located in the fixing lug, push the opposite edge of the channel into position. Where necessary extend the length of the **Cormet Dryliner Channel** by connecting two lengths of **Cormet Dryliner Channel** together with **Cormet Dryliner Channel Connector RD3**.

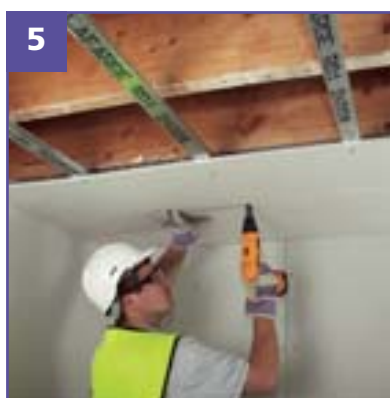


Step four

Cut **Cormet Dryliner Channel RD1** at maximum 5mm shorter than the length of the ceiling required and locate **Cormet Dryliner Channel RD1** into **Cormet Dryliner Track**.

Insulation

Where required insert mineral wool insulation above the framing, ensuring that the mineral wool forms one continuous lining.



Step five

Fix plasterboards with the long edges at right angles to the **Cormet Dryliner Channels**. Screw-fix boards to **Cormet Dryliner Channels** at 230mm maximum centres and 150mm maximum centres at perimeters of room and the cut ends of board.

With two layers of plasterboard, stagger all joints between the layers. For typical single layer and two-layer plasterboard layouts, see diagrams in **Details** section.

Jointing

Apply **Lafarge jointing compounds** to all joints either by hand or machine – see **Section 7**.

Installation details on Lafarge systems are also available in the **Lafarge Installation Guide** or online at: www.lafargeplasterboard.co.uk

Introduction

Cormet Dryliner to concrete soffits/floor slabs

As a ceiling lining **Cormet Dryliner** is fixed directly to the existing concrete soffit allowing a cavity width between soffit and plasterboard lining ranging from 25mm to 130mm.

For larger voids use **Cormet MF Suspended Ceiling System**. This system also lends itself to overboarding existing ceilings where improved acoustic performance is required.

Table 4.21 Cormet Dryliner framing systems

Framing	Cavity width (mm)
Standard reach (SR)	25 – 60
Extended reach (XR)	25 – 130

The system can therefore be used for all common lining applications to:

- utilise minimum space
- allow for hidden services
- provide high levels of acoustic performance.

Performance

Lafarge plasterboards and components are defined as Class 0 in accordance with the 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: 1997 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.

For systems performance data refer to performance tables.

Components

The range of components is shown in table 4.22.

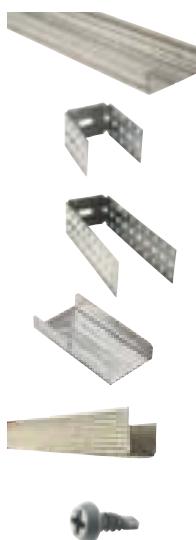
System components:

See section:

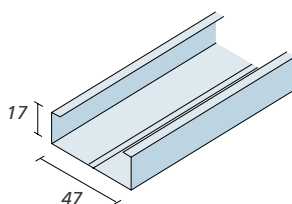
Boards	8
Compounds	
Screws	
Metal	
Finishes	7

Table 4.22 Cormet Dryliner System components

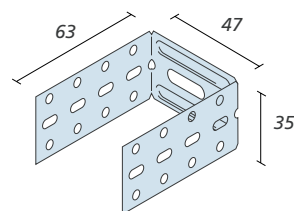
Component	Lafarge code	Dimensions (mm)	Maximum cavity (mm)	Minimum cavity (mm)
Cormet Dryliner Channel	RD1	2400, 2700 3000, 3600	–	–
Cormet Dryliner SR Bracket	RD2	63	60	25
Cormet Dryliner XR Bracket	RD11	133	130	25
Cormet Dryliner Channel Connector	RD3	100	–	–
Cormet Dryliner Track	RD9	3000	–	–
Lafarge Pan Head Screws	11PHST25	11	–	–
	11PHSD25	11	–	–



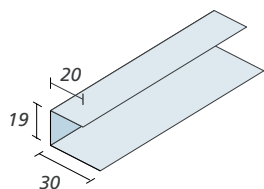
Cormet Dryliner Channel RD1



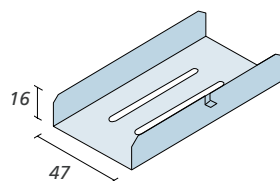
Cormet Dryliner SR Bracket RD2



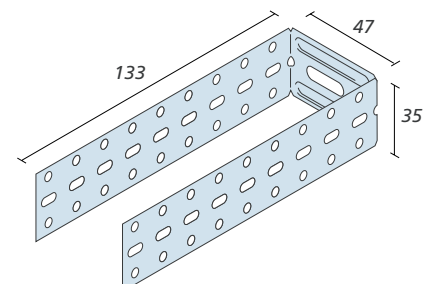
Cormet Dryliner Track RD9



Cormet Dryliner Channel Connector RD3



Cormet Dryliner XR Bracket RD11



Application details

System assembly – standard reach

The Standard Reach brackets are suitable for cavity widths from 25mm to 60mm.

Fix **Cormet Dryliner Track RD9** at 600mm centres to adjacent walls allowing for required cavity.

Mark horizontal lines on the ceiling to locate **Cormet Dryliner Channels RD1**, spacing as table 4.23.

Position **Cormet Dryliner Brackets** directly to soffit at maximum spacings as specified in table 4.23 along marked lines. Secure to soffit with suitable fixing through horizontal slot and fold down legs. Cut **Cormet Dryliner Channel RD1**, 5mm shorter than the ceiling length and locate **Cormet Dryliner Channels RD1** into **Cormet Dryliner Track**. Where ceiling length exceeds channel length, connect two lengths of channel together with **Cormet Dryliner Channel Connector RD3**.

Ensure **Cormet Dryliner Channel RD1** is level. Secure **Cormet Dryliner Channel RD1** to each leg of **Cormet Dryliner Bracket** using **Lafarge Pan Head Screws** (11PHST25). Where necessary bend back the legs of the bracket if they protrude past the face of the channel.

Insulation

Where required, insert mineral wool batts above the framing ensuring that the mineral wool forms one continuous lining.

Boarding

Fix plasterboards with long edges at right angles to **RD1 Cormet Dryliner Channel**, butt firmly against the perimeter and fix to the framing with **Lafarge Drywall Screws** at 230mm maximum centres and 150mm maximum centres at perimeter of room and cut end of plasterboard. Align wallboards leaving a nominal 3mm gap between each other and centre edges of the plasterboard over the channels. Noggings are not required in metal framed ceilings. With two layer systems stagger all joints between layers.

Jointing

Apply Lafarge jointing compounds to all joints either by hand or by machine in accordance with Lafarge Plasterboard's instructions, see Section 7.

Cormet Dryliner to concrete floor slabs

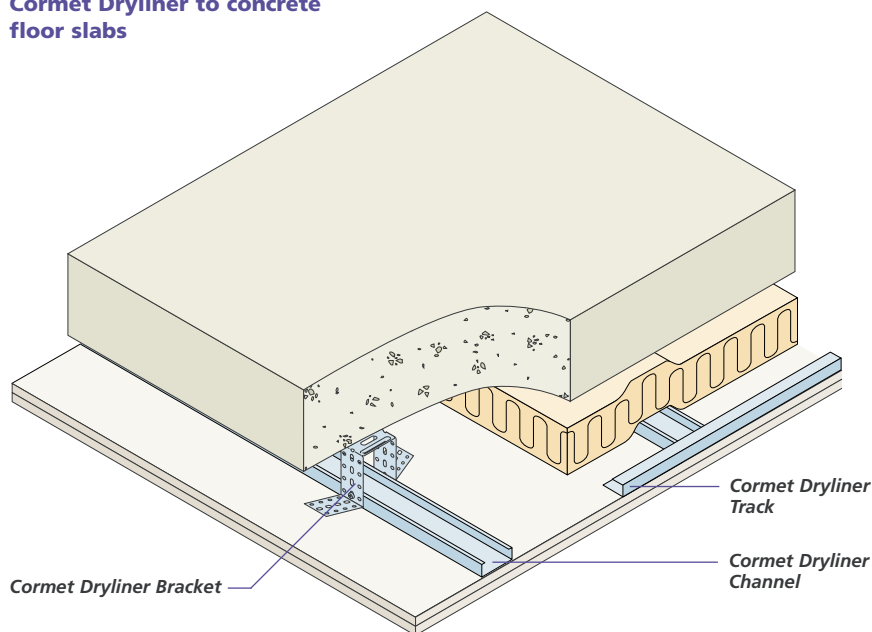


Table 4.23 Maximum framing centres

Board thickness (mm)	Board length (mm)	Dryliner Channel centres (mm)
12.5	2400	400
	1800, 2700, 3600	450
	3000	600
15 and 19	2700	450
	3000	600

Table 4.24 SR and XR Bracket centres

Board thickness	Maximum (mm)
12.5 mm plasterboard single layer	900
15.0 mm plasterboard single layer	900
All double layer boarding	600

Specification clauses

Cormet Dryliner Suspended Ceilings to Concrete Soffits

Scope

Plasterboard suspended ceilings supported on **Cormet Dryliner** metal framework from softwood joists, cavity depth 20-130mm.

Additional clauses

Add general clauses in Section 8 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.

To complete the clause select the appropriate data as indicated on the right.

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 Performance Tables)*

Location

Client reference

Metal framing components

Framing components to be hot dipped 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.

Metal framework

Cormet Dryliner Channels RD1 to BS 7364: 1990 atmm centres connected to substrate using Dryliner Bracket RD2 or RD11 atmm centres. Secure to RD1 with Lafarge Pan Head Screws.

Always ensure the Dryliner Bracket is secured to the concrete substrate with a suitable fixing as approved by a specialist fixing manufacturer.

Dryliner Channels connected together using Cormet Dryliner Channel Connectors RD3.

Metal framework fixing

Spit Pulsa 700P nailing system for concrete or steel using fixings dependent on material substrates at max 600mm centres

Standard concrete use Spit C6 Pins *(Select from 20, 25, 30, 35, 40)mm*, or

Hard concrete use Spit HC6 Pins *(Select from 17, 20, 22, 27)mm*, or

Steel use Spit SC6 Pins *(Select from 15, 20)mm*

Insulation

(Specify insulation thickness and grade/density from the Performance Tables)

Boarding

Ceiling: **One/two** layers Lafarge 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.

Screw fixings

Lafarge Drywall Screws at 230mm centres in field of plasterboard and 150mm centres at cut end and perimeter of room, type Drywall 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 Universal Texture

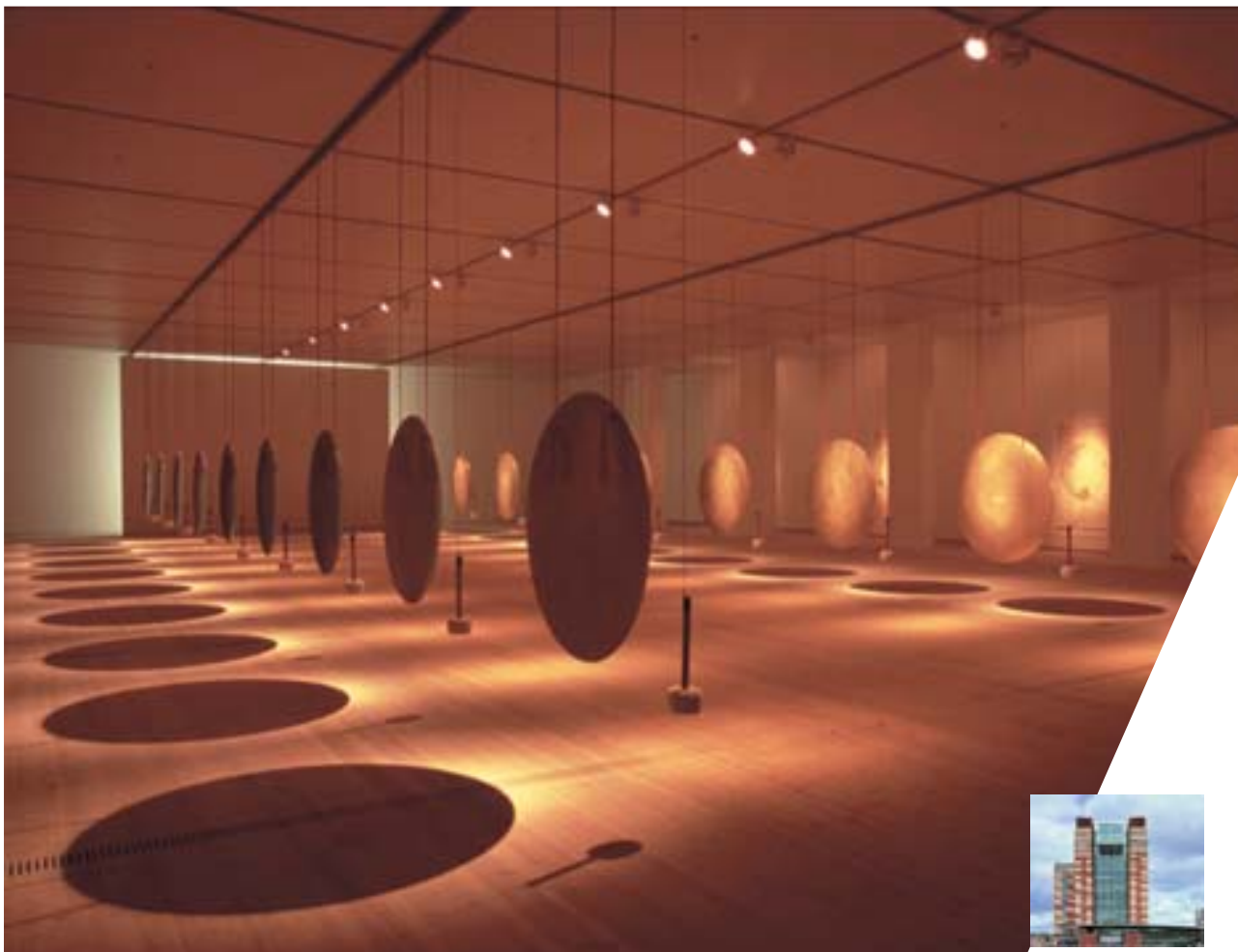
Materials and Installation

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.

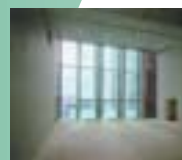
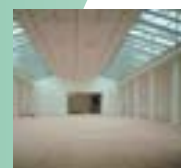
Given the vast selection of different types of substrate that are encountered on site, it is strongly recommended that adequate site tests be carried out to establish a recommended load on fixings.

Case study

Baltic Centre for Contemporary Art



Baltic Flour Mill was originally a grain store but has now been converted into a stunning gallery for contemporary art. Drywall systems make a very significant contribution to the clean, airy spaces of the interior as well as offering many practical benefits. The impressive gallery spaces, in places rising to heights of 10 metres and more, are lined with Megadeco board which is used in conjunction with load-bearing metal studs and a plywood inner layer. The plywood 'background' provides the additional strength needed to carry heavier exhibits, whilst the Megadeco facing combines fire and acoustic performance with a tough, impact resistant finish.



Client: Gateshead Council

Architect: Ellis Williams

Drywall contractor: Baris

Main contractor: HBG Construction





Cormet Metal Furring (MF) Suspended Ceiling provides a flat, seamless and acoustically superior alternative to lay-in grid systems.

They allow the creation of deep voids between ceiling and soffit to accommodate large amounts of service equipment.

These features have led to **Cormet MF Ceilings** being regularly specified in conversion projects, cinemas, hospitals and multi-occupancy residential developments.

4

Introduction

Cormet M.F. Suspended Ceilings

Cormet M.F. Suspended Ceilings are typically for commercial applications. Ceiling height may be varied to accommodate services, ducting etc. They provide a high performance ceiling and can be used to upgrade and protect existing structures.

They are compatible with **Cormet** Partitioning systems. They provide a flush finish suitable for direct decoration or textured finish.

Performance

The selection of the ceiling system and boarding will depend on the performance required for fire resistance and sound insulation: refer to the performance tables 4.9 and 4.10.

Fire spread

Lafarge plasterboards and components are defined as Class 0 in accordance with the 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: 1997 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.

Sound insulation

Where improved acoustic performance is required, use two layers of plasterboard to increase the weight of the ceiling, and reduce indirect air leakage by:

- use of **Lafarge Intumescent Acoustic Sealant** at all perimeters
- use of glass/rock mineral wool insulation
- introduction of cavity barriers
- interrupting the ceiling with full height partitions.

Components

The range of components is shown in table 4.25.

System components:

See section:

Boards Compounds Screws Metal	8
Finishes	7

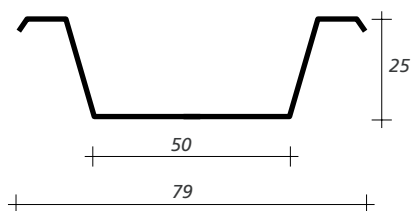
Table 4.25 Cormet M.F. Suspended Ceiling components

Component	Lafarge code	Dimensions (mm)	Length (mm)
Cormet Ceiling Channel	MFCC50	79 x 25	3600
Cormet Primary Channel	MFCP44	15 x 44	3600
Cormet Edge Channel	MFCE26	19 x 26 x 28	3600
Cormet Metal Angle	MFC2330	23 x 30	3600
Cormet Connecting Clip	MFCCLIP3	–	–
Cormet Soffit Cleat	MFCCLEAT	–	–
Cormet Strap Hanger	MFCSTRAP	–	–
Cormet Phonistar	PHONI	–	–
Cormet Phonissimo	PHONIMO	–	–

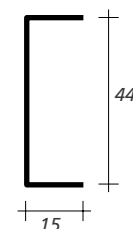
Component specifications may vary from those shown



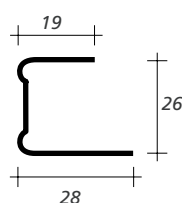
Cormet Ceiling Channel MFCC50



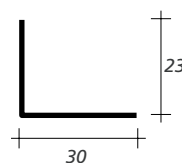
Cormet Primary Channel MFCP44



Cormet Edge Channel MFCE26

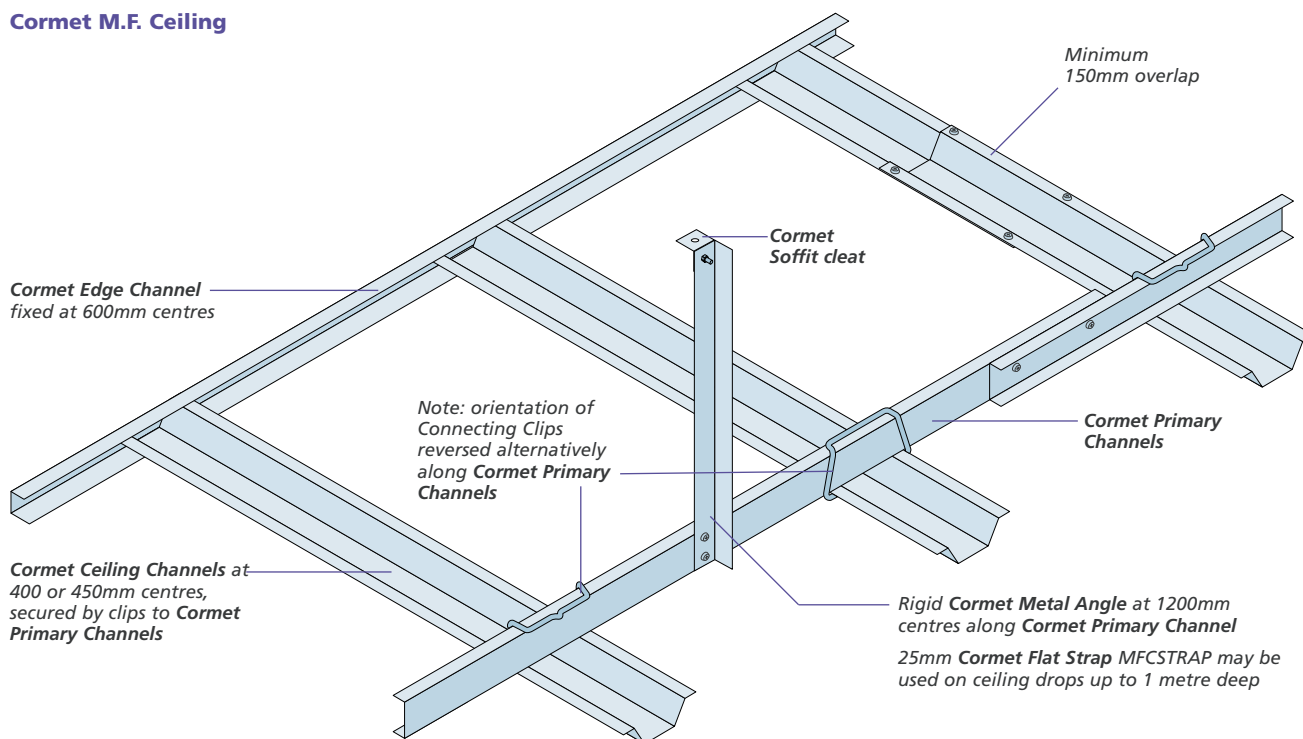


Cormet Metal Angle MFC2330



Application details

Cormet M.F. Ceiling



Note: Where ceiling weight exceeds 20 kg/m² (most double wallboard systems) use Lafarge Wafer Head Self Drilling Screws in lieu of Connecting Clips. It is recommended that all double board systems are screw fixed.

System assembly

Suspension system

Fix **Cormet Edge Channels** to walls and around columns etc at 600mm maximum centres, making allowance in the ceiling height for the thickness and number of layers of plasterboard to be used.

Attach **Cormet Soffit Cleats** to the structural soffit. Suspend the metal system from the **Cormet Soffit Cleats** with **Cormet Metal Angle** or **Cormet Strap Hanger**. Fix **Cormet Metal Angle** to the **Cormet Primary Channel** with 2 self-drilling **Lafarge Pan Head Screws** or **Lafarge Wafer Head Screws**. Space the fixings at 1200mm centres and **Cormet Primary Channels** at centres as shown in table 4.27.

Table 4.26 Recommended maximum ceiling loadings

Suspension centres (mm)	Primary Channel centres (mm)	Maximum loading including plasterboard (kg/m ²)
1200	600	74
1200	900	50
1200	1200	35

Secure the **Cormet Ceiling Channels** at right angles to the underside of the **Cormet Primary Channels** – see table 4.276 – using **Cormet Connecting Clips**, or **Lafarge Wafer Head Screws** as note to illustration. Hook the clips to the flanges of the **Cormet Ceiling Channels** and snap-fix over the top of the **Cormet Primary Channel**.

Note: Alternate **Connecting Clips** either side of the **Primary Channel** along its full length.

Table 4.27 Maximum framing centres

Board thickness (mm)	Board length (mm)	Ceiling Channel centres (mm)
12.5	2400	400
	1800, 2700, 3600	450
	3000	600
15 and 19	2400	400
	2700	450
	3000	600

Join **Cormet Primary Channels**, by overlapping them back to back by 150mm and fixing with two bolts (MFCNB) or two Pan Head Screws.

Join **Cormet Ceiling Channels** by nesting together by 150mm and crimping or screwing twice on each side of the overlap.

Application details

Single layer boarding

When using single layer plasterboard, fix with the bound edges at right angles to the ceiling sections, with adjoining edges lightly butted. End joints must occur at the centre of the **Cormet Ceiling Channel**, staggered by half a board length whenever possible leaving a gap of up to 3mm between ends of board. The plasterboard is screw fixed to the ceiling sections at 230mm maximum centres with **Lafarge Drywall Self Tapping Screws** of the appropriate length. Cut edges of the plasterboard are screwed at 150mm maximum centres to the **Cormet Ceiling Channel**, likewise all edges are screwed to the **Cormet Edge Channel** at wall junctions at 150mm centres.

Screws must be no closer than 10mm to bound edges and 13mm to cut edges of plasterboard.

To maintain acoustic integrity, seal around the perimeter of the ceiling with **Lafarge Intumescent Acoustic Sealant**.

Double layer boarding

When using double layer plasterboard, the first layer is fixed as above. The second layer should be fixed with all joints staggered in relation to the first layer, still in the same pattern, and screwed to the **Cormet Ceiling Channels** and **Cormet Edge Channels** as before with **Lafarge Drywall Self Tapping Screws**, avoiding the screws used to fix the first layer.

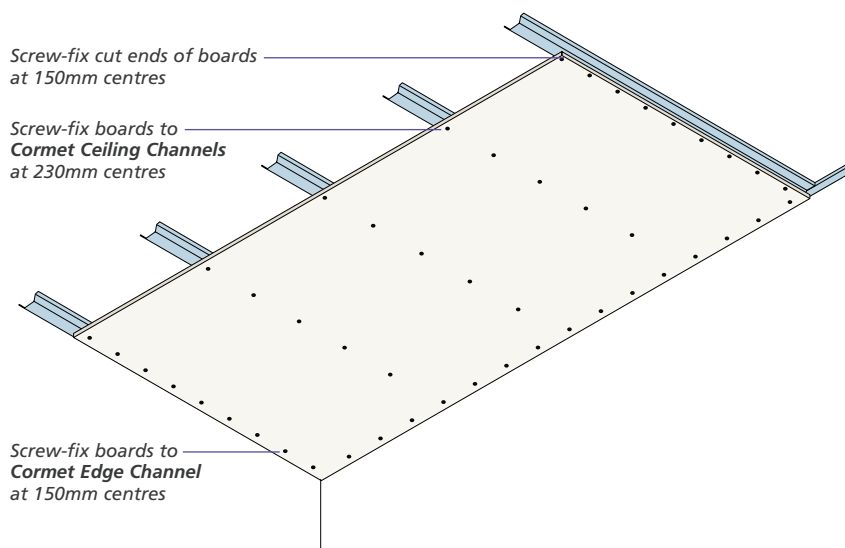
Best practice

Where there may be a risk of interstitial condensation, use **Lafarge Vapourcheck** wallboard as the inner layer installed, with the metallised film facing the void, unless this is a cold void with a heated room below, when the position should be reversed, or insulation added to the void. Vapour control layers should only be used on the warm side of the structure.

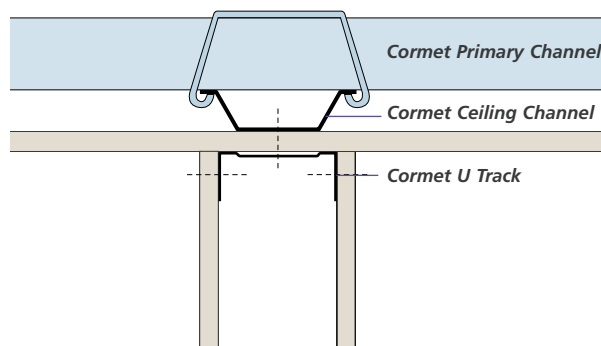
Where used in ceilings **Lafarge Firecheck** wallboard must always be the roomside layer.

If the system is not going to be taped and jointed or skim coat plaster finished it is important that a bead of **Lafarge Intumescent Acoustic Sealant** is applied to the perimeter to maintain the system performance.

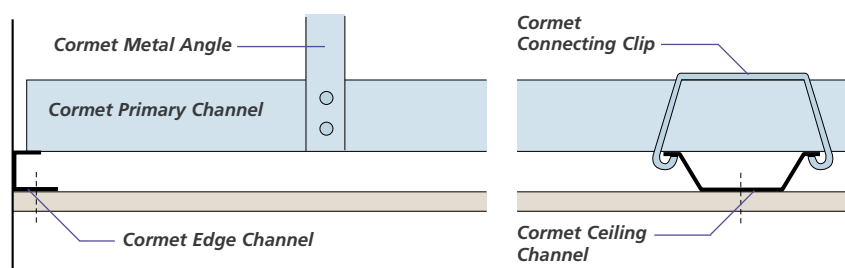
Boarding



Partition head



Ceiling perimeter

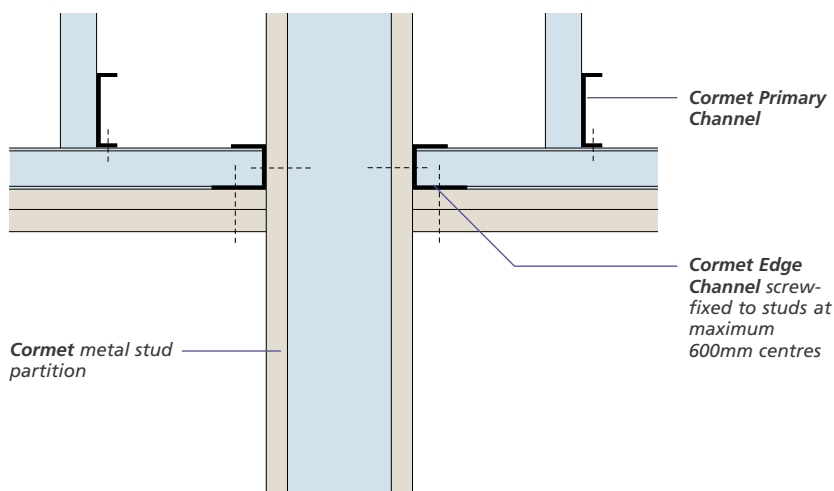


Application details

When setting out in areas where partitioning is to be attached to the underside of the ceiling, position the **Cormet Ceiling Channels** so as to allow the partition ceiling **Cormet U Track** to be screw fixed to the **Cormet Ceiling Channels**.

Suspend heavy loads, air ducting, lighting units etc directly from the structural soffit to avoid loading of the **Cormet** suspension framing.

Junction with full height partition



Movement control joints

The continuity of the plasterboard and supporting structure should be broken by movement control joints:

- where the ceiling runs 10 metres or more in any direction
- where the ceiling crosses structural movement joints.

Movement joints running parallel to the Ceiling Channels

Locate **Cormet Ceiling Channels** along each side 60mm from the movement joint (measured to centres). Secure both **Cormet Ceiling Channels** to **Cormet Primary Channels** with **Cormet MFC Clips** or **Lafarge Self Tapping Screws**. Leave a gap in the runs of **Cormet Primary Channel** as wide as the joint and support the cut ends with hangers.

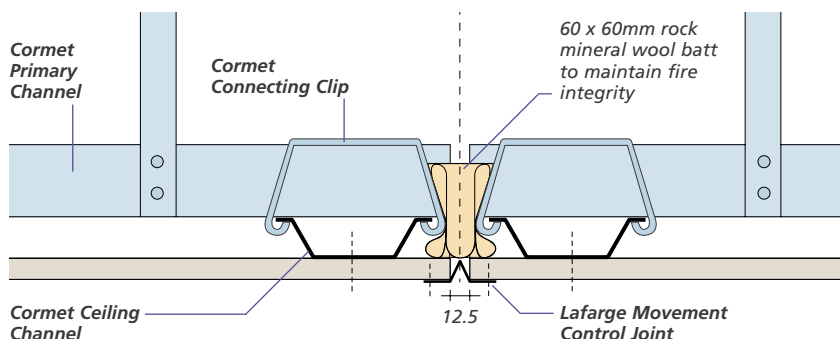
Movement joints running across the Ceiling Channels

Form a 12.5mm gap along the line of the movement joint, supported by **Cormet Primary Channels** 60mm from each side of the joint.

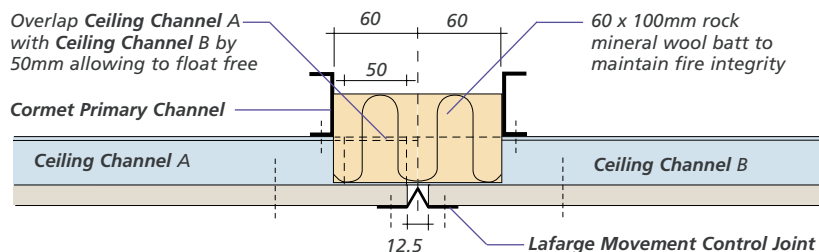
To maintain the acoustic and fire integrity of the ceiling, pack the space behind the joint with 60mm rock mineral wool batt with a density of 40 kg/m³.

When boarding the ceiling, leave a 12.5mm continuous gap along the line of the movement joint.

Movement control joint parallel to ceiling channels



Movement control joint at right angles to ceiling channels



Application details

Ceiling recess

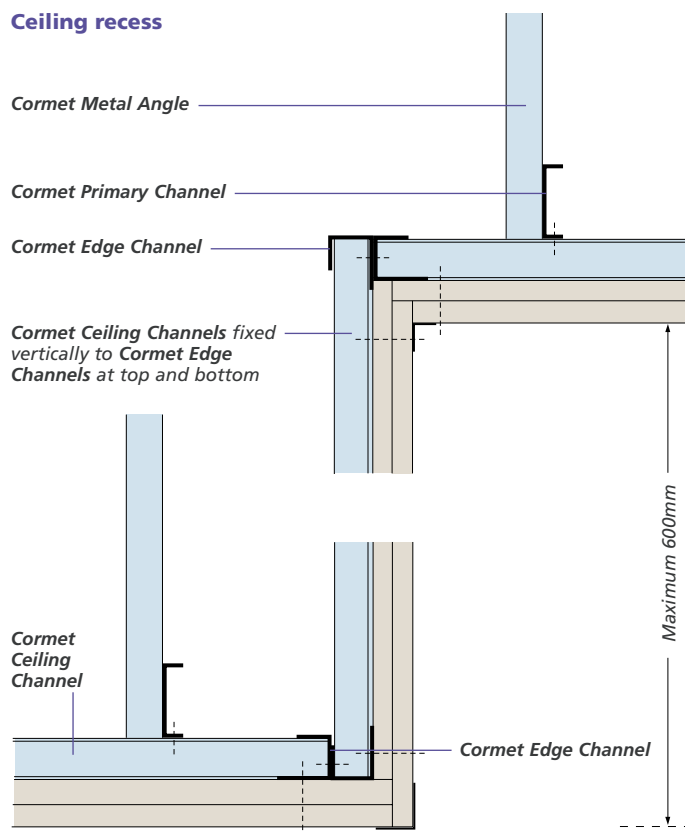
Ceiling recess detail incorporating a change in ceiling height is suitable for a maximum change in level of 600mm. For voids over 600mm contact the Enquiryline.

Ceiling openings

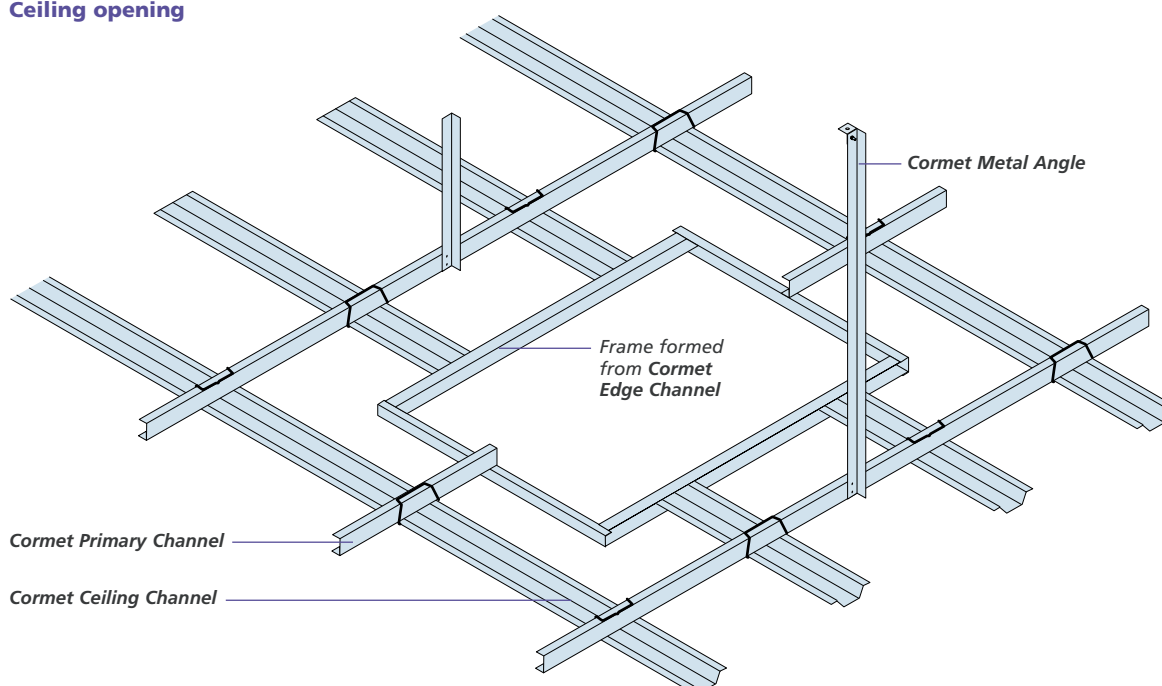
Around openings for access panels, ducting, lighting troughs etc, form a frame from **Cormet Edge Channel** screw-fixed over the ends of the **Cormet Ceiling Channels** to brace the ceiling grid.

Install extra **Cormet Primary Channels** to support **Cormet Ceiling Channels** for large openings. Screw fix plasterboards to **Cormet Edge Channels** around openings at 150mm centres.

Ceiling recess

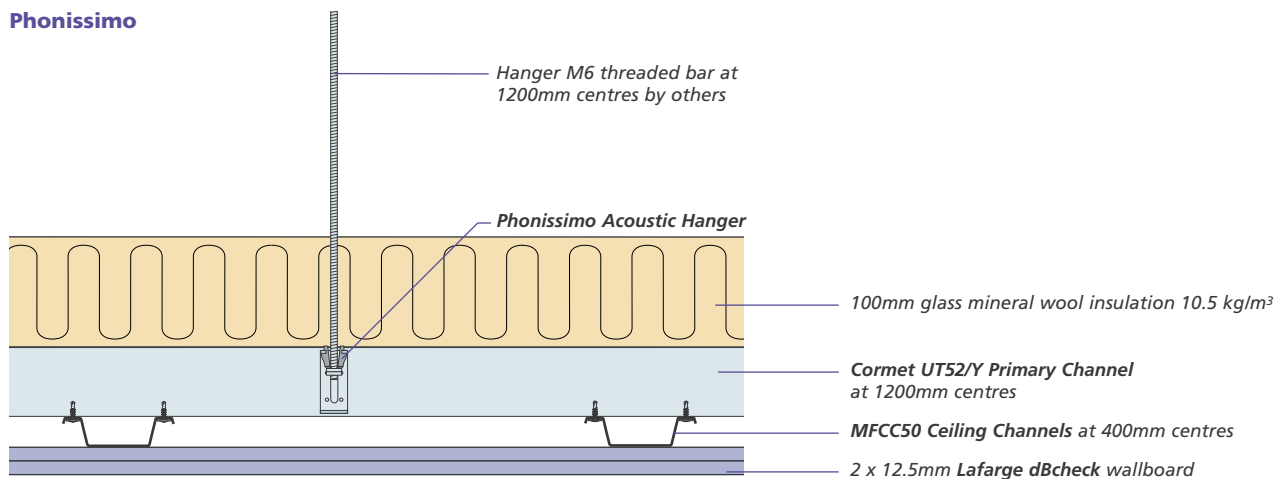


Ceiling opening

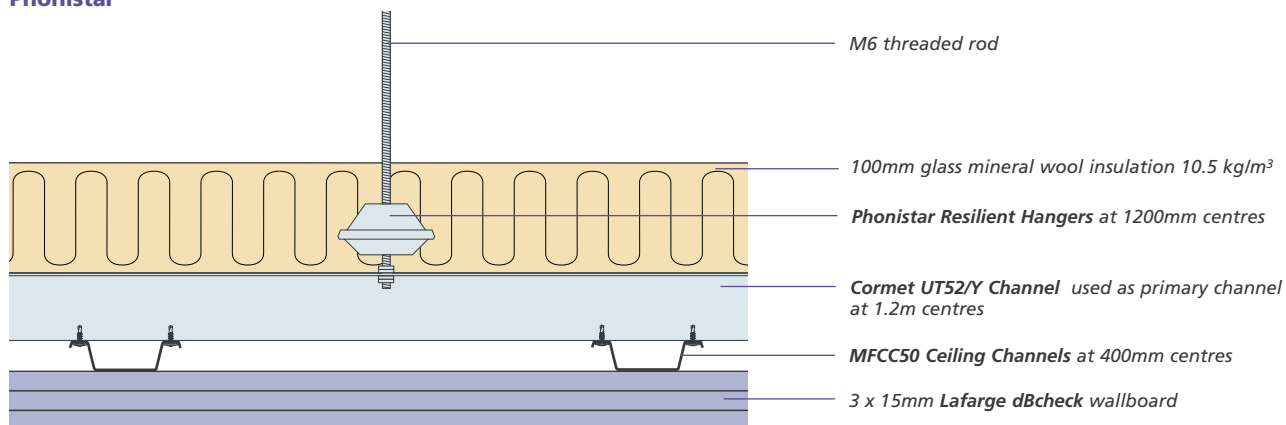


Mass barrier ceilings

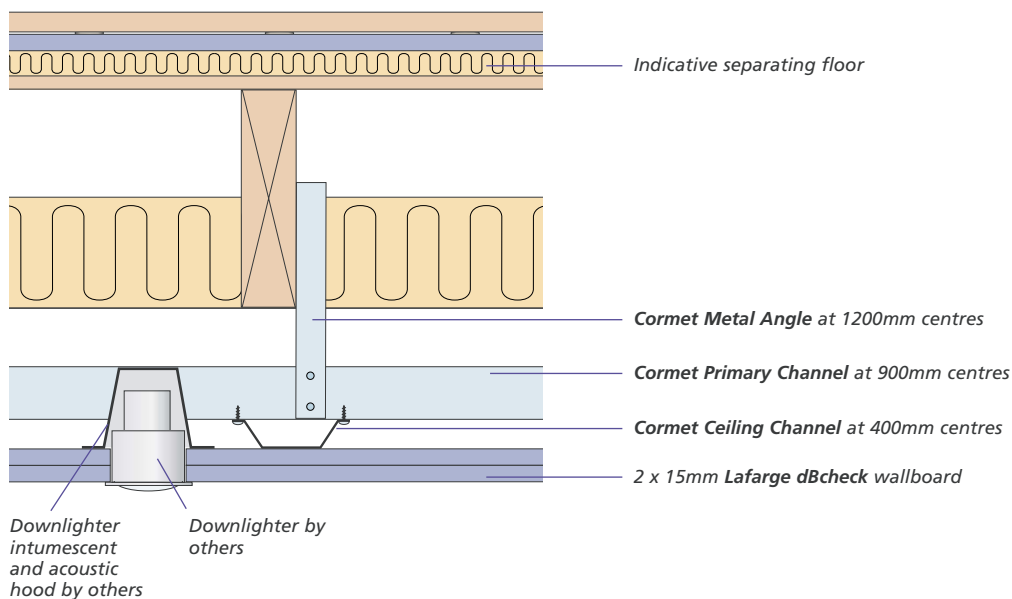
Phonissimo



Phonistar



Downlighter in separating floor



Specification clauses

Cormet M.F. Suspended Ceilings

Scope

Plasterboard ceilings supported on Cormet metal furring suspended ceiling from structural soffits, cavity depth minimum 100-3500mm.

Additional clauses

Add general clauses in Section 8 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.

To complete the clause select the appropriate data as indicated on the right.

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 Performance Tables)*

Location

Client reference

Structural Soffit

Precast concrete planks/timber joists/in-situ concrete floor/structural steel purlins atmm centres.

Fixings to structural soffits

Cormet Soffit Cleats MFCLEAT fixed to structural soffit using appropriate fixings, at 1200mm suspension centres andmm centres for primary channel. *(Consult structural engineer or call our Technical Enquiryline on 01275 377789.)*

Metal framing components

Framing components to be hot dipped 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.

Metal framework

Cormet Edge Channel MFCE26 fixed at maximum 600mm centres to perimeter construction at finished ceiling level plus thickness of plasterboard lining.

Cormet Ceiling Channels MFCC50 atmm centres, fixed using **Cormet Connecting Clips MFCCCLIP3/Lafarge Drywall Screws** type self tapping to Lafarge Primary Channels MFPC44 spaced atmm centres. *(See Table 4.25 for Ceiling Channel centres and Table 4.24 for Primary Channel centres.)*

Primary Channel connected to Cormet Metal Angle Hangers MFC2330 spaced at 1200mm centres along Primary Channels using 2 No Lafarge Pan Head Self Drilling Screws. Metal Angle Hangers fixed to MFCLEAT with Lafarge Nut and Bolt MFCNB.

All metal components to BS EN 10143 : 1993, BS 2994 :1976.

Metal framework fixing (Cormet Edge Channel MFCE26)

Spit Pulsa 700P nailing system for concrete or steel using fixings dependent on material substrates at max 600mm centres

Standard concrete use Spit C6 Pins *(Select from 20, 25, 30, 35, 40)mm*, or

Hard concrete use Spit HC6 Pins *(Select from 17, 20, 22, 27)mm*, or

Steel use Spit SC6 Pins *(Select from 15, 20)mm*

Insulation

(Specify insulation thickness and grad/density from the Performance Tables)

Boarding

Ceiling: **One/two** layers Lafarge wallboard

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

Outer layer *(Specify wallboard from the System Performance Tables)*

All board joints to be staggered between layers.

Screw fixings

Lafarge Drywall Screws at 230mm centres in field of board and at 150mm centres at perimeter of room and cut ends of board. Type Drywall 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

Materials and 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.

Given the vast selection of different types of substrate that are encountered on site, it is strongly recommended that adequate site tests be carried out to establish a recommended load on fixings.

Installation

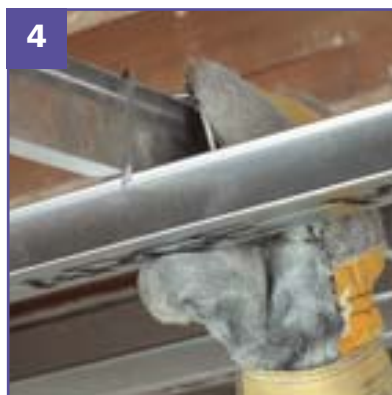


Step one

Mark position on walls for finished ceiling height taking into account the thickness and number of layers of plasterboard to be used. Fix **Cormet Edge Channels** to walls at 600mm maximum centres.

For the location of the **Cormet Primary Channels**, mark lines on ceiling at centres in accordance with the thickness and number of layers to be used – see table.

Suspension centres (mm)	Cormet Primary Channel centres (mm)	Maximum loading including plasterboard (kg/m ²)
1200	600	74
1200	900	50
1200	1200	35

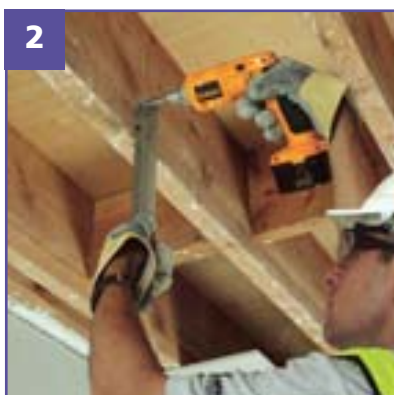


Step four

Secure the **Cormet Ceiling Channels** at right angles to the underside of the **Cormet Primary Channels**, at centres as specified in table, using **Cormet Connecting Clips** or if double wallboard system screw fixed.

For the entire length of each **Cormet Primary Channel**, alternate **Cormet Connecting Clips** on each side.

Board thickness (mm)	Board length (mm)	Ceiling Channel centres (mm)
12.5	2400	400
	1800, 2700, 3000, 3600	450
15 and 19	2700, 3000	450

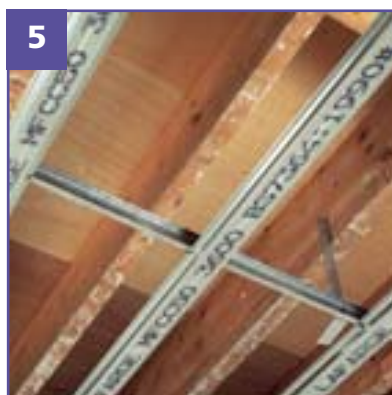


Step two

Attach **Cormet Soffit Cleats** to the structural soffit at 1200mm centres along the centre lines for **Cormet Primary Channels**.

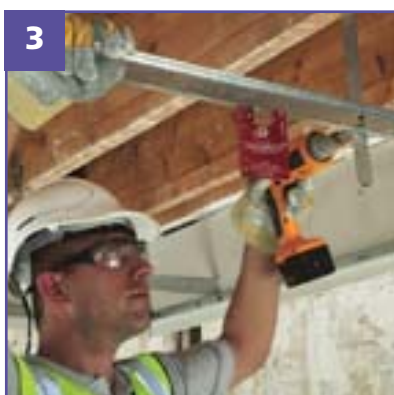
Cut lengths of **Cormet Metal Angle** equal to the vertical distance from the **Cormet Soffit Cleats** to the top of the **Cormet Edge Channels**. Fix **Cormet Metal Angle** to **Cormet Soffit Cleats** with **Cormet Nut and Bolt**.

A **Cormet Soffit Cleat** is not required for timber joist floors. Instead, fix **Cormet Metal Angle** direct to sides of timber joist with a minimum overlap of 50mm using a minimum of two 32mm **High Thread Screws**.



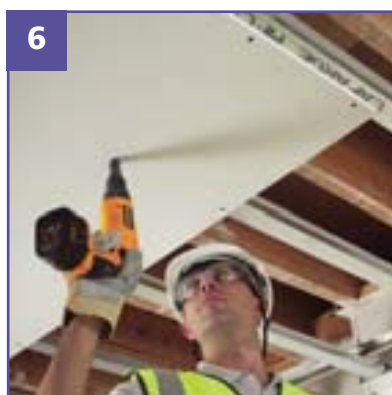
Step five

Position boards with bound (long) edges at right angles to the **Cormet Ceiling Channel** sections, with adjoining edges lightly butted. End joints must occur at the centre of the **Cormet Ceiling Channel** section, staggered by half a board length whenever possible.



Step three

Fix **Cormet Primary Channel** to **Cormet Metal Angles** with two **Lafarge Pan Head Self Drilling Screws**. Where necessary, join **Cormet Primary Channel** by overlapping 150mm back to back and fixing with two **Cormet Nuts and Bolts**.



Step six

Across field of board, screw-fix plasterboard at 230mm maximum centres with **Drywall Self Tapping Screws**.

Screw fix cut edges of the plasterboard at 150mm maximum centres to the **Cormet Ceiling Channel**. Similarly screw fix all edges to the **Cormet Edge Channel** at 150mm centres.

Installation details on Lafarge systems are also available in the *Lafarge Installation Guide* or online at:
www.lafargeplasterboard.co.uk

Case study

Cine UK multiplex cinema, Yeovil



A new state of the art Cine UK multiplex in Yeovil relies on drywall systems from Lafarge Plasterboard to achieve exceptional standards of sound performance. The company's products have been used to create the stunning entrance foyer, featuring curving bulkheads, and for the walls and partitions to all digital and non-digital auditoria. The main auditoria partition specification calls for twin 90mm metal studs, with two layers of 150mm glass wool insulation in the cavity and a three layer facing configuration. Lafarge Plank is used for the inner layer, with two layers of dBcheck sound resistant board completing the construction.

Client: Cine UK

Drywall contractor: IPD Interiors

Main contractor: Simons Group





Cormet Acoustic floor is a highly efficient means of creating a fully floated construction offering excellent protection against airborne and impact sound transfer.

This makes it the preferred choice for multi-occupancy dwellings, particularly refurbishments. All work can be undertaken from above allowing intricate ceiling designs in older properties to be retained whilst achieving modern performance standards.

4

Cormet Acoustic Floor

Cormet Acoustic Floor is a free-floating, sound insulating floor system for structural joist framing. The system has wide applications for new build, conversion and improvement work, in particular for remedial treatment of existing timber joist floors where an improved sound rating is required.

It is designed as a separating floor between and within dwellings and can be used with **Lafarge Cormet wall lining** and **partition systems**.

The system combines resiliently mounted floor and ceiling linings to add mass and sound reduction while minimising the overall thickness of the floor, adding only 6mm to the top of the joists.

Joists should be even and level to gain the benefits of the system.

Using standard components **Cormet Acoustic Floor** is easy and economical to install and provides exceptional airborne and impact sound insulation together with a 60 minute fire resistance.

The floor has been tested in accordance with BS 2750: Part 3: 1980 and Part 6: 1980.

Performance on-site depends on factors beyond the control of Lafarge Plasterboard.

Performance

Fire spread

Lafarge plasterboards and components are defined as Class 0 in accordance with the 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: 1997 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.

Sound insulation and fire resistance

Sound insulation achieved will depend on the system selected. See table 4.13, page 177. In all cases, a fire resistance of 60 minutes is achieved.

Components

The **Cormet Acoustic Floor** system uses a range of plasterboards and components. Refer to table 4.28. Quantities will vary considerably depending on room size and joist layout.

Screws

63mm Acoustic Floor Screws (63AFST25) are recommended for softwood boarding and chipboard flooring. They are part threaded, self-tapping screws with a self-countersinking head.

Insulation

Use 100mm glass mineral wool quilt with a density of 10.5 kg/m³, or 100mm rock mineral wool with a density of 40 kg/m³.

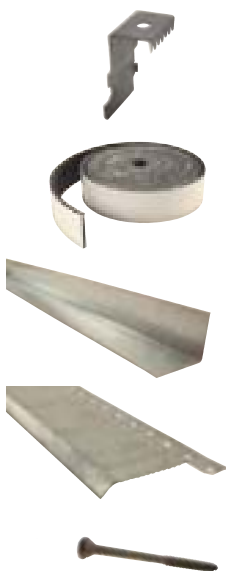
System components:

See section:

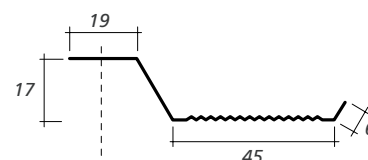
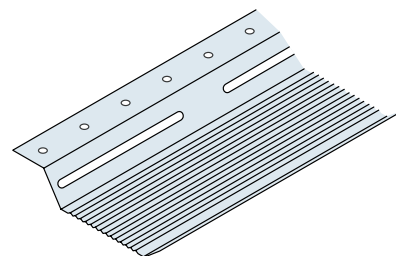
Boards	8
Compounds	
Screws	
Metal	
Finishes	7

Table 4.28 System components

Component	Lafarge code	Dimension (mm)
Acoustic Floor Clip	RAFC25	–
Resilient Tape	RAFT50	50 x 6
Cormet Metal Angle	MFC2330	23 x 30
Cormet Resilient Bar	RBD3000	45 x 17
Acoustic Floor Screw	63AFST25	63



Cormet Resilient Bar RBD3000



System assembly

Place **Cormet Acoustic Floor Clip** over joist and hold against joist side. Secure by driving the serrated edge of the clip into the top of the joist with a hammer until it is flush. Clips are spaced at 400mm centres on both sides of the joist, except at the perimeter, where clips are spaced at 400mm centres on the open side only. Clips are fixed opposite each other except where the joist width is too narrow which means that clips must be staggered.

Fix self adhesive **Lafarge Resilient Tape** along the length of each joist over **Cormet Acoustic Floor Clips** and along intermediate full depth and perimeter noggings. Lay **Cormet Metal Angle** with the short leg into the clips as shown. **Cormet Metal Angle** joints should be kept to a minimum. Where the joints occur, butt joint and support ends with a clip. Where joists are not true, the angle should be cut to shorter lengths, allowing easy release from **Cormet Acoustic Floor Clip** when system is screw fixed.

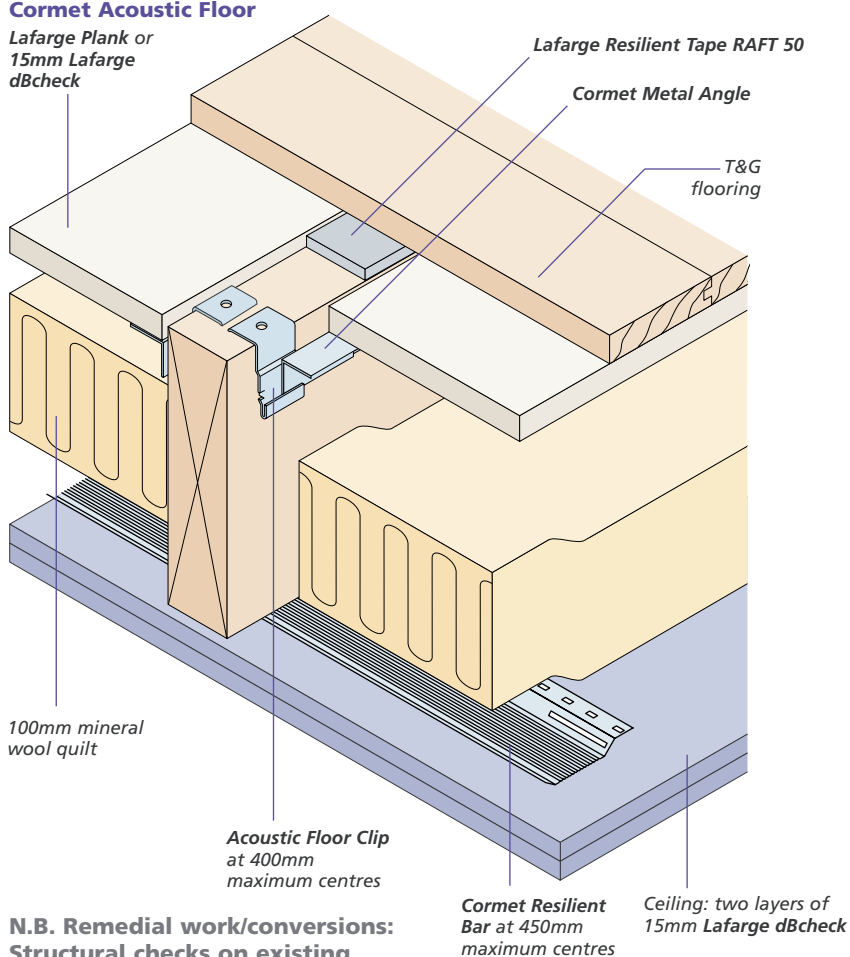
Flooring

Cut lengths of 19mm **Lafarge Plank** or 15mm **Lafarge dBcheck** 4mm shorter than the space between the joists and rest the plasterboard plank on the **Cormet Metal Angle** supports throughout. The metal angles should not touch joists. Lay the flooring across the joists at right angles. Tongue-and-groove chipboard edges must be glued with PVA wood glue. Leave a 3mm gap between flooring and the perimeter wall and seal the gap with **Lafarge Resilient Tape**, before skirtings are fitted. Screw fix through the flooring and plank into the **Cormet Metal Angle** either side of each joist using 63mm **Lafarge Acoustic Floor Screws**. Cut ends of flooring must rest over the joist and be fully screw fixed to the **Cormet Metal Angle** on both sides of the joist. Refer to screw pattern diagrams for tongue-and-groove chipboard softwood flooring. The screws, when countersunk, pull the **Cormet Metal Angles** out of the clips to clamp the plasterboard plank to the underside of the flooring and create a completely free-floating floor.

In refurbishment work, joists may not be level. Levelling fillets should be used to provide a level surface before installing the **Acoustic Floor System**.

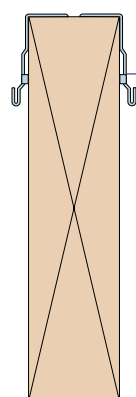
Cormet Acoustic Floor

Lafarge Plank or 15mm Lafarge dBcheck



N.B. Remedial work/conversions:
Structural checks on existing floor joists may be required.

Standard joist



Acoustic Floor Clips at 400mm centres to either side of the joist

Perimeter joist



Acoustic Floor Clips at 400mm centres along the open side of the joist

Due to the potential for softwood floorboards to warp, it is recommended that where they are used, 18mm plywood is screw fixed to the **Acoustic Floor** as described above and the softwood boards glued and nailed or screwed to the ply – avoiding the clips and metal angles.

System assembly

Ceiling

Screw fix **Cormet Resilient Bar** through the flange at right angles to the timber joists, at maximum 450mm centres, using 32mm **Drywall High Thread Screws**.

Cormet Resilient Bars can be jointed by lapping together directly over floor joists.

Insert 100mm mineral wool quilt in the cavity above the **Cormet Resilient Bars**.

Fixing plasterboard to Cormet Resilient Bars

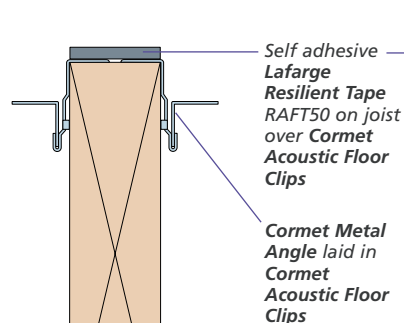
Butt ceiling linings to wall perimeters. Screw fix boards to the underside of the **Cormet Resilient Bars** at 230mm centres in the field of the board and at 150mm centres at room perimeter and cut ends, ensuring that the screws do not penetrate the joist framework. See table 4.29 for recommended screw lengths. Stagger joints and fixings between layers. Seal all perimeter edges with **Lafarge Intumescent Acoustic Sealant** to maintain the performance of the system.

Table 4.29
Recommended screw lengths

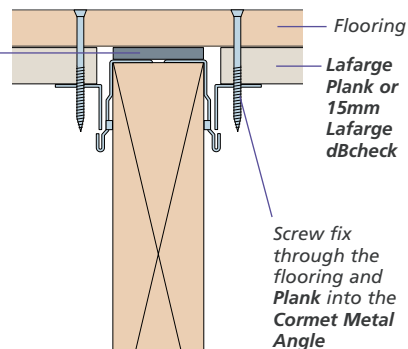
Plasterboard layers (mm)	Inner layer	Outer layer
(mm)	(mm)	
15.0 + 15.0	25	41
19.0 + 12.5	32	41

Floor assembly

(First stage)



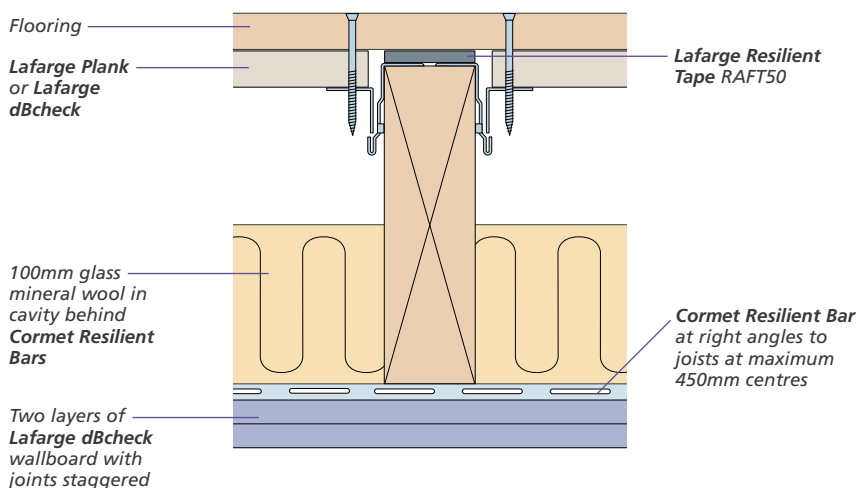
(Second stage)



Narrow joist



Ceiling construction

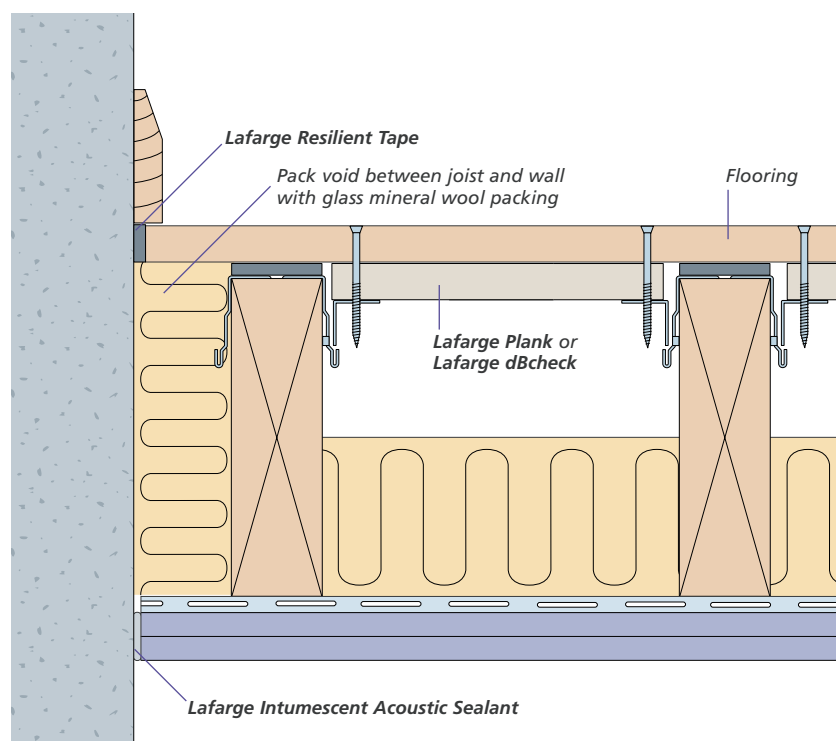


Jointing

All joints to be staggered between layers, with all joints in the outer layer taped and filled in accordance with Lafarge Plasterboard's instructions. Refer to Section 7.

Where there is strutting between floor joists it may be necessary to leave gaps in the **Cormet Metal Angle** and wallboard planks. **Lafarge Resilient Tape** should be applied to the tops of full depth solid struts.

Perimeter detail



Retention of existing ceiling

Where it is desired to retain an existing ceiling as a feature, increased sound insulation can still be obtained by installing the **Cormet Acoustic** floor system from above. To ensure that the fire and sound* requirements of the Building Regulations are met, an extra layer of 15mm **Lafarge Firecheck** wallboard will be required inside the ceiling cavity. See illustration opposite and system reference RAF 06 in table 4.13.

* Please refer to your Building Control Department for suitability of system.

Retention of existing ceiling (system RAF 06)

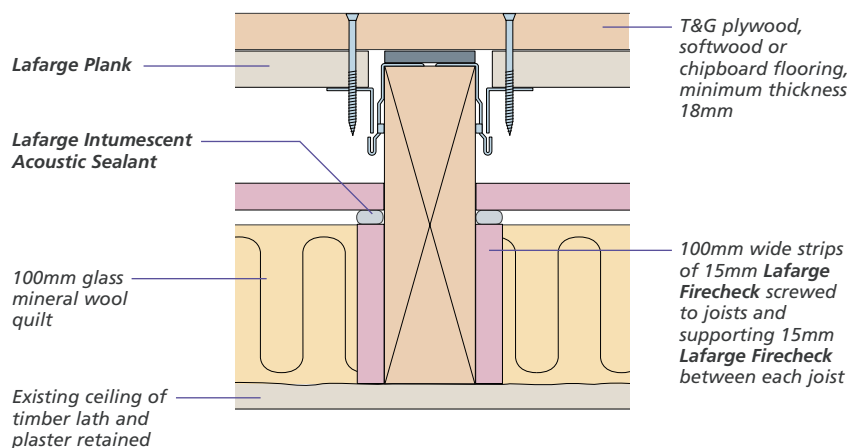
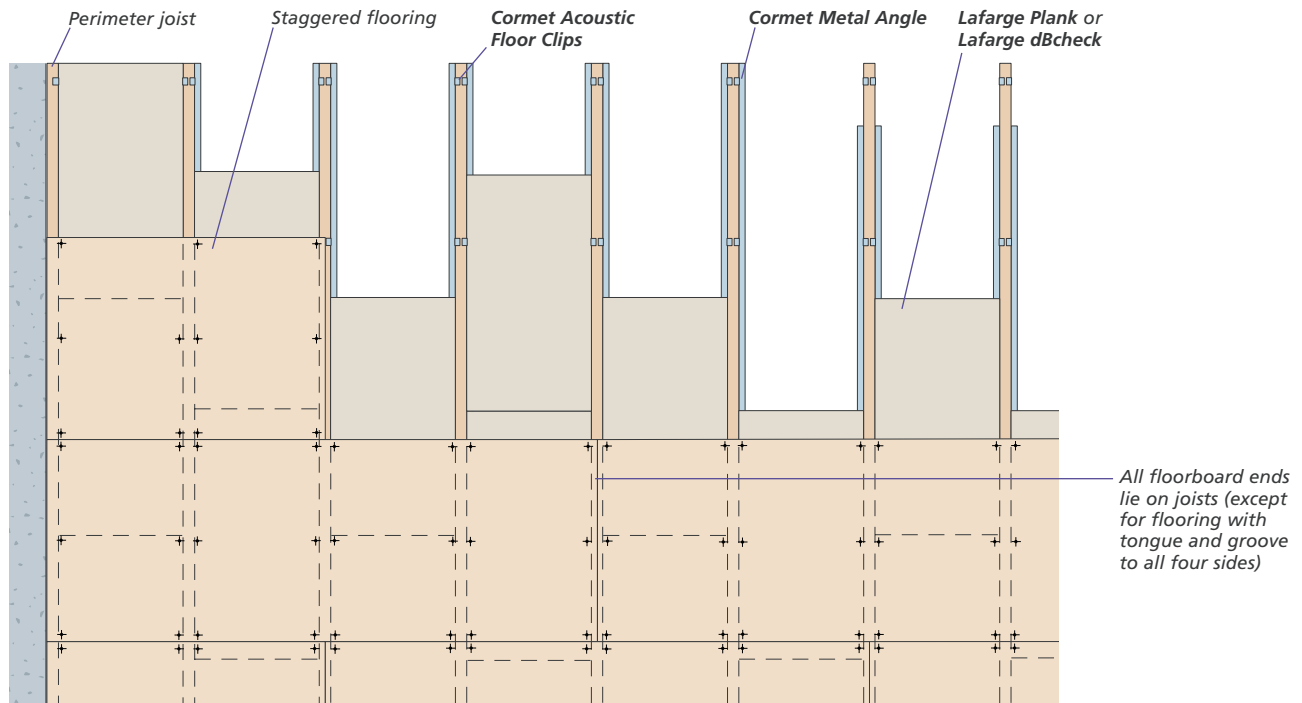


Table 4.30 Best practice recommendations for maximum loadings for Cormet Resilient Bars

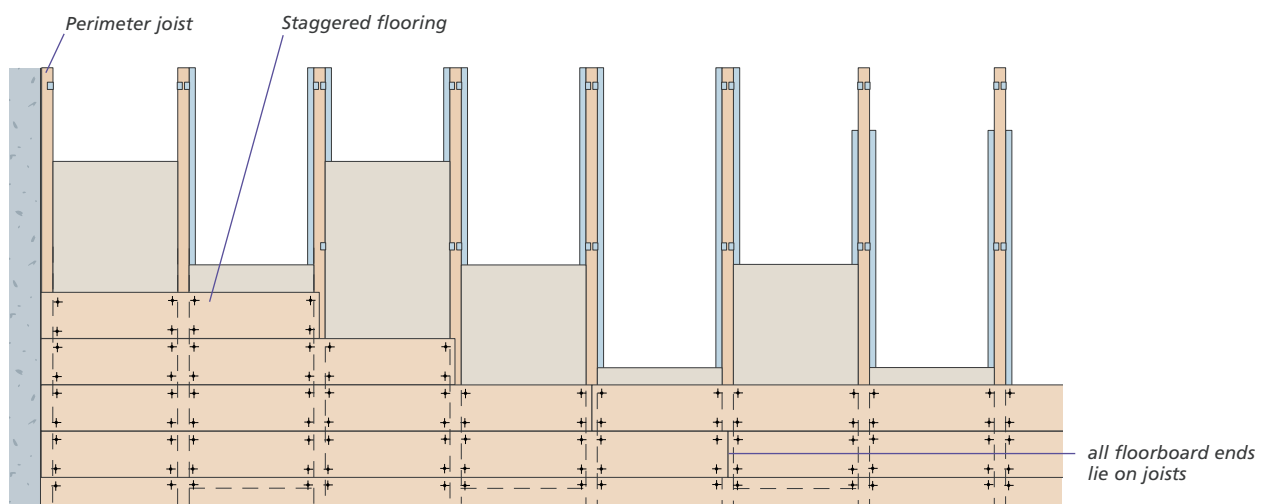
Centres (mm)	Uniform distributed load (kg/m ²)
400	35
450	30

Application details

Screw pattern: chipboard flooring



Screw pattern: softwood flooring*



*Plywood/chipboard or OSB should be installed under softwood. Not shown in illustration – see Introduction.

Specification clauses

Cormet Acoustic Floor

Scope

Sound resisting floor construction using **Cormet Acoustic Floor System** components for new build and refurbishment work.

Additional clauses

Add general clauses in Section 8 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.

To complete the clause select the appropriate data as indicated on the right.

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).

Cormet Acoustic Floor system *(Insert Lafarge system reference from Performance Tables)*

Location

Joists

Timber shall be of the appropriate grades and sizes to support the imposed loads in accordance with BS 5266: Part 2 and BS 4978.

Moisture content shall be no greater than 21% and falling at time of installation.

Joist size mm xmm *(Minimum width 38mm)*

Spaced atmm centres in accordance with dimensional standards in BS 8212: 1995

Insulation

(Specify insulation thickness and grade/density from the Performance Tables)

Flooring

19mm Lafarge Plank to BS 1230: Part 1: 1985 cut to size and laid between joists supported on Cormet Metal Angles MFC2330 in Acoustic Floor Clips RAFC25 to BS 1449: Part 1: 1993 coated with black phosphate fixed at 400mm centres to joists.

Lafarge Resilient Tape RAFT50 self adhesive rubber tape fixed onto tops of joists over clips.

Tongue-and-grooved chipboard/oriented strand board/tongue and grooved plywood/ square-edge softwood flooring fixed through plank into metal angles using Lafarge Acoustic Floor Screw 63AFST25, in accordance with screw pattern recommended by Lafarge Plasterboard. Seal around perimeter with Lafarge Resilient Tape RAFT50.

System RAF 06

Salvaged/Reused/Newmm *tongue and grooved/plain edge boarding* glue and *nailed/screwed* at 400mm centres to *chipboard/OSB/plywood*.

Additional layer of 15mm Lafarge Firecheck wallboard cut to size and laid between joists bonded with Lafarge Intumescent Acoustic Sealant to strips of 15mm Lafarge Firecheck wallboard 100mm deep nailed to sides of each joist. *(Required where original ceiling is to be retained - System RAF 06)*

Ceiling

Cormet Resilient Bars RBD3000 fixed at right angles to joists atmm centres with Lafarge High Thread Screws length 32mm. *(Not required for system RAF06. 400mm centres for 2400mm length board, 450mm centres for 2700mm length board.)*

Boarding

Ceiling: *One/two* layers Lafarge wallboard

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

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

Ceiling: Thickness mm fixed to Resilient Bar.

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

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

Screw fixing to Cormet Resilient Bars

Lafarge Drywall Screws at 230mm centres in field of board, 150mm at room perimeter and at ends, type Drywall Self Tapping

Length, inner layer *(Select from 25, 32)mm*

Length, outer layer *(Select from 32, 38, 41, 44)mm*

Finishing

Lafarge Taping and Jointing System, or

Lafarge Supreme Skim Plaster, or

Lafarge Universal Texture

Materials and 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



Step one

Place **Cormet Acoustic Floor Clip** over joist and hold against joist side. Secure by driving the serrated edge of the clip into the top of the joist with a hammer.

Space clips at 400mm centres on either side of the joist, except at the perimeter, where clips should be fixed at 400mm centres on the open side only.



Step four

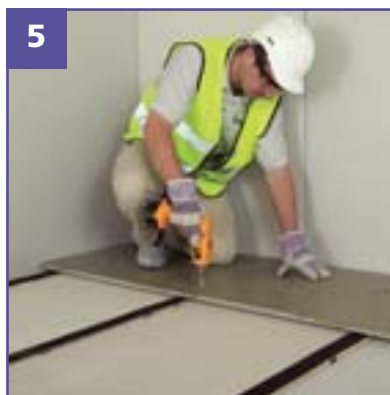
Fix self adhesive **Lafarge Resilient Tape** along the length of each joist over the **Cormet Acoustic Floor Clips** and along intermediate full depth and perimeter noggings.



Step two

Lay **Cormet Metal Angle** with the short leg into the clips. **Cormet Metal Angle** joints should be kept to a minimum. Where the joints occur, butt joint and support ends with a clip.

Where joists are not true, cut **Cormet Metal Angle** to suit.



Step five

Lay the flooring across the joists at right angles. Tongue-and-groove chipboard edges must be glued with PVA wood glue. Leave a 3mm gap between flooring and the perimeter wall and seal the gap with **Lafarge Intumescent Acoustic Sealant** or **Lafarge Resilient Tape RAFT50** before skirtings are fitted.

Screw-fix through the flooring and plank into the **Metal Angle** either side of each joist using 63mm **Cormet Acoustic Floor Screws** at 300mm centres maximum.

Note: do not fix flooring direct to joists.



Step three

Cut lengths of 19mm **Lafarge Plank** or 15mm **Lafarge dBcheck** wallboards 4mm shorter than the space between the joists ensuring you keep both bound edges intact. Maintaining an even gap between plank and joist, place the planks on the **Cormet Metal Angle** supports throughout.



Step six

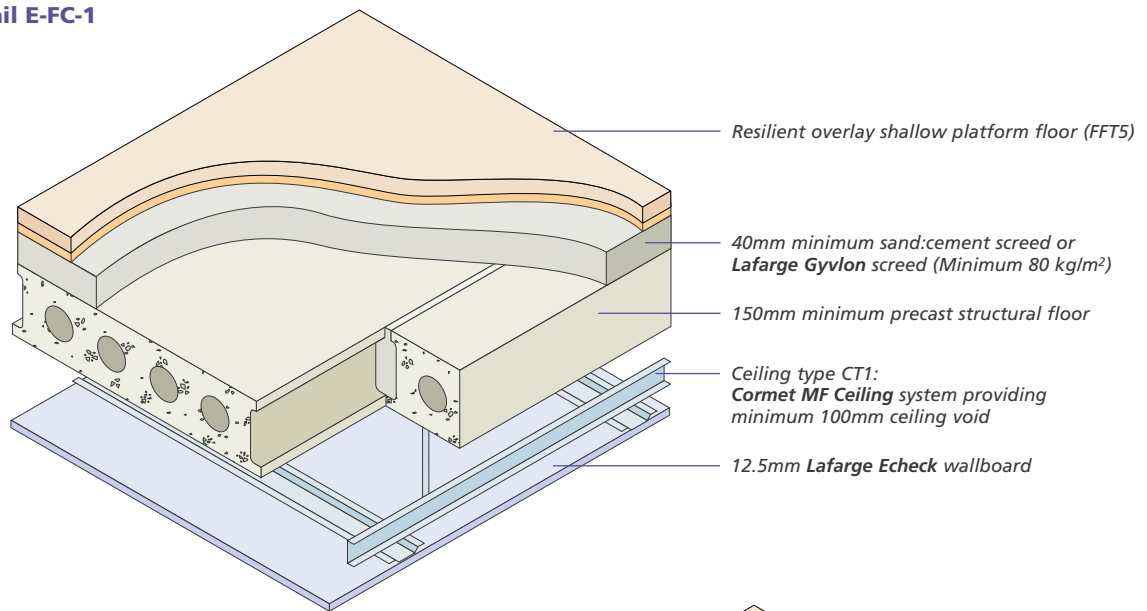
The screws, when screwed home and countersunk, pull the **Metal Angles** out of the clips to clamp the plank to the underside of the flooring and create a completely free-floating floor supported on the **Lafarge Resilient Tape**.

Installation details on Lafarge systems are also available in the *Lafarge Installation Guide* or online at: www.lafargeplasterboard.co.uk

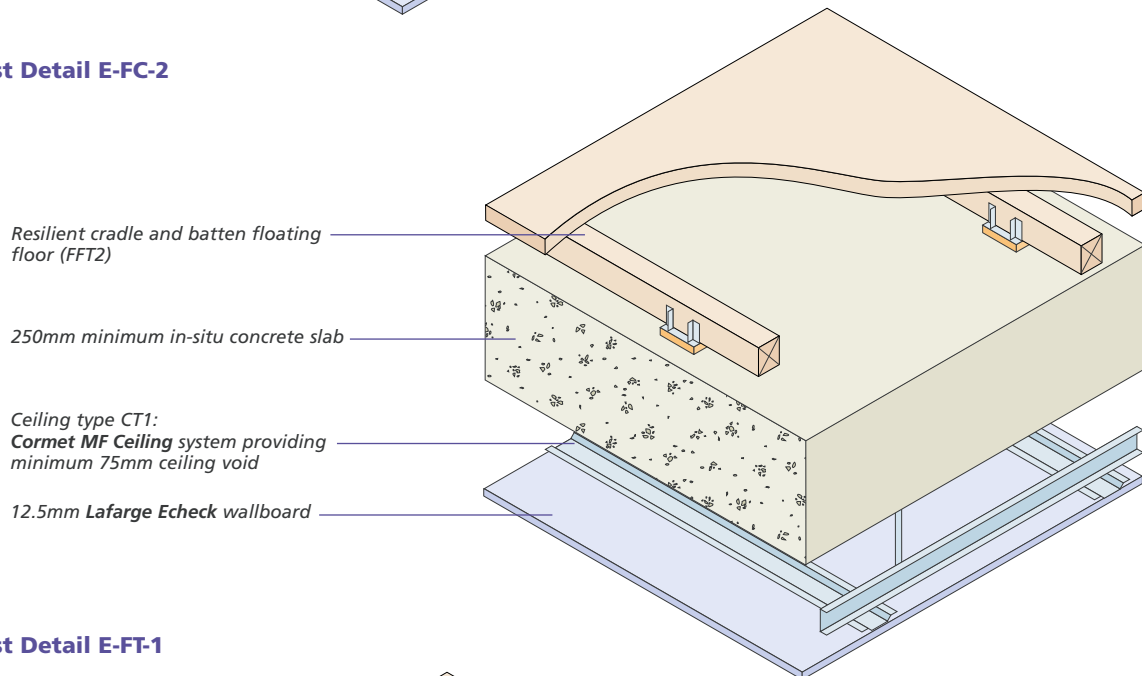
For details on fixing the ceiling below refer to section *Direct to timber*, page 169.

Robust Details

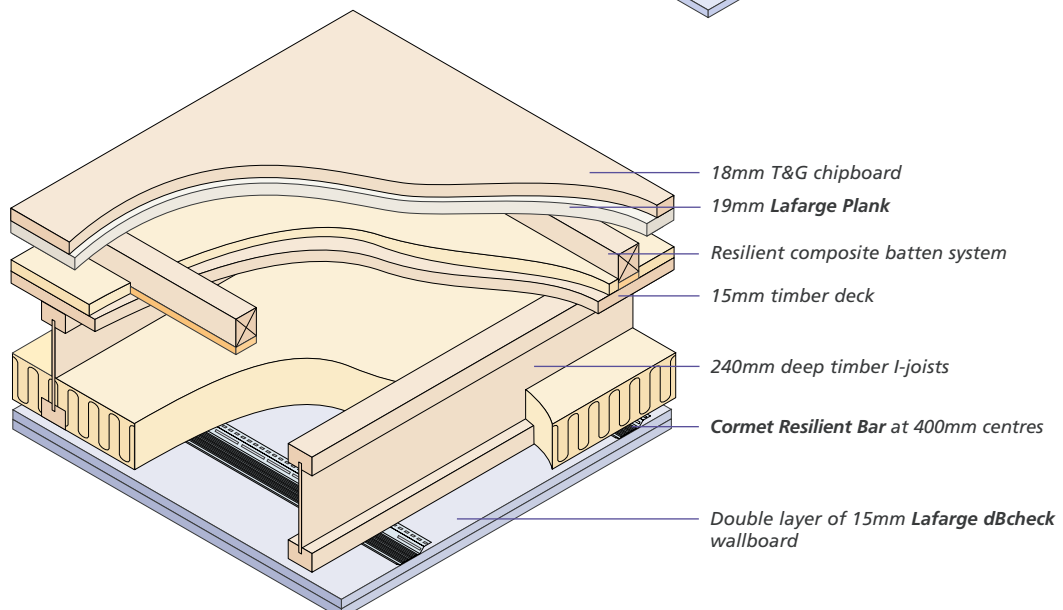
Robust Detail E-FC-1



Robust Detail E-FC-2



Robust Detail E-FT-1

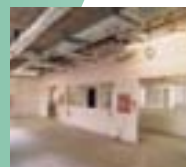


Case study

Great Western Hospital, Swindon



Not only does Swindon's new Great Western Hospital incorporate one of the country's largest drywall contracts, it also represents a new departure in the sense that a single board type is used to match virtually every lining, partition and ceiling specification within the 55,000m², five storey complex. The huge project incorporates some 200,000m² of plasterboard. All but a few metres use the Megadeco high performance, pre-sealed board and joint cement system. The board has the fire and sound resistance, plus the durability to match the toughest of specifications.



Client: Swindon & Marlborough NHS Trust Drywall contractor: BR Hodgson

Project manager: Carillion Architects: Whicheloe Macfarlane HDR

M&E contractor: Crown House Engineering

