

FLOORS AND CEILINGS

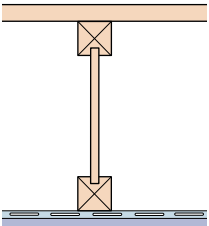
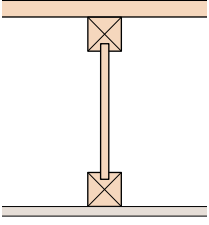
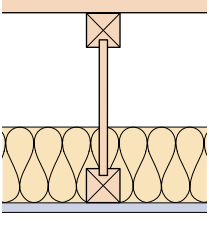
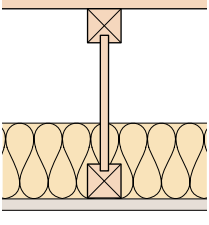
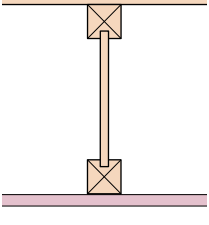
GTEC Floor and Ceiling systems are used to achieve acoustic and fire rated solutions for both domestic and commercial building projects.

A range of solutions are available; from direct soffit application to the creation of full supporting frames. They are suitable for varying building projects and can be built in large runs.

System Performance Tables

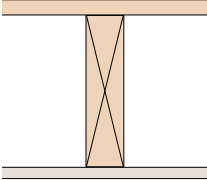
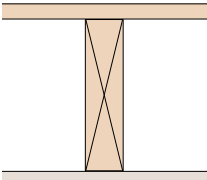
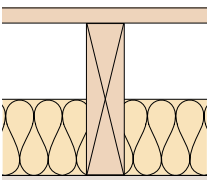
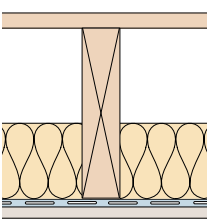
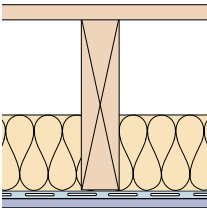
GTEC Engineered Joist Systems	122
GTEC Ceiling Systems to Timber Floors	123
GTEC Dryliner Ceiling Systems to Concrete Soffit	127
GTEC Separating Floor Systems	128
GTEC Pregybel MF Ceiling Systems	131
GTEC Suspended MF Ceiling Systems to Timber Floors	133
GTEC Suspended MF Ceiling Systems to Protect Structure	135
GTEC Mass Barrier Ceilings	136
GTEC Acoustic Floor Systems	137
GTEC Suspended MF Ceiling	138
GTEC Pregybel MF Ceiling	148
GTEC Dryliner Ceiling	154
GTEC Direct-to-Timber Ceiling	162
GTEC Acoustic Floor	170

GTEC ENGINEERED JOIST SYSTEMS

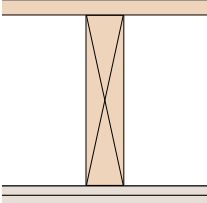
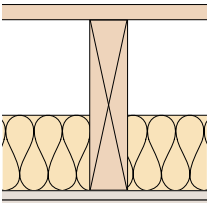
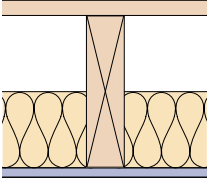
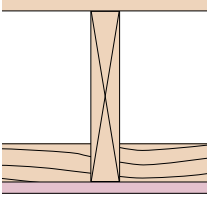
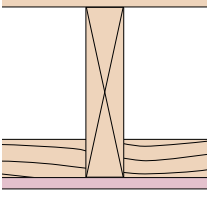
System Ref.	Component	System Weight (kg/m ²)	Minimum Thickness (mm)	Fire Perf. BS476-21 BS EN 1365-2 (mins)	Acoustic Perf. R _w dB (C _{tr} where applicable)	Impact Sound Insulation (L _{nw} dB)
REJ 023: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): – 1x 12.5mm GTEC dB Board Accessories: Single GTEC Resilient Bar at max. 450mm centres Insulation: – Structure: min. 240mm engineered timber I-joists at 600mm centres Flooring Make-up: 22mm tongue and grooved chipboard	29	292	30 30	47	74
REJ 024: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): – 1x 15mm GTEC Standard Board Accessories: (Single GTEC Resilient Bar at max. 450mm centres recommended) Insulation: – Structure: min. 240mm engineered timber I-joists at 600mm centres Flooring Make-up: 22mm tongue and grooved chipboard	27	277 (294)	30 –	40	83
REJ 026: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x 12.5mm GTEC E Board Accessories: (Single GTEC Resilient Bar at max. 450mm centres recommended) Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: min. 240mm engineered timber I-joists at 400mm centres Flooring Make-up: 22mm tongue and grooved chipboard	31	275 (292)	30 30	40	80
REJ 027: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): – 1x 15mm GTEC Standard Board Accessories: (Single GTEC Resilient Bar at max. 450mm centres recommended) Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: min. 240mm engineered timber I-joists at 600mm centres Flooring Make-up: 22mm tongue and grooved chipboard	31	277 (294)	30 –	43	74
REJ 028: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): – 1x 15mm GTEC Fire Board Accessories: (Single GTEC Resilient Bar at max. 450mm centres recommended) Insulation: – Structure: min. 240mm engineered timber I-joists at 450mm centres Flooring Make-up: 22mm tongue and grooved chipboard	30	277 (294)	30 30	41	80

➤ See p137 for notes on alterations to floors and ceilings configuration.

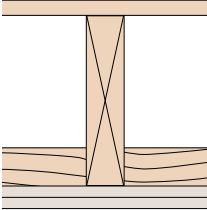
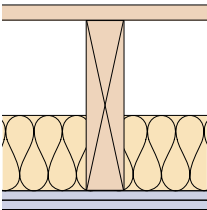
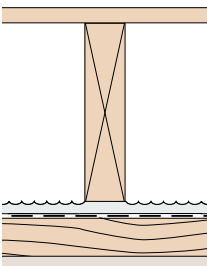
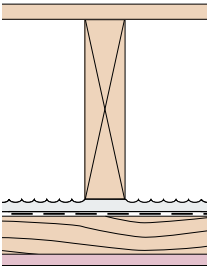
GTEC CEILING SYSTEMS TO TIMBER FLOORS

System Ref.	Component	System Weight (kg/m ²)	Minimum Thickness (mm)	Fire Perf. BS476-21 BS EN 1365-2 (mins)	Acoustic Perf. R _w dB (C _{tr} where applicable)	Impact Sound Insulation (L _{nw} dB)
RTC 052: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x 15mm GTEC Standard Board Accessories: – Insulation: – Structure: 47mm x 200mm joists at 400mm centres without noggings Flooring Make-up: 18mm tongue and grooved chipboard	37	233	30 30	38	77
RTC 012: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x 12.5mm GTEC Standard Board Accessories: – Insulation: – Structure: 47mm x 200mm joists at 400mm centres without noggings Flooring Make-up: 22mm tongue and grooved chipboard	35	235	30 –	38	78
RTC 065: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x 12.5mm GTEC Standard Board Accessories: – Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: 47mm x 200mm joists at 400mm centres with noggings Flooring Make-up: 22mm tongue and grooved chipboard	38	235	30 –	40	79
RTC 061: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x 15mm GTEC Standard Board Accessories: Single GTEC Resilient Bar at max. 450mm centres Insulation: – Structure: 47mm x 200mm joists at 450mm centres Flooring Make-up: 22mm tongue and grooved chipboard	43	254	30 30	40	76
RTC 017: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x 12.5mm GTEC dB Board Accessories: Single GTEC Resilient Bar at max. 450mm centres Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: 47mm x 200mm joists at 600mm centres Flooring Make-up: 22mm tongue and grooved chipboard	38	252	30 30	52	69

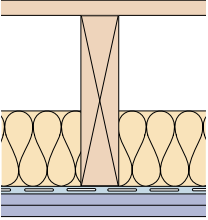
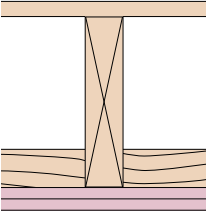
GTEC CEILING SYSTEMS TO TIMBER FLOORS continued

System Ref.	Component	System Weight (kg/m ²)	Minimum Thickness (mm)	Fire Perf. BS476-21 BS EN 1365-2 (mins)	Acoustic Perf. R _w dB (C _{tr} where applicable)	Impact Sound Insulation (L _{nw} dB)
RTC 003: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): 1x 12.5mm GTEC Standard Board Ceiling Outer Layer(s): 1x 12.5mm GTEC Standard Board Accessories: – Insulation: – Structure: 47mm x 200mm joists at 600mm centres Flooring Make-up: 22mm tongue and grooved chipboard	48	247	30 30	40	78
RTC 004: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): 1x 12.5mm GTEC Standard Board Ceiling Outer Layer(s): 1x 12.5mm GTEC Standard Board Accessories: – Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: 47mm x 200mm joists at 600mm centres Flooring Make-up: 22mm tongue and grooved chipboard	48	247	30 30	42	75
RTC 028: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x 12.5mm GTEC dB Board Accessories: – Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: 47mm x 200mm joists at 600mm centres with noggings Flooring Make-up: 22mm tongue and grooved chipboard	38	235	30 30	44	75
RTC 037: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x 12.5mm GTEC Fire Board Accessories: – Insulation: – Structure: 47mm x 200mm joists at 600mm centres with noggings Flooring Make-up: 22mm tongue and grooved chipboard	34	235	30 30	41	77
RTC 018: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x 15mm GTEC Fire Board (Fixed with 63mm GTEC High Thread screws) Accessories: – Insulation: – Structure: 47mm x 200mm joists at 600mm centres with noggings Flooring Make-up: 22mm tongue and grooved chipboard	37	237	60 60	41	76

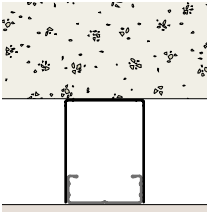
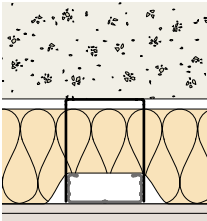
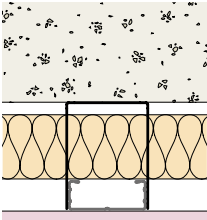
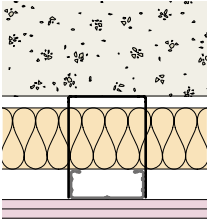
► See p137 for notes on alterations to floors and ceilings configuration.

System Ref.	Component	System Weight (kg/m ²)	Minimum Thickness (mm)	Fire Perf. BS476-21 BS EN 1365-2 (mins)	Acoustic Perf. R _w dB (C _{tr} where applicable)	Impact Sound Insulation (L _{nw} dB)
RTC 016: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): 1x 15mm GTEC Standard Board Ceiling Outer Layer(s): 1x 15mm GTEC Standard Board Accessories: – Insulation: – Structure: 47mm x 200mm joists at 600mm centres with noggings Flooring Make-up: 22mm tongue and grooved chipboard	50	252	60 30	43	72
RTC 014: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): 1x 12.5mm GTEC E Board Ceiling Outer Layer(s): 1x 12.5mm GTEC E Board Accessories: – Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: 47mm x 200mm joists at 450mm centres without noggings Flooring Make-up: 22mm tongue and grooved chipboard	52	247	30 30	44	75
RTC 029: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): Existing Lath & Plaster with Chicken Wire & Battens at 400mm centres Ceiling Outer Layer(s): 1x 12.5mm GTEC Standard Board Accessories: – Insulation: – Structure: 47mm x 200mm joists at 450mm centres without noggings Flooring Make-up: 22mm tongue and grooved chipboard	54	–	30 30	47	71
RTC 020: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): Existing Lath & Plaster with Chicken Wire & Battens at 400mm centres Ceiling Outer Layer(s): 1x 15mm GTEC Fire Board (Fixed with 63mm GTEC High Thread screws) Accessories: – Insulation: – Structure: 47mm x 200mm joists at 450mm centres without noggings Flooring Make-up: 22mm tongue and grooved chipboard	55	–	60 60	48	70

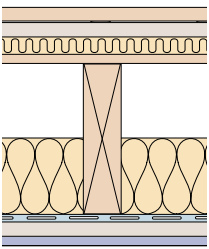
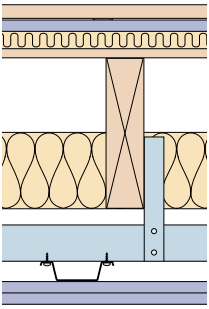
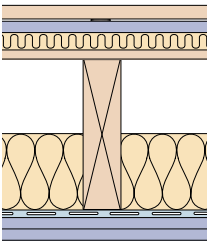
GTEC CEILING SYSTEMS TO TIMBER FLOORS continued

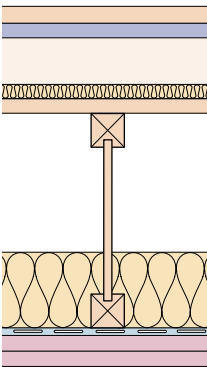
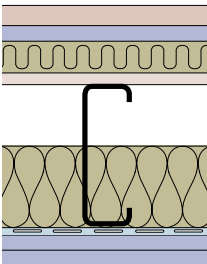
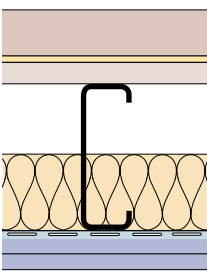
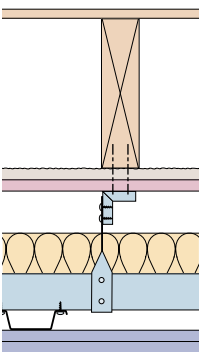
System Ref.	Component	System Weight (kg/m ²)	Minimum Thickness (mm)	Fire Perf. BS476-21 BS EN 1365-2 (mins)	Acoustic Perf. R _w dB (C _{tr} where applicable)	Impact Sound Insulation (L _{nw} dB)
RTC 051: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): 1x 15mm GTEC dB Board Ceiling Outer Layer(s): 1x 15mm GTEC dB Board Accessories: Single GTEC Resilient Bar at max. 450mm centres Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: 47mm x 200mm joists at 450mm centres without noggings Flooring Make-up: 22mm tongue and grooved chipboard	55	269	60 60	55	62
RTC 023: Direct-to-Timber – see p162						
	Ceiling Inner Layer(s): 1x 15mm GTEC Fire Board (Fixed with 50mm GTEC High Thread screws) Ceiling Outer Layer(s): 1x 15mm GTEC Fire Board (Fixed with 75mm GTEC High Thread screws) Accessories: – Insulation: – Structure: 47mm x 200mm joists at 600mm centres with noggings Flooring Make-up: 22mm tongue and grooved chipboard	50	252	120 90	45	70

GTEC DRYLINER CEILING SYSTEMS TO CONCRETE SOFFIT

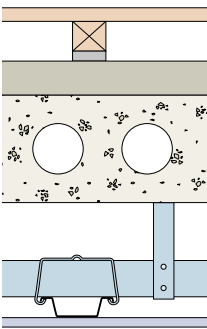
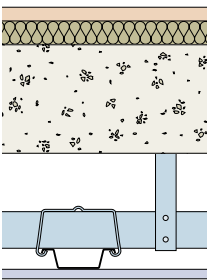
System Ref.	Component	System Weight (kg/m ²)	Minimum Thickness (mm)	Fire Perf. BS476-21 BS EN 1365-2 (mins)	Acoustic Perf. R _w dB (C _{tr} where applicable)	Impact Sound Insulation (L _{nw} dB)
RDC 016: Dryliner – see p154						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x 12.5mm GTEC Standard Board Accessories: GTEC Dryliner Channel RD1 at 450mm max. centres Insulation: – Structure: Any Concrete Soffit Flooring Make-up: –	11	–	– –	–	–
RDC 017: Dryliner – see p154						
	Ceiling Inner Layer(s): 1x 12.5mm GTEC Standard Board Ceiling Outer Layer(s): 1x 12.5mm GTEC Standard Board Accessories: GTEC Dryliner Channel RD1 at 450mm max. centres Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: Any Concrete Soffit Flooring Make-up: –	22	–	30 –	–	–
RDC 018: Dryliner – see p154						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x 12.5mm GTEC Fire Board Accessories: GTEC Dryliner Channel RD1 at 450mm max. centres Insulation: 50mm 24kg/m ³ glass mineral wool Structure: Any Concrete Soffit Flooring Make-up: –	13	–	30 –	–	–
RDC 019: Dryliner – see p154						
	Ceiling Inner Layer(s): 1x 12.5mm GTEC Fire Board Ceiling Outer Layer(s): 1x 12.5mm GTEC Fire Board Accessories: GTEC Dryliner Channel RD1 at 450mm max. centres Insulation: 50mm 24kg/m ³ glass mineral wool Structure: Any Concrete Soffit Flooring Make-up: –	23	–	60 –	–	–

GTEC SEPARATING FLOOR SYSTEMS

System Ref.	Component	System Weight (kg/m ²)	Minimum Thickness (mm)	Fire Perf. BS476-21 BS EN 1365-2 (mins)	Acoustic Perf. R _w dB (C _{tr} where applicable)	Impact Sound Insulation (L _{nw} dB)
RTC 025						
	Ceiling Inner Layer(s): 1x 19mm GTEC Plank Ceiling Outer Layer(s): 1x 12.5mm GTEC dB Board Accessories: Single GTEC Resilient Bar at max. 450mm centres Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: 47mm x 200mm joists at 600mm centres Flooring Make-up: 18mm tongue and grooved chipboard (from external layer) on 19mm GTEC Plank on 30mm 150kg/m ³ rock mineral wool on 12mm plywood or OSB	70	323	60 60	61, -11	54
RTC 049						
	Ceiling Inner Layer(s): 1x 15mm GTEC dB Board Ceiling Outer Layer(s): 1x 15mm GTEC dB Board Frame: GTEC MF Ceiling Channels at max. 450mm centres Accessories: GTEC Frame should be screw fixed Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: 47mm x 200mm joists at 400mm centres Flooring Make-up: 18mm tongue and grooved chipboard (from external layer) on 19mm GTEC Plank on 30mm 150kg/m ³ rock mineral wool on 12mm plywood or OSB	71	–	60 60	60, -9	55
RTC 050						
	Ceiling Inner Layer(s): 1x 15mm GTEC dB Board Ceiling Outer Layer(s): 1x 15mm GTEC dB Board Accessories: Single GTEC Resilient Bar at max. 450mm centres Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: 47mm x 200mm joists at 400mm centres Flooring Make-up: 18mm tongue and grooved chipboard (from external layer) Spot bonded on GTEC 15mm dB Board on 30mm 150kg/m ³ rock mineral wool on 12mm plywood or OSB	71	317	60 60	60, -9	55

System Ref.	Component	System Weight (kg/m ²)	Minimum Thickness (mm)	Fire Perf. BS476-21 BS EN 1365-2 (mins)	Acoustic Perf. R _w dB (C _{tr} where applicable)	Impact Sound Insulation (L _{nw} dB)
E-FT-1: Robust Detail						
	Ceiling Inner Layer(s): 1x 15mm GTEC Fire Board Ceiling Outer Layer(s): 1x 15mm GTEC Fire Board Accessories: Single GTEC Resilient Bar at max. 450mm centres Insulation: 100mm 10-33kg/m ³ glass mineral wool Structure: min. 240mm engineered timber I-joists Flooring Make-up: 18mm tongue and grooved chipboard (from external layer) Resilient Timber battens 13mm 33-36kg/m ³ Rock mineral wool between battens on 15mm plywood or OSB	72	-	60 60	Robust Detail Solution	Robust Detail Solution
RSF 002						
	Ceiling Inner Layer(s): 1x 15mm GTEC dB Board Ceiling Outer Layer(s): 1x 15mm GTEC dB Board Accessories: Single GTEC Resilient Bar at max. 450mm centres Insulation: 100mm 23kg/m ³ glass mineral wool Structure: 150mm Structural Steel Joists at 400mm centres Flooring Make-up: 18mm tongue and grooved chipboard (from external layer) Spot bonded on GTEC 15mm dB Board on 30mm 120kg/m ³ Rock Slab Insulation on 11mm OSB Sterling T&G Board	44	271	60 60	65, -12	53
RSF 003						
	Ceiling Inner Layer(s): 1x 15mm GTEC dB Board Ceiling Outer Layer(s): 1x 15mm GTEC dB Board Accessories: Single GTEC Resilient Bar at max. 450mm centres Insulation: 100mm 10kg/m ³ glass mineral wool Structure: 150mm Structural Steel Joists at 400mm centres Flooring Make-up: 40mm Gyvlon Screed on 6mm Ethafoam (from external layer) on 20mm OSB Sterling Board	112	313	60 60	61, -7	57
RCC 015 Modified: Refurbishment as Approved Doc. E 4-3						
	Ceiling Inner Layer(s): 1x 12.5mm GTEC dB Board Ceiling Outer Layer(s): 1x 12.5mm GTEC dB Board Frame: GTEC MF Ceiling Channels at Max 450mm centres Accessories: GTEC Frame should be screw fixed Insulation: 100mm 10.5kg/m ³ glass mineral wool Existing Ceiling: Existing Lath & Plaster Ceiling plus 15mm GTEC Fire Board Flooring Make-up: 18mm tongue and grooved chipboard	80	-	60 60	-	-

GTEC SEPARATING FLOOR SYSTEMS continued

System Ref.	Component	System Weight (kg/m ²)	Minimum Thickness (mm)	Fire Perf. BS476-21 BS EN 1365-2 (mins)	Acoustic Perf. R _w dB (C _{tr} where applicable)	Impact Sound Insulation (L _{nw} dB)
E-FC-1						
	<p>Applicable Ceilings:</p> <p>(CT1) Metal ceiling system: GTEC MF Ceiling system providing 100mm (min) ceiling void with one layer 12.5mm GTEC Standard Board</p> <p>(CT2) Timber battens and counter battens: 50mm x 50mm softwood battens with 50mm x 50mm counter battens below and one layer 12.5mm GTEC Standard Board</p> <p>(CT3) Metal ceiling system (shown): GTEC Dryliner SR or MF ceiling system providing 75mm (min) ceiling void with one layer 10+kg/m² GTEC Board</p> <p>(CT4) Timber battens and resilient bar: 50mm x 50mm softwood with GTEC resilient bar RBD3000 mounted at 90° to softwood battens at 450mm c/c (max) and one layer 12.5mm GTEC E Board</p> <p>Floating floor: 18mm tongue and groove floorboards on resilient composite timber battens type FFT1</p> <p>Screed: 40mm sand/cement or similar, minimum 80kg/m²</p> <p>Structural floor: 150mm minimum precast concrete planks, minimum 300kg/m²</p>	–	–	– –	Robust Detail Solution	Robust Detail Solution
E-FC-2						
	<p>Applicable Ceilings:</p> <p>Metal ceiling system (shown): GTEC Dryliner SR or MF ceiling system providing 75mm (min) ceiling void with one layer 10+kg/m² GTEC Board</p> <p>Timber ceiling system: Any ceiling system providing 75mm void with one layer 12.5mm GTEC E Board</p> <p>Floating floor: 18mm tongue and groove floorboards on 25mm mineral wool batt insulation density 150kg/m³ type FFT4</p> <p>Structural floor: 250mm minimum in-situ concrete slab, minimum 2400kg/m³ without screed</p>	–	–	– –	Robust Detail Solution	Robust Detail Solution

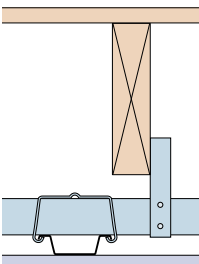
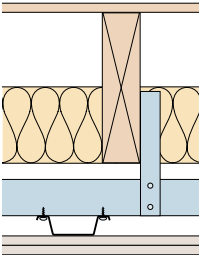
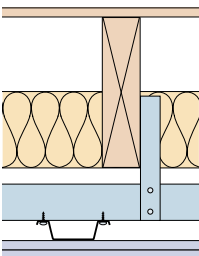
GTEC PREGYBEL MF CEILING SYSTEMS

System Ref.	Component	System Weight (kg/m ²)	Acoustic Absorption Class, BS EN ISO 11654	Absorption co-efficient (α_w), BS EN ISO 11654
PGC 001: Pregybel MF – see p148				
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x GTEC Pregybel C10no8 Frame: GTEC MF Ceiling Channels at Max 600mm centres Accessories: GTEC Frame should be screw fixed Insulation: 75mm glass mineral wool and 600mm void Structure: Any suitable soffit	12	B	0.80
PGC 002: Pregybel MF – see p148				
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x GTEC Pregybel C10no8 Frame: GTEC MF Ceiling Channels at Max 600mm centres Accessories: GTEC Frame should be screw fixed Insulation: 50mm glass mineral wool and 600mm void Structure: Any suitable soffit	12	C	0.75
PGC 003: Pregybel MF – see p148				
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x GTEC Pregybel C10no8 Frame: GTEC MF Ceiling Channels at Max 600mm centres Accessories: GTEC Frame should be screw fixed Insulation: 50mm glass mineral wool and 300mm void Structure: Any suitable soffit	12	C	0.70
PGC 004: Pregybel MF – see p148				
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x GTEC Pregybel C10no8 Frame: GTEC MF Ceiling Channels at Max 600mm centres Accessories: GTEC Frame should be screw fixed Insulation: 300mm void Structure: Any suitable soffit	12	C	0.60
PGC 101: Pregybel MF – see p148				
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x GTEC Pregybel R12no2 Frame: GTEC MF Ceiling Channels at Max 600mm centres Accessories: GTEC Frame should be screw fixed Insulation: 50mm glass mineral wool and 300mm void Structure: Any suitable soffit	12	C	0.7
PGC 102: Pregybel MF – see p148				
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x GTEC Pregybel R12no2 Frame: GTEC MF Ceiling Channels at Max 600mm centres Accessories: GTEC Frame should be screw fixed Insulation: 300mm void Structure: Any suitable soffit	12	C	0.65

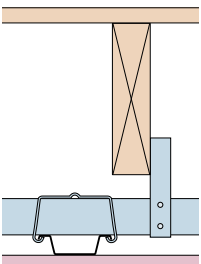
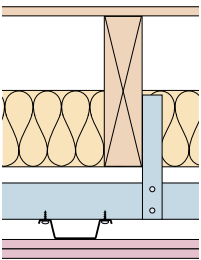
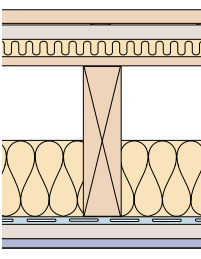
GTEC PREGYBEL MF CEILING SYSTEMS continued

System Ref.	Component	System Weight (kg/m ²)	Acoustic Absorption Class, BS EN ISO 11654	Absorption co-efficient (α_w), BS EN ISO 11654
PGC 201: Pregybel MF – see p148				
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x GTEC Pregybel R15no1 Frame: GTEC MF Ceiling Channels at Max 600mm centres Accessories: GTEC Frame should be screw fixed Insulation: 50mm glass mineral wool and 600mm void Structure: Any suitable soffit	12	C	0.70
PGC 202: Pregybel MF – see p148				
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x GTEC Pregybel R15no1 Frame: GTEC MF Ceiling Channels at Max 600mm centres Accessories: GTEC Frame should be screw fixed Insulation: 30mm glass mineral wool and 50mm void Structure: Any suitable soffit	12	C	0.7
PGC 301: Pregybel MF – see p148				
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x GTEC Pregybel R15no8 Frame: GTEC MF Ceiling Channels at Max 600mm centres Accessories: GTEC Frame should be screw fixed Insulation: 50mm glass mineral wool and 300mm void Structure: Any suitable soffit	12	C	0.60
PGC 302: Pregybel MF – see p148				
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x GTEC Pregybel R15no8 Frame: GTEC MF Ceiling Channels at Max 600mm centres Accessories: GTEC Frame should be screw fixed Insulation: 300mm void Structure: Any suitable soffit	12	D	0.50
PGC 401: Pregybel MF – see p148				
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x GTEC Pregybel L5x80no8 Frame: GTEC MF Ceiling Channels at Max 600mm centres Accessories: GTEC Frame should be screw fixed Insulation: 80mm glass mineral wool and 300mm void Structure: Any suitable soffit	12	D	0.55
PGC 402: Pregybel MF – see p148				
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x GTEC Pregybel L5x80no8 Frame: GTEC MF Ceiling Channels at Max 600mm centres Accessories: GTEC Frame should be screw fixed Insulation: 80mm glass mineral wool and 100mm void Structure: Any suitable soffit	12	D	0.55

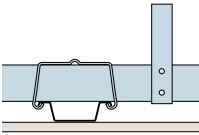
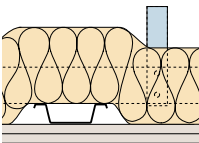
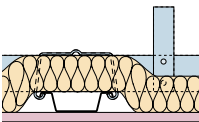
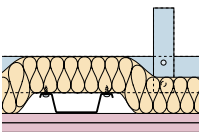
GTEC SUSPENDED MF CEILING SYSTEMS TO TIMBER FLOORS

System Ref.	Component	System Weight (kg/m ²)	Minimum Thickness (mm)	Fire Perf. BS476-21 BS EN 1365-2 (mins)	Acoustic Perf. R _w dB (C _{tr} if applicable)	Impact Sound Insulation (L _{nw} dB)
RCC 011: Suspended MF – see p138						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x 12.5mm GTEC E Board Frame: GTEC Ceiling Channels at max. 450mm centres Accessories: GTEC Connecting Clips Insulation: – Structure: 47mm x 200mm Joists at 600mm centres Floor: Min. 18mm tongue and grooved boarding or similar	33	n/a	30 30	43	72
RCC 042: Suspended MF – see p138						
	Ceiling Inner Layer(s): 1x 12.5mm GTEC Standard Board Ceiling Outer Layer(s): 1x 12.5mm GTEC Standard Board Frame: GTEC Ceiling Channels at max. 450mm centres Accessories: GTEC Frame should be screw fixed Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: 47mm x 200mm Joists at 600mm centres Floor: Min. 18mm tongue and grooved boarding or similar	40	n/a	60 30	44	72
RCC 012: Suspended MF – see p138						
	Ceiling Inner Layer(s): 1x 12.5mm GTEC E Board Ceiling Outer Layer(s): 1x 12.5mm GTEC E Board Frame: GTEC Ceiling Channels at max. 450mm centres Accessories: GTEC Frame should be screw fixed Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: 47mm x 200mm Joists at 600mm centres Floor: Min. 18mm tongue and grooved boarding or similar	42	n/a	60 30	46	69

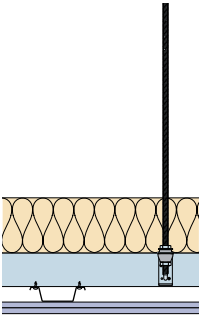
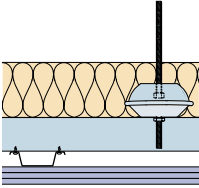
GTEC SUSPENDED MF CEILING SYSTEMS TO TIMBER FLOORS continued

System Ref.	Component	System Weight (kg/m ²)	Minimum Thickness (mm)	Fire Perf. BS476-21 BS EN 1365-2 (mins)	Acoustic Perf. R _w dB (C _{tr} if applicable)	Impact Sound Insulation (L _{nw} dB)
RCC 013: Suspended MF – see p138						
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x 12.5mm GTEC Fire Board Frame: GTEC Ceiling Channels at max. 450mm centres Accessories: GTEC Connecting Clips Insulation: – Structure: 47mm x 200mm Joists at 600mm centres Floor: Min. 18mm tongue and grooved boarding or similar	34	n/a	60 30	44	70
RCC 014: Suspended MF – see p138						
	Ceiling Inner Layer(s): 1x 12.5mm GTEC Fire Board Ceiling Outer Layer(s): 1x 12.5mm GTEC Fire Board Frame: GTEC Ceiling Channels at max. 450mm centres Accessories: GTEC Frame should be screw fixed Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: 47mm x 200mm Joists at 600mm centres Floor: Min. 18mm tongue and grooved boarding or similar	45	n/a	90 30	54	62
RCC 015: Suspended MF – see p138						
	Ceiling Inner Layer(s): 1x 15mm GTEC Fire Board Ceiling Outer Layer(s): 1x 15mm GTEC Fire Board Frame: GTEC Ceiling Channels at max. 450mm centres Accessories: GTEC Frame should be screw fixed Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: 47mm x 200mm Joists at 600mm centres Floor: Min. 18mm tongue and grooved boarding or similar	50	n/a	120 30	56	60

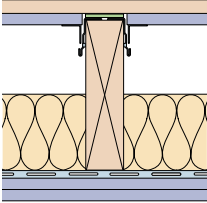
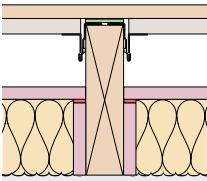
GTEC SUSPENDED MF CEILING SYSTEMS TO PROTECT STRUCTURE

System Ref.	Component	System Weight (kg/m ²)	Fire Perf. BS476-21 BS476-22 (mins)	Fire Perf. BS476-23 (mins)	Fire Perf. BS EN 1364-2 BS EN 1365-2 (mins)	Acoustic Perf. R _w dB (C _v if applicable)	Impact Sound Insulation (L _{nw} dB)
RCC 016: Suspended MF – see p138							
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x 12.5mm GTEC Standard Board Frame: GTEC Ceiling Channels at max. 450mm centres Accessories: GTEC Connecting Clips Insulation: – Structure: Any suitable soffit	11	– –	–	– –	–	–
RCC 017: Suspended MF – see p138							
	Ceiling Inner Layer(s): 1x 12.5mm GTEC Standard Board Ceiling Outer Layer(s): 1x 12.5mm GTEC Standard Board Frame: GTEC Ceiling Channels at max. 450mm centres Accessories: GTEC Frame should be screw fixed Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: Any suitable soffit	22	– –	30	30 –	–	–
RCC 018: Suspended MF – see p138							
	Ceiling Inner Layer(s): – Ceiling Outer Layer(s): 1x 12.5mm GTEC Fire Board Frame: GTEC Ceiling Channels at max. 450mm centres Accessories: GTEC Connecting Clips Insulation: 50mm 24kg/m ³ glass mineral wool Structure: Any suitable soffit	13	– –	30	30 –	–	–
RCC 019: Suspended MF – see p138							
	Ceiling Inner Layer(s): 1x 12.5mm GTEC Fire Board Ceiling Outer Layer(s): 1x 12.5mm GTEC Fire Board Frame: GTEC Ceiling Channels at max. 450mm centres Accessories: GTEC Frame should be screw fixed Insulation: 50mm 10.5kg/m ³ glass mineral wool Structure: Any suitable soffit	26	– –	60	30 –	–	–

GTEC MASS BARRIER CEILINGS

System Ref.	Component	System Weight (kg/m ²)	Fire Perf. BS476-21 BS476-22 (mins)	Fire Perf. BS476-23 (mins)	Fire Perf. BS EN 1364-2 BS EN 1365-2 (mins)	Acoustic Perf. R _w dB (C _v if applicable)	Impact Sound Insulation (L _{nw} dB)
RCC 060: Suspended MF – see p138							
	Ceiling Inner Layer(s): 1x 12.5mm GTEC dB Board Ceiling Outer Layer(s): 1x 12.5mm GTEC dB Board Frame: GTEC Ceiling Channels at max. 450mm centres Heavy Duty Primary channels UT52/Y at 900mm Centres Accessories: Phonissimo Acoustic Hangers as 1200mm Centres Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: Any suitable soffit	30	– –	60	30 –	–	–
RCC 061: Suspended MF – see p138							
	Ceiling Inner Layer(s): 1x 15mm GTEC dB Board Ceiling Outer Layer(s): 2x 15mm GTEC dB Board Frame: GTEC Ceiling Channels at max. 450mm centres Heavy Duty Primary channels UT52/Y at 900mm Centres Accessories: Phonistar Acoustic Hangers as 1200mm Centres Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: Any suitable soffit	50	– –	90	90 –	–	–

GTEC ACOUSTIC FLOOR SYSTEMS

System Ref.	Component	System Weight (kg/m ²)	Fire Perf. BS476-21 BS EN 1365-2 (mins)	Acoustic Perf. R _w dB (C _{tr} where applicable)	Impact Sound Insulation (L _{nw} dB)
RAF 050: Acoustic Floor – see p170					
	Ceiling Inner Layer(s): 1x 15mm GTEC dB Board Ceiling Outer Layer(s): 1x 15mm GTEC dB Board Accessories: Single GTEC Resilient Bar at max. 450mm centres Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: 47mm x 200mm joists at 450mm centres Floor Inner Layer(s): 1x 15mm GTEC dB Board on GTEC Acoustic Floor Clips Floor Outer Layer(s): 22mm tongue and grooved chipboard	60	60 60	63, -10	54
RAF 006: Acoustic Floor – see p170					
	Ceiling Inner Layer(s): 15mm GTEC Fire Board to joists and bridged over insulation Ceiling Outer Layer(s): Existing lath and plaster decorative ceiling Accessories: – Insulation: 100mm 10.5kg/m ³ glass mineral wool Structure: 47mm x 200mm joists at 450mm centres Floor Inner Layer(s): 1x 19mm GTEC Plank on GTEC Acoustic Floor Clips Floor Outer Layer(s): 22mm tongue and grooved chipboard	60	60 60	53	65

FLOORS AND CEILINGS PERFORMANCE NOTES

- ▶ Performance values are for imperforate, jointed systems using Siniat GTEC components (metal studs and tracks, boards, metal accessories, screws and finishing systems) and specified insulation quilt material (type, thickness and density) and installed to Siniat specification and installation guides.
- ▶ Any alterations may impair the quoted performance. Contact Technical Services for further system configurations and their resulting performances.
- ▶ Insulation shown may be replaced with thicker and/or heavier quilt material without impairing the quoted performances.
- ▶ For maximum framing centres, joist connector and bracket centres and loading see tables within system guidance pages.

GTEC SUSPENDED MF CEILING SYSTEMS

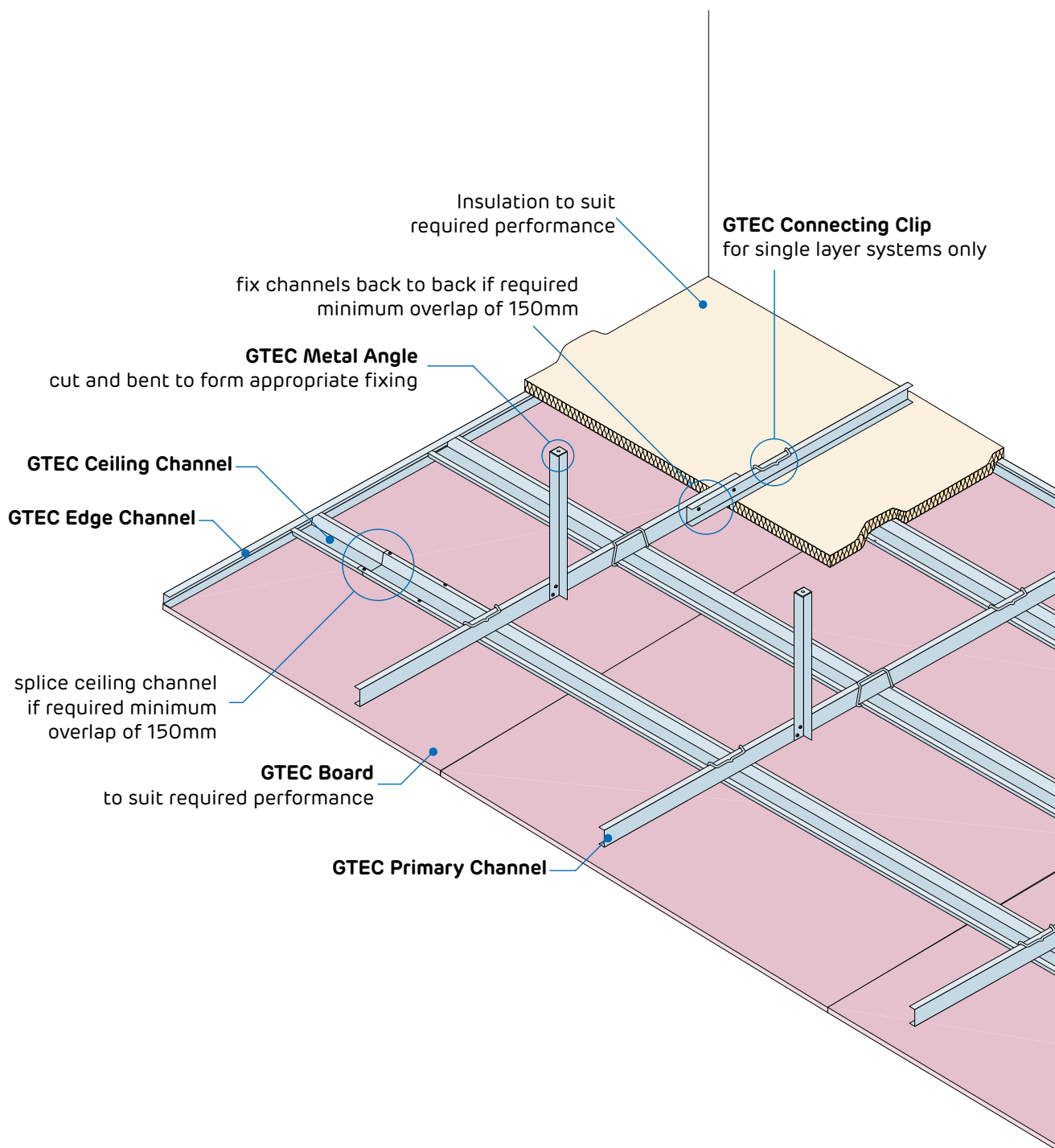
The GTEC Suspended MF Ceilings are used to create ‘false ceilings’ which house services between the ceiling and soffit. The large voids created also improve acoustic, fire and thermal performance.

GTEC Suspended MF Ceilings are formed from a series of GTEC Primary Channels hung from the soffit. Attached to these channels are GTEC Ceiling Channels, slotted into GTEC Edge Channel to form the frame. GTEC Board is fixed to the MF frame to complete the system. Refer to the System Performance Tables on pages 133 to 136 for full details.

WHERE TO USE:

- ▶ GTEC Suspended MF Ceilings are used for commercial applications where services are required below the soffit.
- ▶ For ceilings with enhanced fire and acoustic performance in commercial and residential applications.

FEATURES	BENEFITS
Variable cavity depth	Optimisable cavity size for service and insulation requirements
High acoustic, fire and thermal capabilities	Required performance levels are easily achieved
Creates a ‘false ceiling’	Can be used to upgrade or protect existing structures
Demountable	Easy to renovate
Flat finish	Provides a smooth surface for decorating



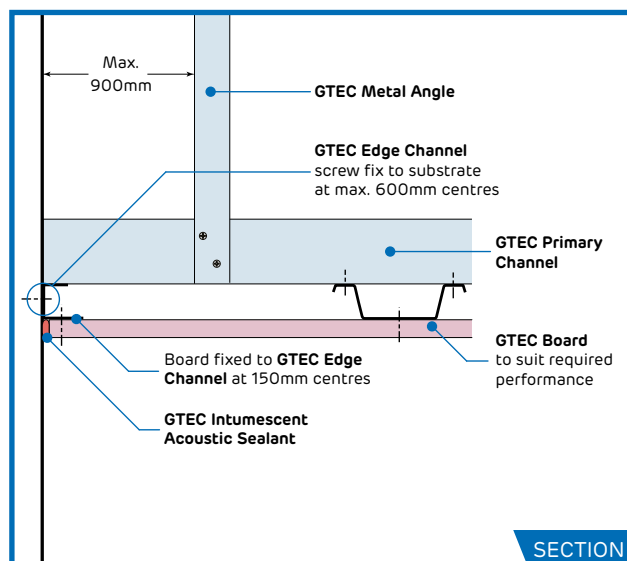
SYSTEM COMPONENT TABLE

System Component	System primary use	Product Reference
BOARDS		
	All GTEC Boards Provides wall surface suitable for finishing	See performance tables, p133-136
FRAME		
	GTEC Ceiling Channel Steel channel to support boards	MFCC50
	GTEC Primary Channel Steel channel to support GTEC Ceiling Channel	MFCP44
	GTEC Heavy Gauge Primary Channel Heavy duty steel channel to support GTEC Ceiling Channel	UT52/Y
	GTEC Edge Channel Steel channel used to form perimeter board support	MFCE26
	GTEC Metal Angle Multi-purpose metal section as suspension hanger	MFC2330, MFC2525, MFC2550
	GTEC Connecting Clip Steel clip for joining GTEC Ceiling Channel to GTEC Primary Channel	MFCCLIP
	GTEC Soffit Cleat Steel bracket to fix suspension hangers to substrate	MFCCLEAT
	GTEC Phonistar Acoustic Hanger A heavy duty (up to 120kg) acoustic suspended ceiling hanger bracket	PHONI
	GTEC Phonissimo Acoustic Hanger A medium duty (up to 50kg) acoustic suspended ceiling hanger bracket	PHONIMO
	GTEC Movement Control Joint Flexible metal profile to create movement joint	MCJ3048
INSULATION		
	Mineral wool insulation Increases fire and acoustic insulation performance	See performance tables supplied by others
FIX		
	GTEC Drywall Screws (as appropriate) For connecting plasterboard and metal components	See screw selector, p334
FINISHING		
	GTEC Joint Tape Joint reinforcement in conjunction with GTEC Jointing Compounds	n/a
	GTEC Intumescent Acoustic Sealant Perimeter sealing to restrict smoke, sound and fire penetration. Ensures system performance	n/a
	GTEC Compounds To finish joints between boards and bed corner beads prior to decorating. Ensures system performance	See compounds guidance, p280
	GTEC Sealers To seal plasterboard prior to decoration	n/a

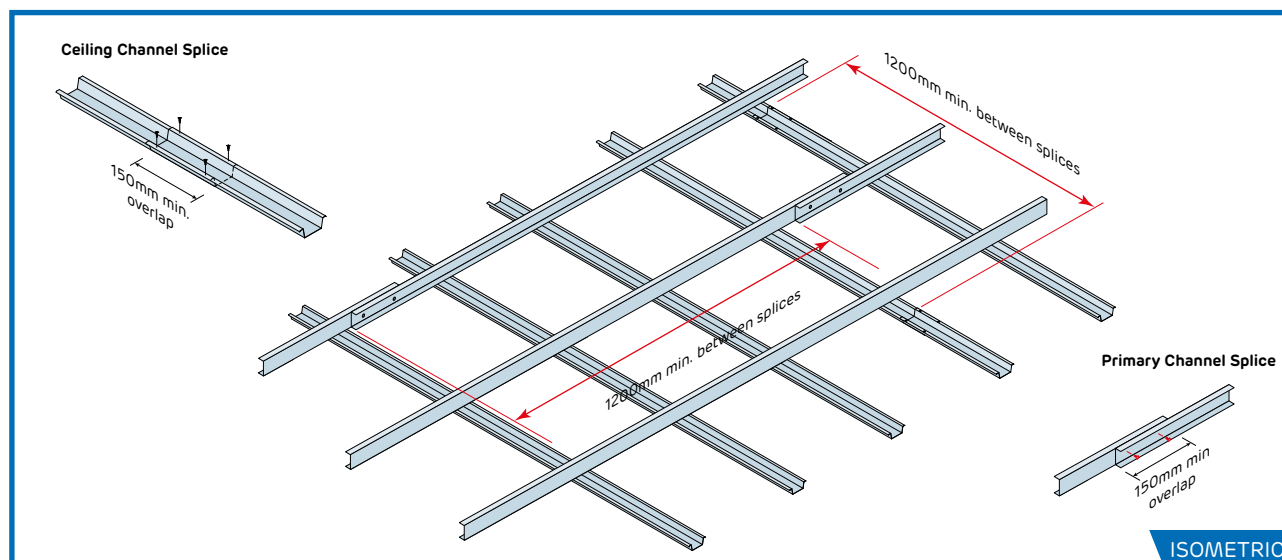
SYSTEM GUIDANCE

FRAME

FC-MF-101S-Ceiling perimeter



FC-MF-102M & 103M-Ceiling channel splicing



- GTEC Edge Channel to be fixed to structure at perimeter of ceiling run and around any obtrusions within the ceiling, e.g. columns. Fix at 600mm centres using appropriate fixings. Allow for board depth when positioning channel.
- GTEC Metal Angle suspension hangers at maximum 1200mm centres along Primary Channel to be fixed to structural soffit using GTEC Soffit Cleats and appropriate structural fixings by others.
- Hangers to be at maximum of 900mm from ceiling perimeter.

- GTEC Primary Channels to be arranged at maximum centres (see table) according to expected loadings including system and board weight (as indicated in performance tables). Channels to be fixed to hangers using appropriate GTEC Drywall Screws.

Max. primary channel centres	Maximum loading including system and board weight
600mm	74kg/m ²
900mm	50kg/m ²
1200mm	35kg/m ²

FRAME continued

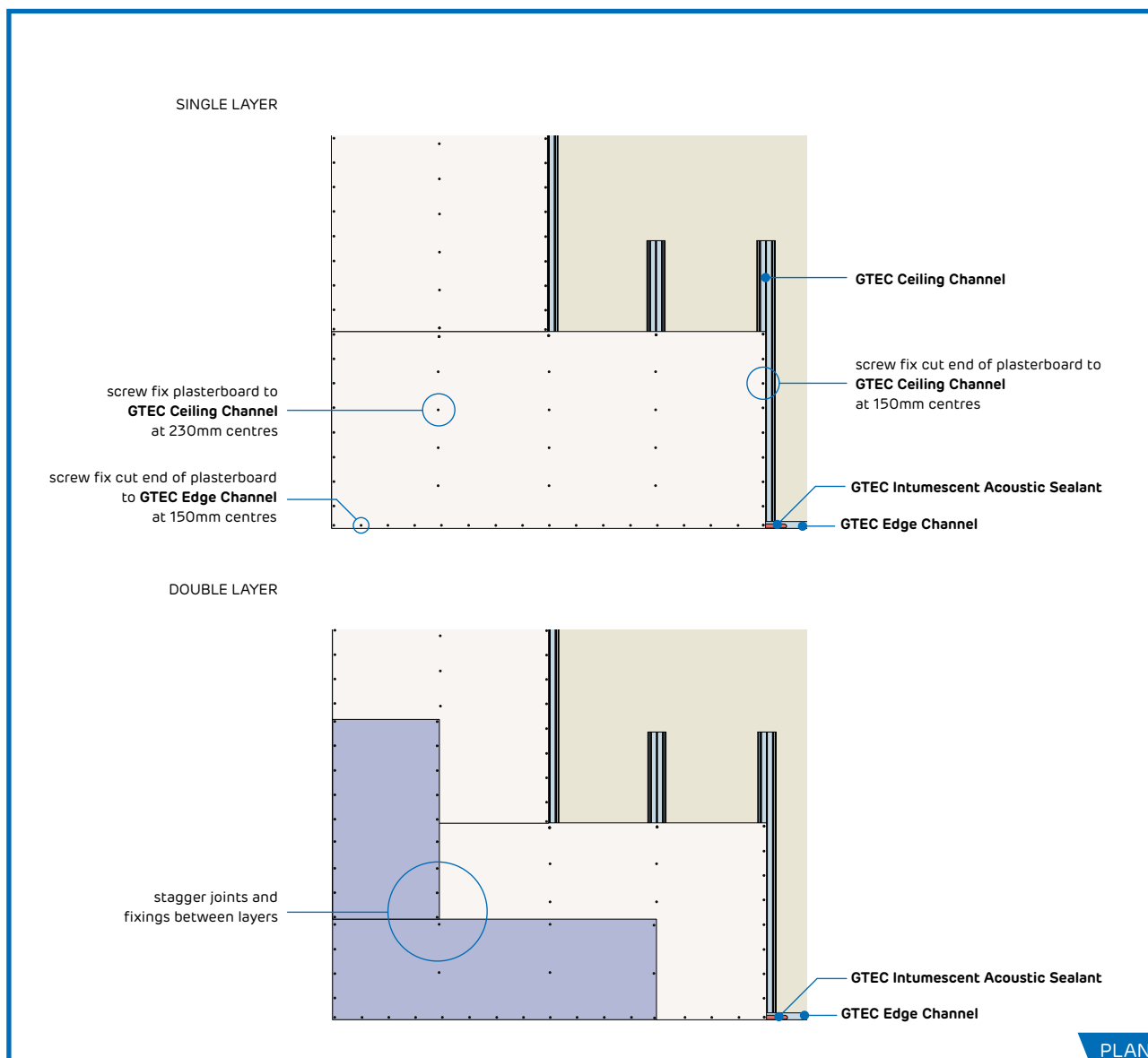
- ▶ GTEC Ceiling Channels at maximum 450mm centres to be located into GTEC Edge Channel and fixed at right angles to GTEC Primary Channel.
- ▶ Fixing between Ceiling and Primary channels to be made using appropriate GTEC Drywall Screws.
- ▶ GTEC Connecting Clips may only be used to connect GTEC Ceiling Channel to Primary Channel in single board layer systems with no additional loadings. GTEC Connecting Clips to be alternated in direction to counteract any movement.
- ▶ GTEC Primary Channels may be spliced if necessary by fixing back-to-back with minimum four appropriate GTEC Drywall Screws.
- ▶ GTEC Ceiling Channels may be jointed by overlapping profiles by minimum 150mm and fixing with minimum four appropriate GTEC Drywall Screws.

INSULATION

- ▶ Any insulation to be of type and thickness to achieve performance and installed in a continuous layer between primary channels and over ceiling channels and boards.

BOARDING

FC-MF-201M & 202M Board Layout

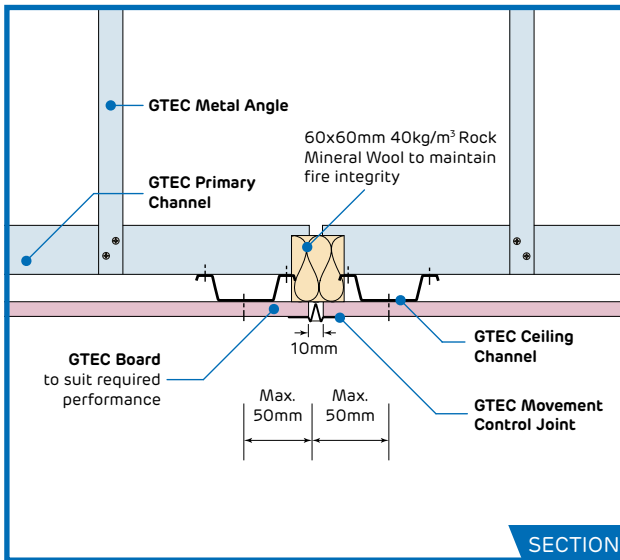


PLAN

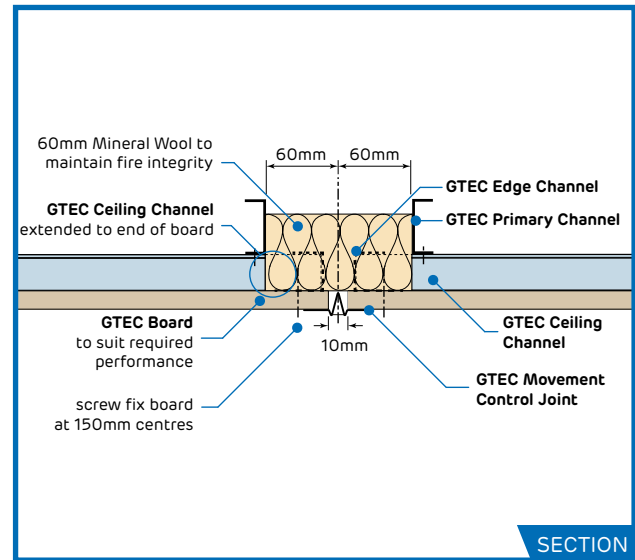
- ▶ GTEC Suspended MF Ceiling system is suitable for single, double and multiple layer boarding.
- ▶ Select base layer(s) and finishing layer(s) GTEC Boards by consulting System Performance Tables (p133-136) and Product Specification (p294-307) to achieve required performance. See High Performance Boards guide p12 for further selection information.
- ▶ Boards to span across GTEC Ceiling Channels. Joints between boards must occur at centre of channels.
- ▶ Board ends and joints to be centred over channels.
- ▶ Boards to be mechanically fixed to GTEC Edge Channel at 150mm centres using appropriate GTEC Drywall Screws. See screw selector p334.
- ▶ Boards to be mechanically fixed to GTEC Ceiling Channels at 230mm centres in centre of board or at bound edges and at 150mm centres at cut edges, using appropriate GTEC Drywall Screws. See screw selector p334.
- ▶ Board joints to be staggered between layers.
- ▶ Any GTEC Fire Board, or other GTEC Type F (BS EN 520) board, required by the system performance, to be installed as the outermost/finishing layer.

MOVEMENT CONTROL JOINTS

FC-MF-301S-Movement joint – parallel to c. channels



FC-MF-302S-Movement joint – perpendicular to c. channels

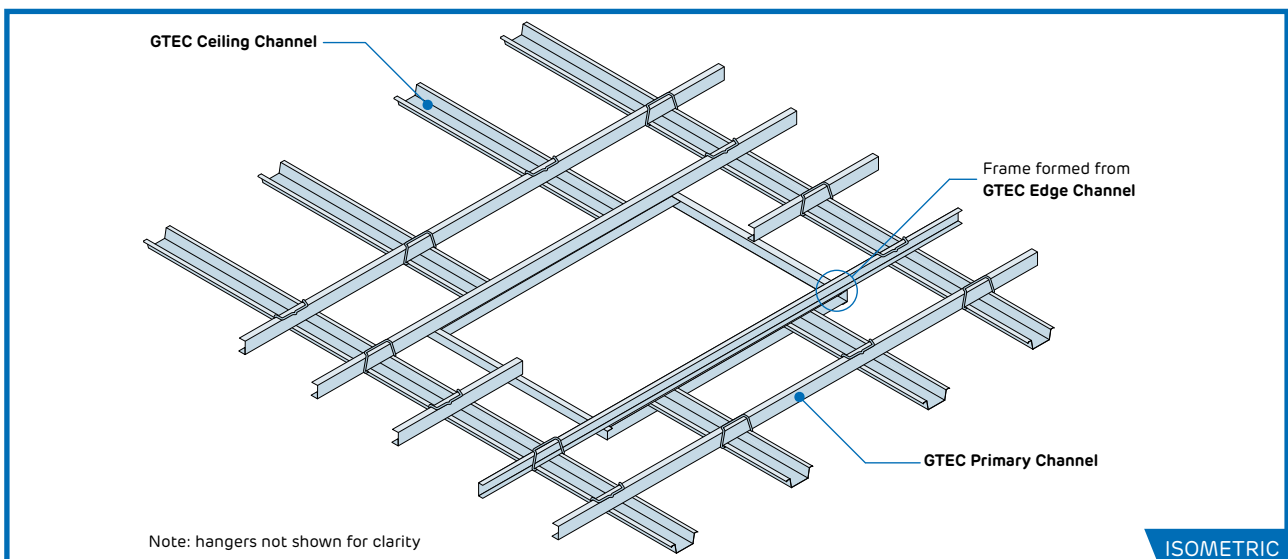


- Form movement control joints at maximum 10m intervals in any direction in ceiling run.
- Form movement control joints where ceiling crosses a structural movement joint.

- Fix GTEC Movement Control Joint, butted end-to-end, to board with sheradised or galvanised staples.
- Follow measures to ensure fire resistance and stability as shown in Construction Details.

OPENINGS

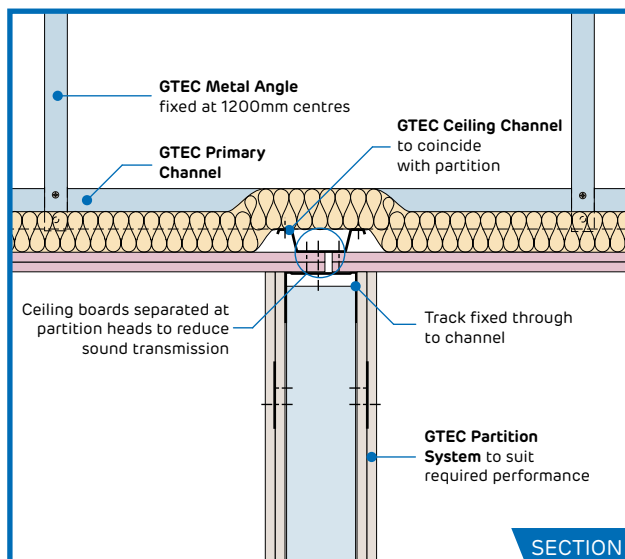
FC-MF-401M-Opening in ceiling



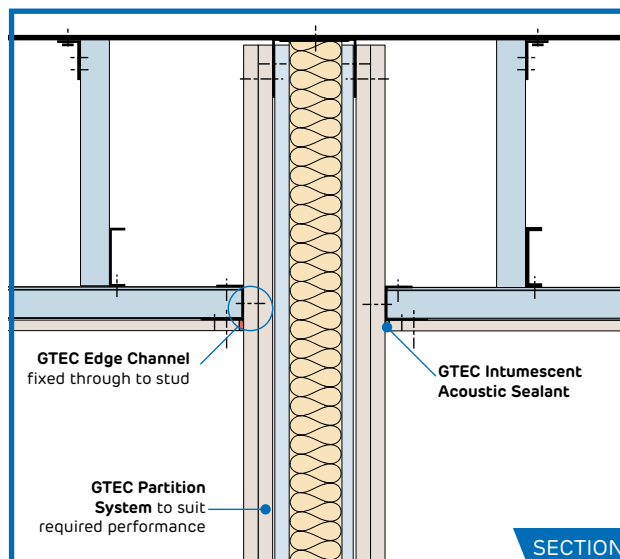
- Frames around openings and large penetrations in ceiling to be formed from GTEC Edge Channel with additional GTEC Primary Channel to support opening frame and GTEC Ceiling Channels.

HEIGHT CHANGE & JUNCTIONS

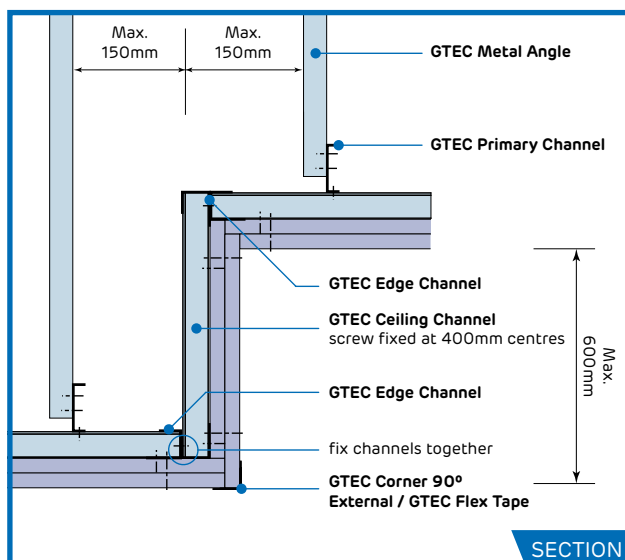
FC-MF-501S-Junction of partition to ceiling



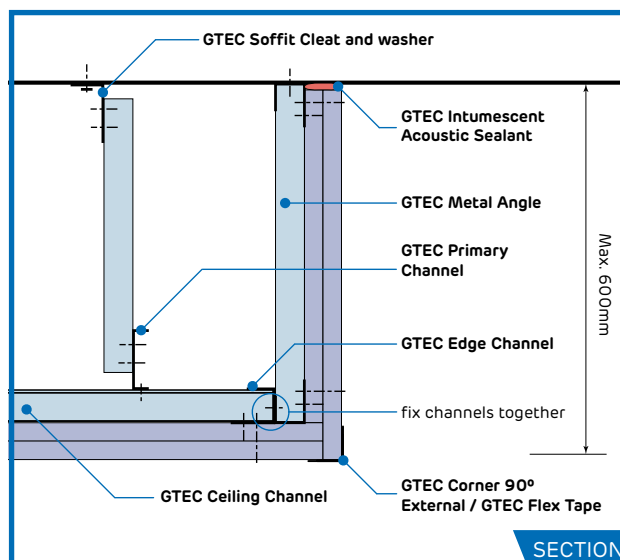
FC-MF-502S-Junction of ceiling to partition



FC-MF-503S-Change in ceiling height



FC-MF-504S-Bulkhead



- ▶ Abutting partitions to coincide with and fix to GTEC Ceiling Channel, install additional intermediate 'pick-up' channels if required.
- ▶ Separate boards at partition head to reduce sound transmission.

- ▶ Where ceiling abuts partition fix GTEC Edge Channel through to stud.
- ▶ Form 90° junction in ceiling by fixing GTEC Edge Channels at right angle with GTEC Ceiling Channel spanning vertically as required. Hangers to be positioned at maximum 150mm from change in height.

FIXTURES

- ▶ Where possible fixtures and loadings to be suspended from structural soffit and not GTEC Suspended MF Ceiling system.
- ▶ Loads suspended from ceiling to be fixed to frame not boards. Framing centres to suit total load, see guidance on centres in 'Frame' guidance section, and appropriate fixings selected to suit full loadings.
- ▶ Services running through ceiling void to be supported by structural soffit and not GTEC Suspended MF Ceiling System.

PENETRATIONS

- ▶ M&E runs and other services to be pre-planned to minimise or eliminate penetrations through rated ceilings.
- ▶ Any penetrations must be fully sealed with GTEC Intumescent Acoustic Sealant or other fire and sound resisting material.

FINISHING

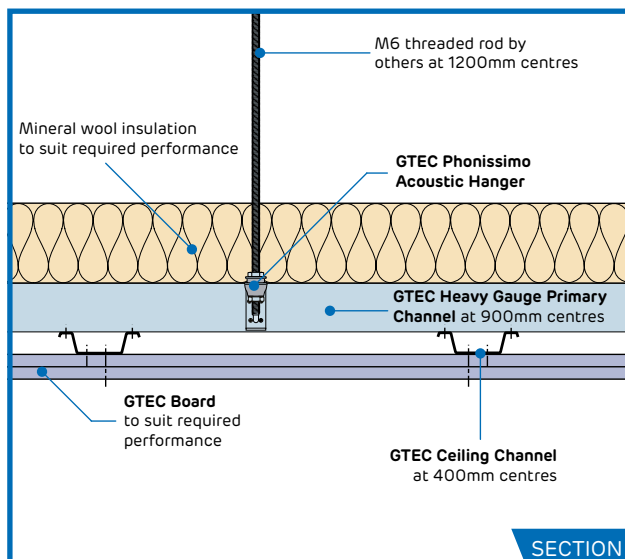
- ▶ All board joints to be taped, jointed or finished according to guidance in Finishing section (p276-291) to achieve system performances. Where a ceiling is not intended to be decorated GTEC Intumescent Sealant to be used to seal board joints.
- ▶ GTEC Finish materials appropriate to board type to be used.

SYSTEM CONTINUITY

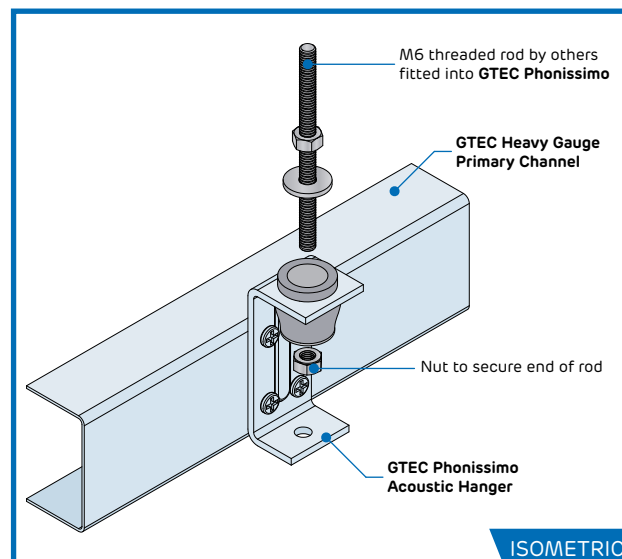
- ▶ Full, imperforate system continuity to be maintained to achieve rated performances.
- ▶ Bead of GTEC Intumescent Acoustic Sealant to be applied to perimeter of all runs and in all other locations specified in Construction Detail Drawings.
- ▶ GTEC Intumescent Acoustic Sealant to seal all other acoustic or air paths to prevent fire/smoke spread and acoustic transmission.

ACOUSTIC MASS BARRIER CEILINGS

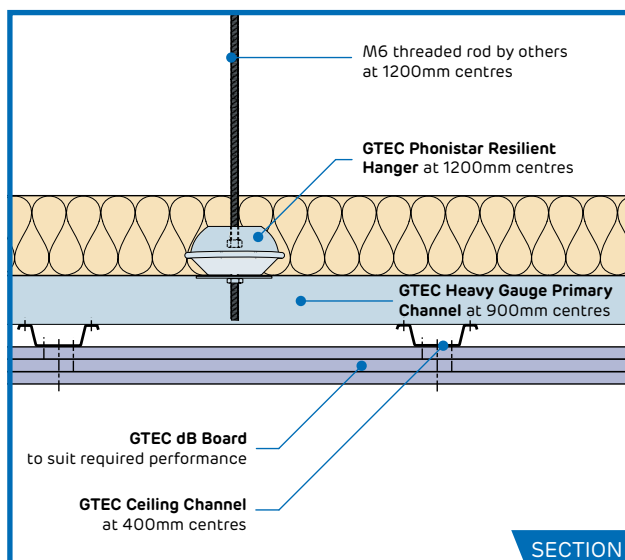
FC-MF-002S-Phonissimo Acoustic Hanger – general arrangement



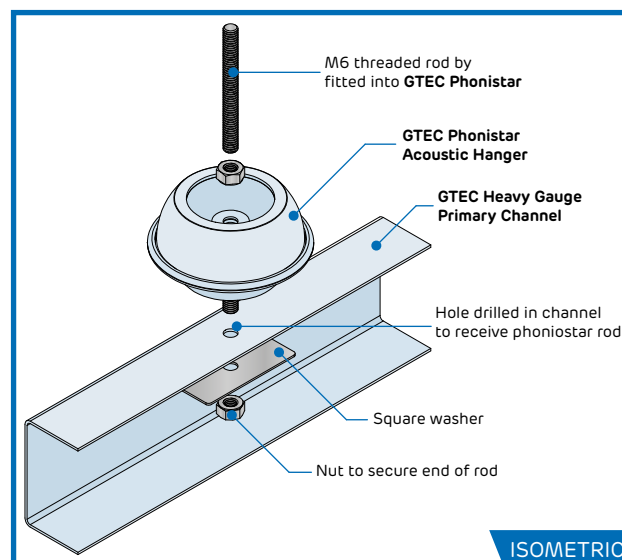
FC-MF-003M-Phonissimo Acoustic Hanger – assembly



FC-MF-004S-Phonistar Resilient Hanger – general arrangement



FC-MF-005M-Phonistar Resilient Hanger – assembly



- ▶ For Acoustic Mass Barrier system configurations suspend frame from GTEC Phonistar or GTEC Phonissimo hangers at maximum 1200mm centres using M6 threaded rod.
- ▶ GTEC Phonissimo and GTEC Phonistar hangers are acoustically dampened, high strength hangers to support higher mass ceilings which offer the highest acoustic insulation.

- ▶ GTEC Heavy Gauge Primary Channel UT52/Y to be used instead of GTEC Primary Channel.

GTEC PREGYBEL MF CEILING SYSTEMS

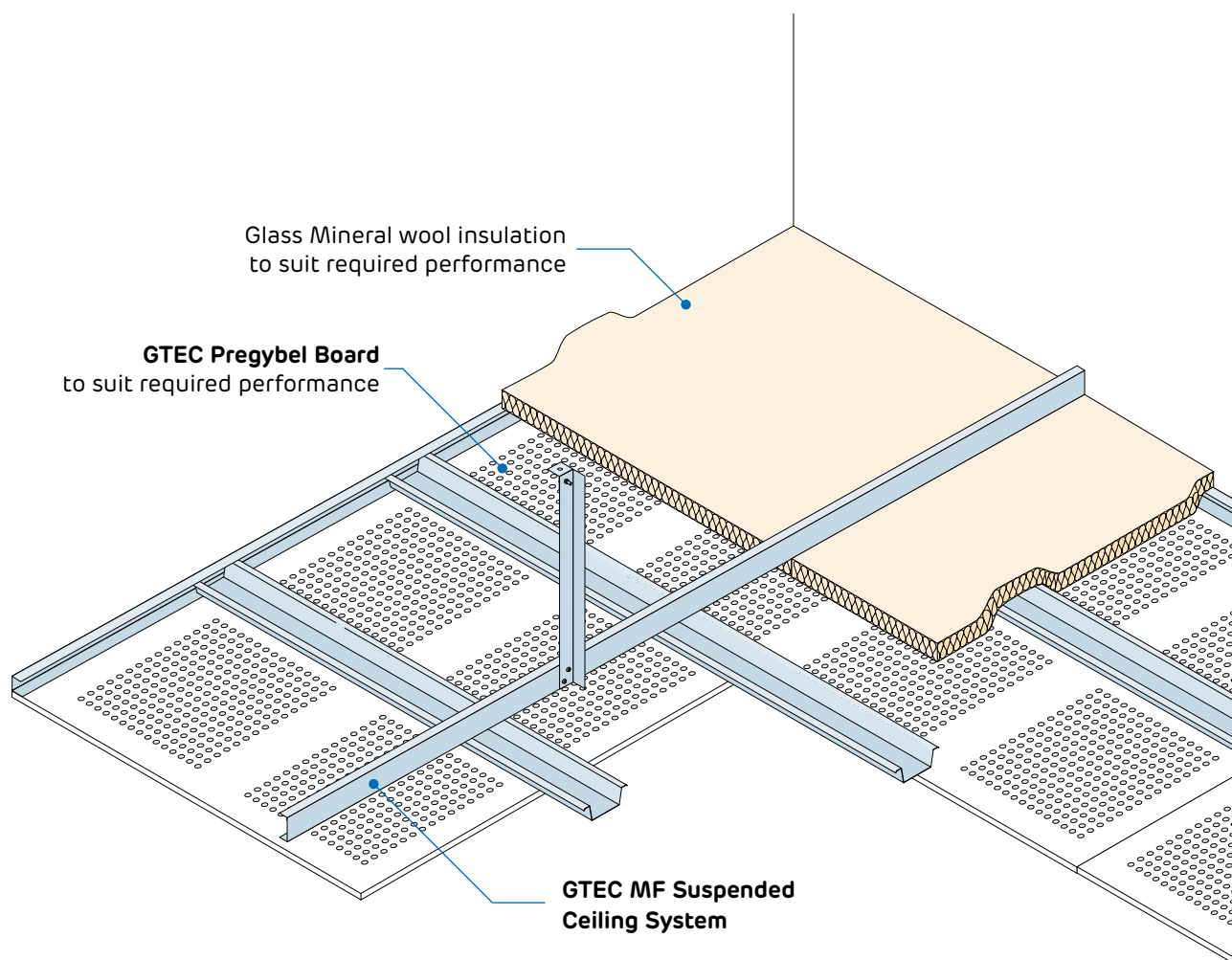
The GTEC Pregybel MF Ceiling system is used for creating sound absorbing ceilings to control sound reflection in larger spaces, creating a more comfortable level of sound and improved audibility.

GTEC Pregybel MF Ceilings combine the easy to install advantages of the GTEC Suspended MF Ceiling with the sound absorption capability of GTEC Pregybel Board. Using frame components from the GTEC Suspended MF system enables flexible design and specification. GTEC Pregybel board is perforated in a range of patterns for attractive designs and reduction in the reflective surface of the board to limit echo or reverberation. Refer to the System Performance Tables on pages 131 to 132 for full performance details.

WHERE TO USE:

- GTEC Pregybel MF ceilings are used in commercial applications where large, hard-surfaced and uninterrupted spaces would otherwise suffer from echoing.
- GTEC Pregybel MF ceilings are also required for corridors and stairwells in residential blocks to reduce sound travel through the building.

FEATURES	BENEFITS
Variable cavity depth	Cavity size can be optimised for service and insulation requirements
	Up to Class B acoustic absorption
Utilises GTEC Suspended MF framing	One set of components on site
	Easy to install
Creates a 'false ceiling'	Can be used to upgrade existing structures
Perforated boards in a range of patterns	Provides a range of aesthetic options to add variation in large spaces



SYSTEM COMPONENT TABLE

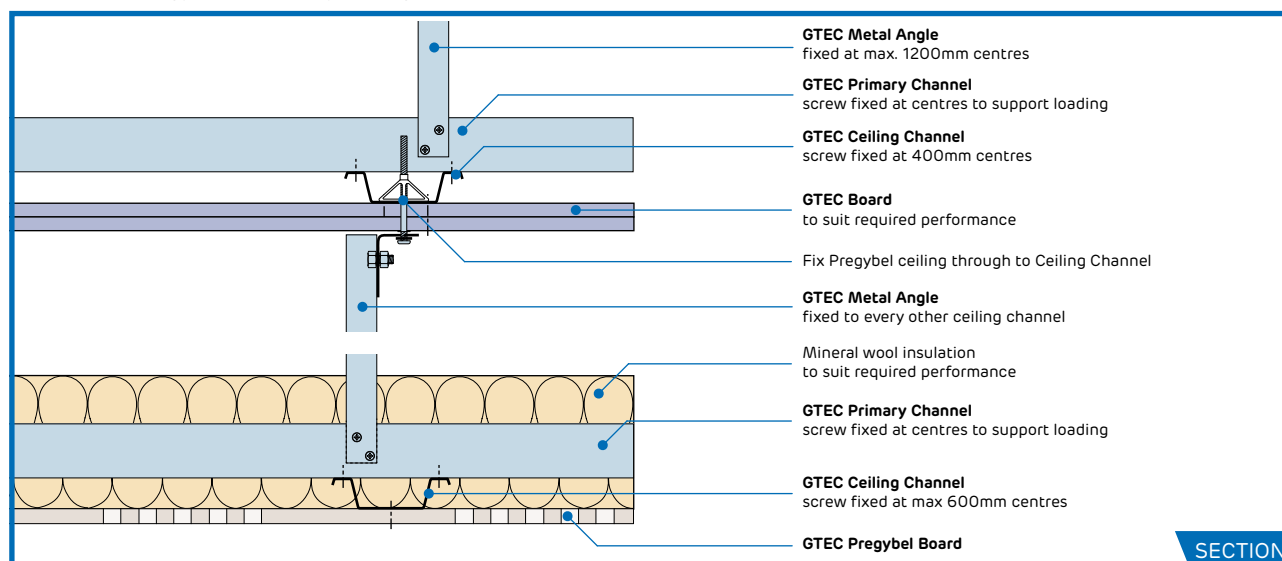
System Component	System primary use	Product Reference
BOARDS		
	All GTEC Boards Provides wall surface suitable for finishing	See performance tables, p131-132
FRAME		
	GTEC Ceiling Channel Steel channel to support boards.	MFCC50
	GTEC Primary Channel Steel channel to support GTEC Ceiling Channel	MFCP44
	GTEC Edge Channel Steel channel used to form perimeter board support	MFCE26
	GTEC Metal Angle Multi-purpose metal section as suspension hanger	MFC2330, MFC2525, MFC2550
	GTEC Connecting Clip Steel clip for joining GTEC Ceiling Channel to GTEC Primary Channel	MFCCLIP
	GTEC Soffit Cleat Galvanised steel bracket to fix suspension hangers to substrate	MFCCLEAT
	GTEC Strap Hanger Suspension hanger for depths up to 1m	MFSTRAP
	GTEC Movement Control Joint Flexible metal profile to create movement joint	MCJ3048
INSULATION		
	Mineral wool insulation Increases acoustic absorption	See performance tables supplied by others
FIX		
	GTEC Drywall Screws (as appropriate) For connecting plasterboard and metal components	See screw selector, p334
FINISHING		
	GTEC Joint Tape Joint reinforcement in conjunction with GTEC Jointing Compounds	n/a
	GTEC Intumescent Acoustic Sealant Perimeter sealing to prevent dust accumulation	n/a
	GTEC Compounds To finish joints between boards and bed corner beads prior to decorating. Ensures system performance	See compounds guidance, p280
	GTEC Sealers To seal plasterboard prior to decoration	n/a

SYSTEM GUIDANCE

See guidance in GTEC Suspended MF section and additional considerations given below:

FRAME

FC-PG-101S-Pregybel Secondary Ceiling



- ▶ GTEC Connecting Clips may be used to connect GTEC Ceiling Channel to Edge Channel in all single layer GTEC Pregybel MF systems providing no additional loads are being carried.

- ▶ GTEC Ceiling Channel to be at maximum 600mm centres to coincide with unperforated areas of board.

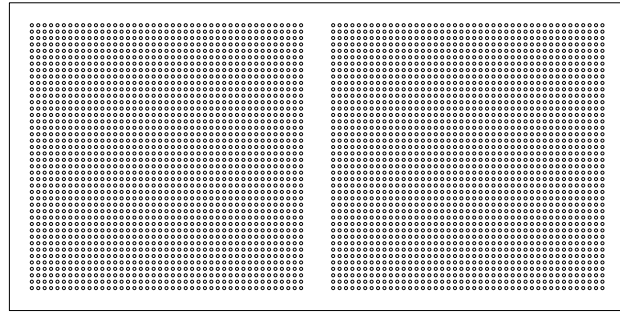
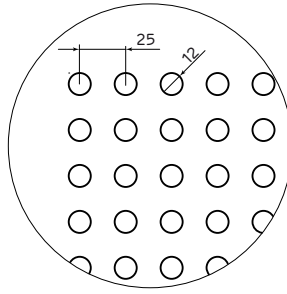
INSULATION

- ▶ Any insulation to be of type and thickness to achieve performance and installed in a continuous layer between primary channels and over ceiling channels and boards.

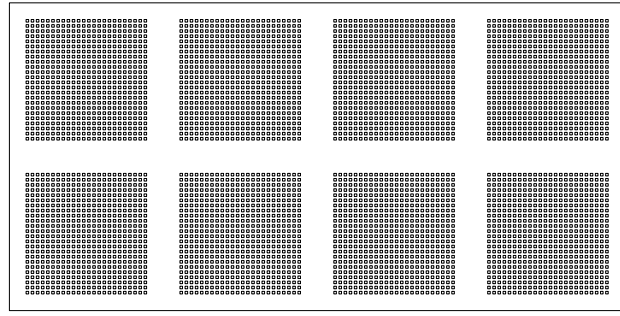
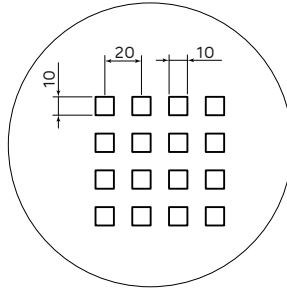
BOARDING

FC-PG-201E-Pregybel board designs

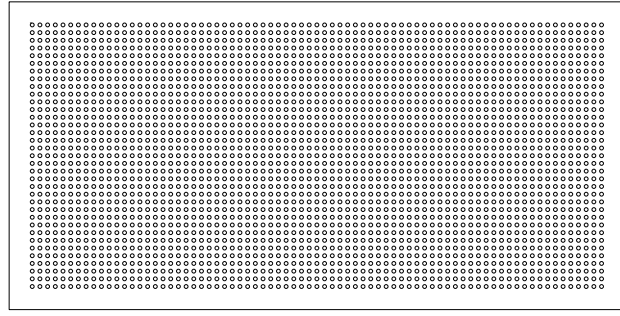
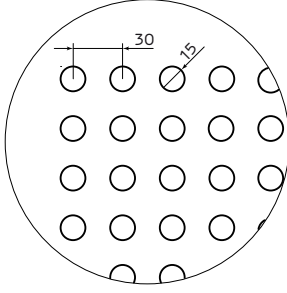
GTEC Pregybel R12 no. 2



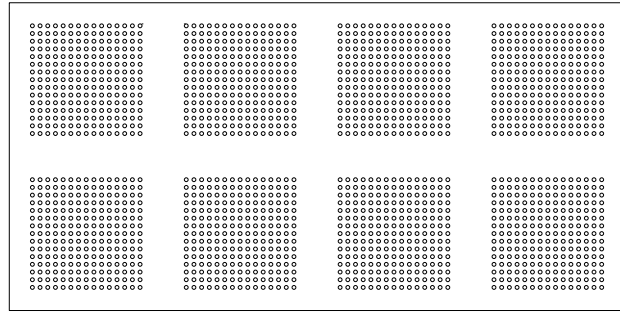
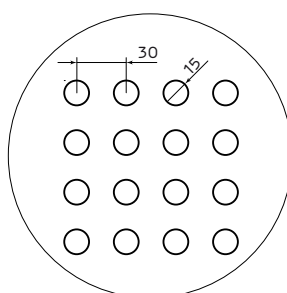
GTEC Pregybel C10 no. 8



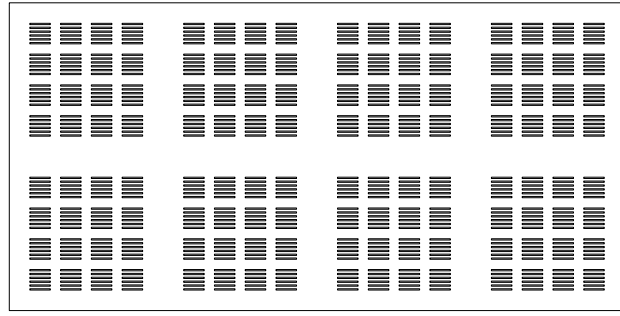
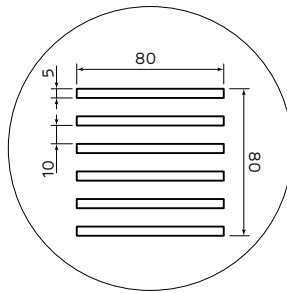
GTEC Pregybel R15 no. 1



GTEC Pregybel R15 no. 8



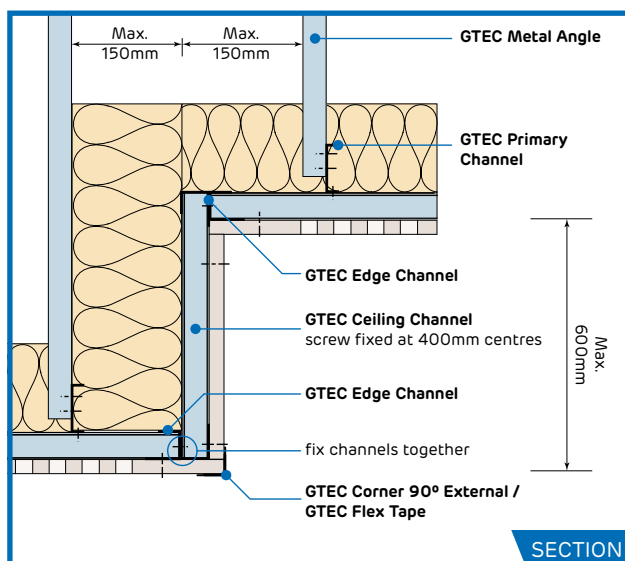
GTEC Pregybel L5x80 no. 8



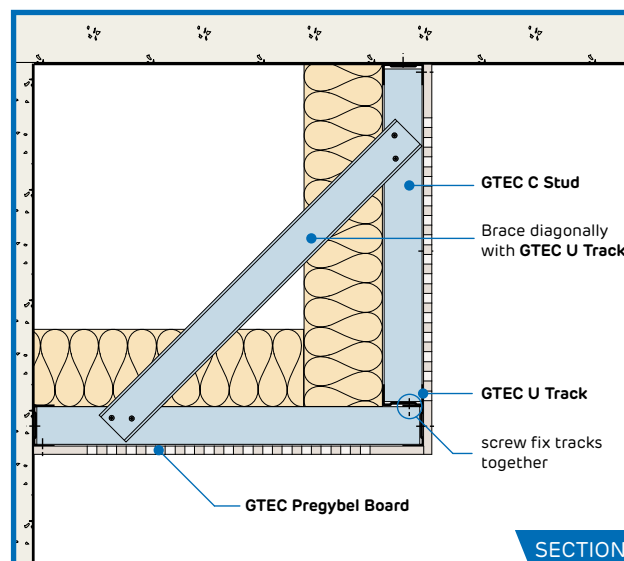
All units in millimetres

ELEVATION

FC-PG-501S-Pregybel Ceiling Height Change



FC-PG-002S-Pregybel Standalone Bulkhead



PENETRATIONS

- M&E runs and other penetrating services to be pre-planned to minimise or eliminate penetrations through rated ceilings.
- Any penetrations must be fully sealed with GTEC Intumescent Acoustic Sealant or other fire and sound resisting material.

SYSTEM CONTINUITY

- Only areas with full system continuity will achieve rated performances.
- Bead of GTEC Intumescent Acoustic Sealant to be applied to perimeter of all runs and in all other locations specified in Construction Detail Drawings to prevent dust accumulation.

FINISHING

- All board joints to be taped, jointed or finished according to guidance in Finishing section (p276-291) to achieve system performances.
- GTEC Pregybel Board, once sealed, to be painted with rollers to prevent paint blocking tissue backing and reducing absorption capacity.
- GTEC Finish materials appropriate to board type to be used.
- GTEC Pregybel MF Ceiling system is suitable for single layer boarding.
- Select GTEC Pregybel Board according to acoustic performance required and desired perforation pattern.
- GTEC Pregybel boards to be arranged to achieve desired board pattern. GTEC Pregybel Boards and GTEC Boards may be mixed for decorative effect however acoustic absorption only occurs where board, void and insulation match the system performance.
- Boards to span across GTEC Ceiling Channels.

GTEC DRYLINER CEILING SYSTEMS

The GTEC Dryliner Ceiling system is a simple, quick and cost-effective method for constructing a true, flat ceiling, even when connecting to uneven joists or concrete soffits. It also creates a small cavity to accommodate services.

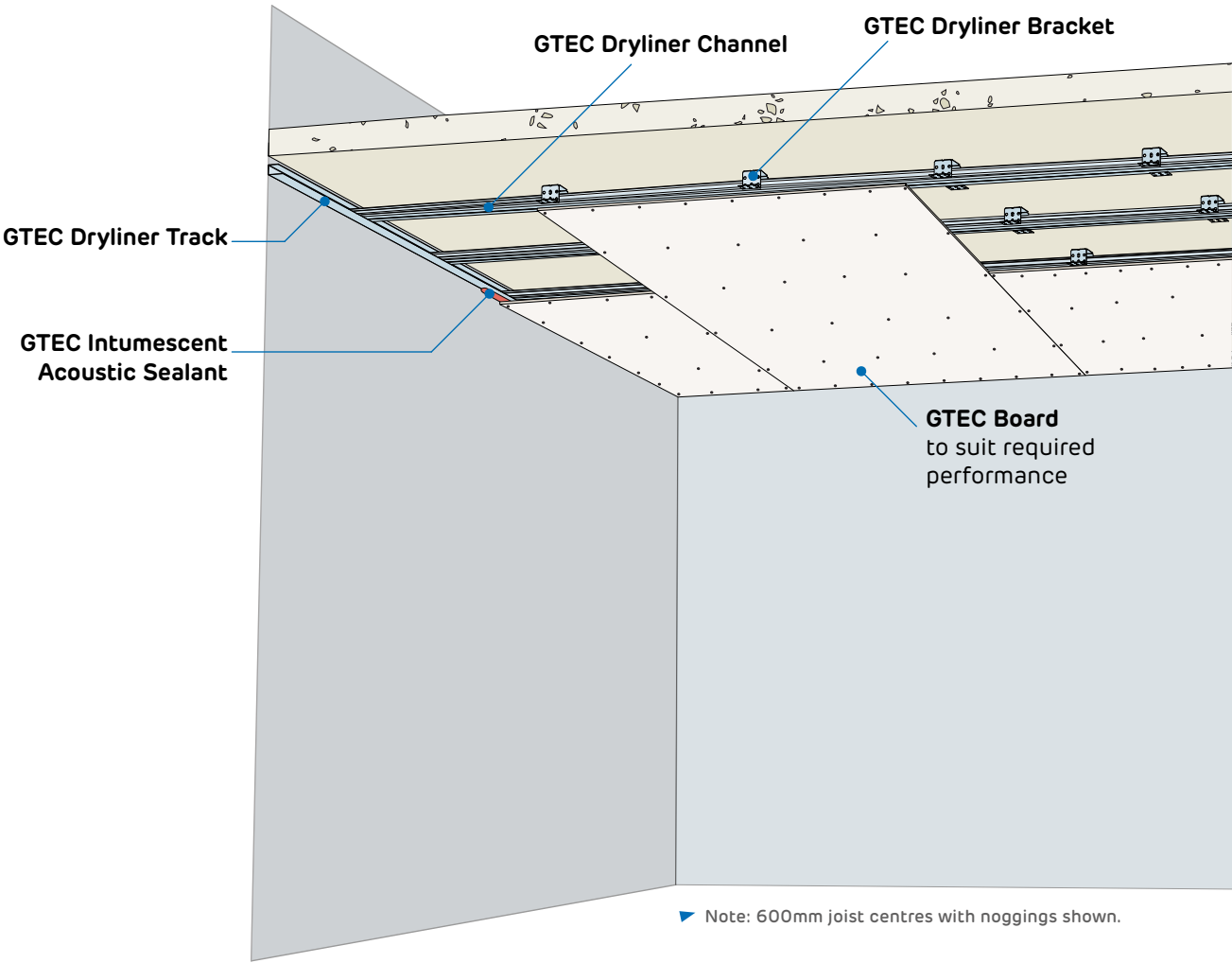
GTEC Dryliner ceilings are made from GTEC Dryliner Brackets fixed to the soffit or joists, with GTEC Dryliner Channels secured to them. The channels provide a strong, level substrate for fixing the plasterboard. GTEC Dryliner Brackets are available for a range of cavity depths up to 130mm.

Fire rating and acoustic performance can be enhanced by the selection of appropriate GTEC Boards. Refer to the System Performance Tables on page 127 for full details.

WHERE TO USE:

- GTEC Dryliner Ceilings are used for both domestic and commercial applications for either new build or renovation projects.

FEATURES	BENEFITS
Improved fire protection for timber joists	Cost effective solution for achieving required performance
Creates a cavity	Accommodates services without the need to drill joists
Adjustable brackets	Creates a flat surface even with uneven joists or soffit
Separation from soffit	Provides improved acoustic performance
No direct connection between board and joists	Reduces risk of plasterboard cracking from movement of wooden joists



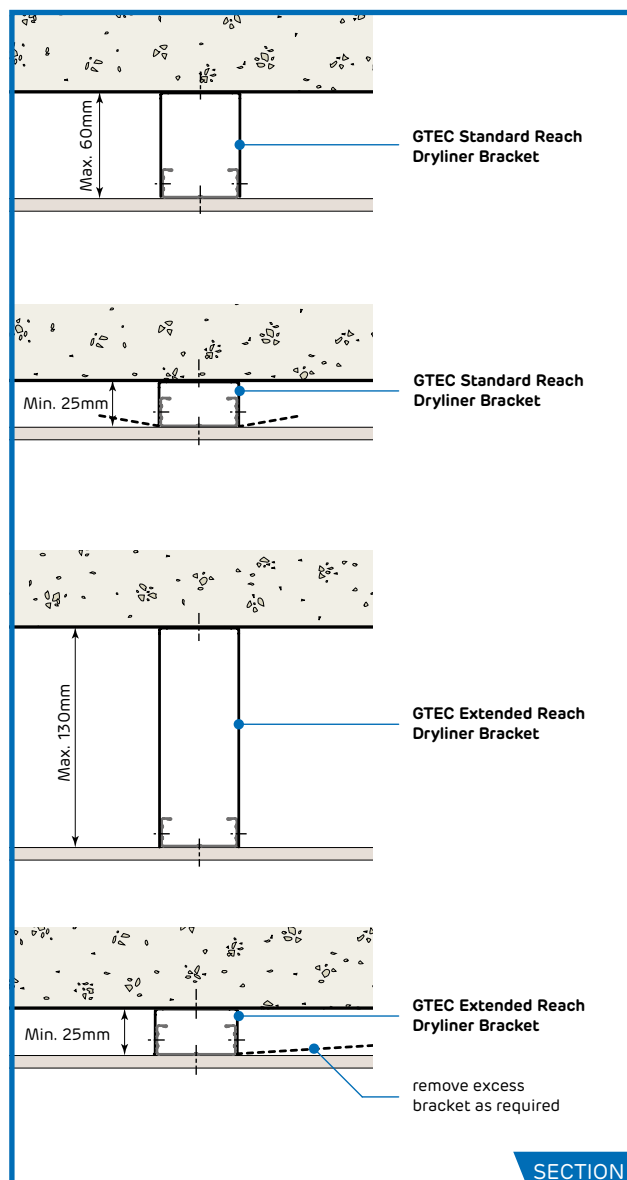
SYSTEM COMPONENT TABLE

System Component	System primary use	Product Reference
BOARDS		
	All GTEC Boards Provides wall surface suitable for finishing	See performance tables, p127
FRAME		
	GTEC Dryliner Channel A galvanized steel furring channel for plasterboard fixing	RD1
	GTEC Dryliner Channel Connector A galvanized clip used to join sections of GTEC Dryliner Channel	RD3
	GTEC SR bracket Adjustable bracket to connect GTEC Dryliner Channel to substrate	RD2
	GTEC XR bracket Adjustable, extended reach bracket to connect GTEC Dryliner Channel to substrate	RD11
	GTEC Dryliner Track J shaped metal section used as a track and perimeter channel	RD9
	GTEC Metal Angle Multi-purpose metal section as suspension hanger	MFC2330, MFC2525, MFC2550
	GTEC Movement Control Joint Flexible metal profile to create movement joint	MCJ3048
INSULATION		
	Mineral wool insulation Increases fire and acoustic insulation performance	See performance tables supplied by others
FIX		
	GTEC Drywall Screws (as appropriate) For connecting plasterboard and metal components	See screw selector, p334
FINISHING		
	GTEC Joint Tape Joint reinforcement in conjunction with GTEC Jointing Compounds	n/a
	GTEC Intumescent Acoustic Sealant Perimeter sealing to restrict smoke, sound and fire penetration. Ensures system performance	n/a
	GTEC Compounds To finish joints between boards prior to decorating. Ensures system performance	See compounds guidance, p280
	GTEC Sealers To seal plasterboard prior to decoration	n/a

SYSTEM GUIDANCE

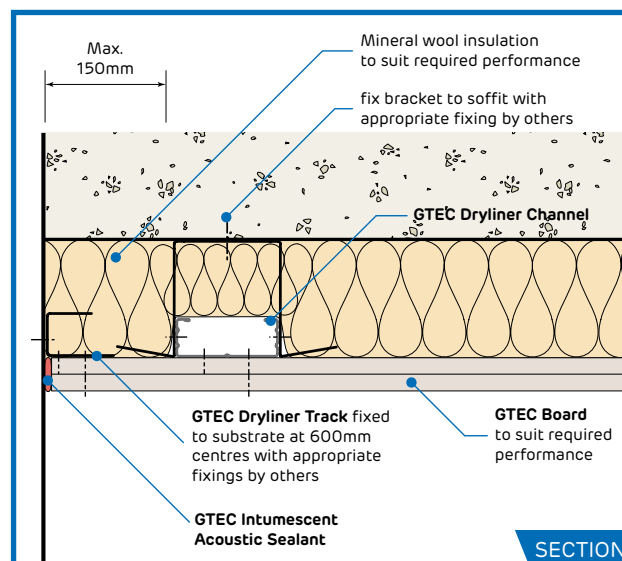
FRAME

FC-DC-101E-Dryliner cavity sizes



- GTEC Dryliner Channel to be positioned at maximum 450mm centres. GTEC Dryliner Brackets to be positioned at maximum 600mm centres for double layer boarding and at maximum 900mm centres for single layer boarding.
- GTEC Dryliner Brackets to be fixed to soffit/joists in line to receive GTEC Dryliner Channel: GTEC SR and XR Brackets to be fixed using appropriate structural fixings by others.

FC-DC-102S-Ceiling perimeter



- GTEC Dryliner Track to be fixed to structure at perimeter of ceiling run and around any obtrusions within the ceiling, e.g. columns. Fix at 600mm centres using appropriate fixings by others. Allow for board depth when positioning channel.
- Select GTEC Dryliner Brackets (SR and XR) to suit cavity depth required:

GTEC Dryliner Bracket	Cavity Depth Range
GTEC SR Bracket	25mm-60mm
GTEC XR Bracket	25mm-130mm

- GTEC Dryliner Channel to be 5mm shorter than ceiling length/width, located into GTEC Dryliner Track, attached to both GTEC Dryliner Bracket legs with appropriate GTEC Drywall Screws (see screw selector p334) and levelled by adjusting brackets. Excess bracket leg length to be removed or bent back.
- GTEC Dryliner Channel may be spliced if necessary using GTEC Dryliner Channel Connector. Any jointed sections to be fixed to soffit/joist with additional brackets where required.

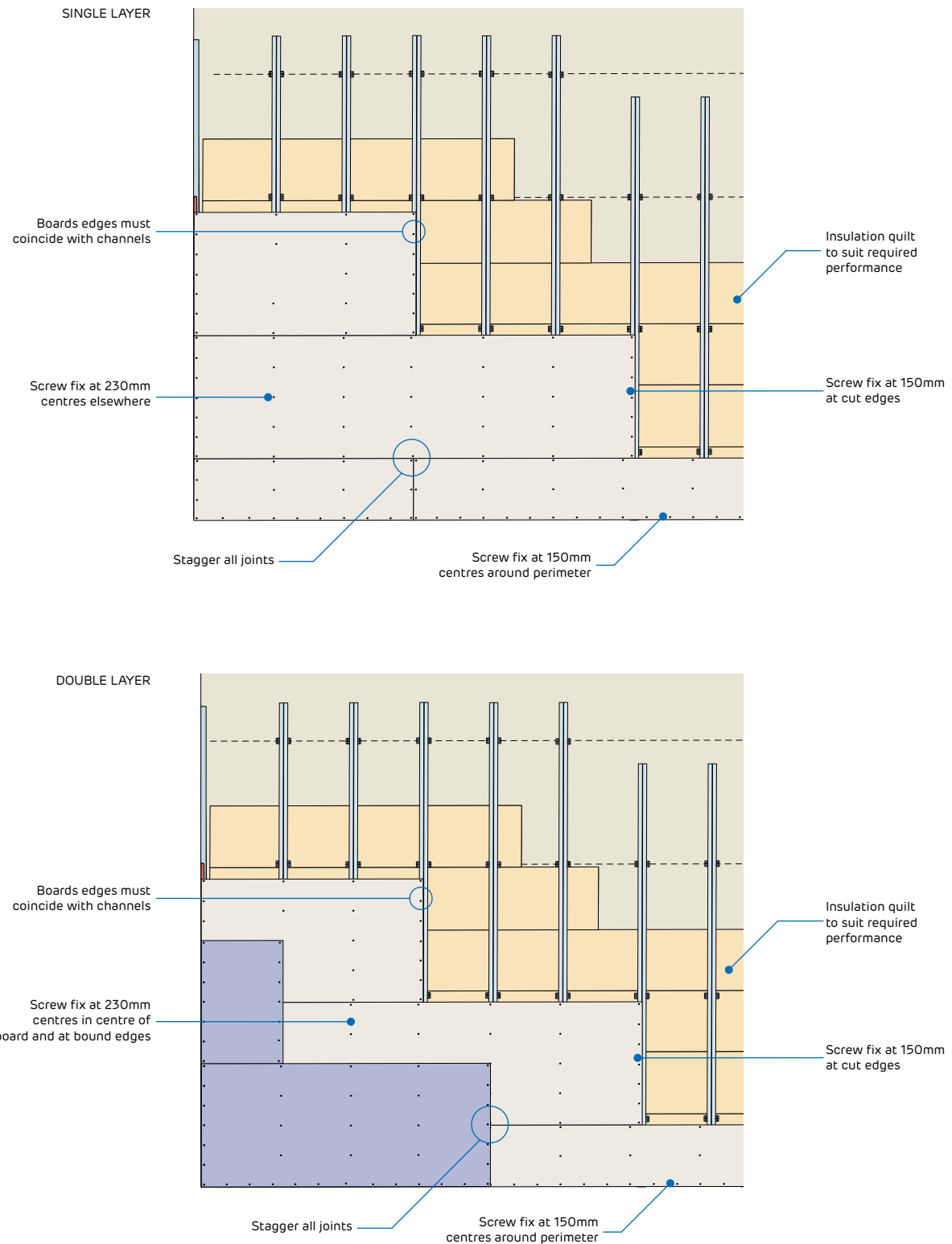
INSULATION

- Any insulation to be of type and thickness to achieve performance and tightly installed in a

continuous layer between brackets and over channels.

BOARDING

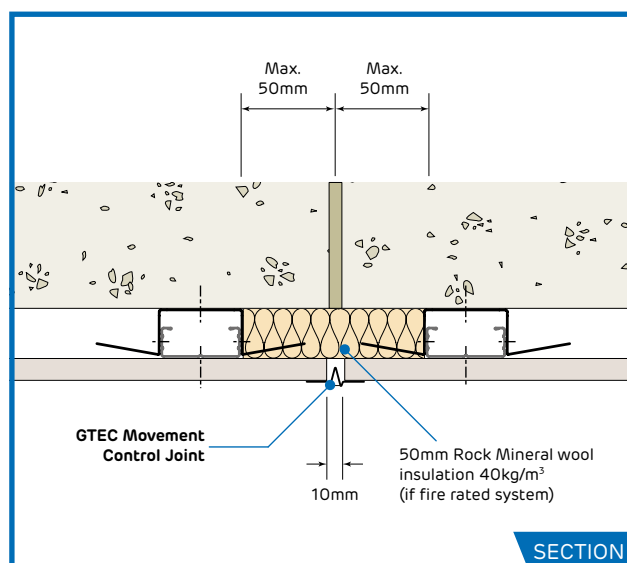
FC-DC-201P & 202P-Single boarding and double layer boarding



- ▶ GTEC Dryliner Ceiling system is suitable for single and double layer boarding.
- ▶ Select base layer(s) and finishing layer(s) GTEC Boards by consulting System Performance Tables (p133-136) and Product Specification (p294-307) to achieve required performance. See High Performance Boards guide p12 for further selection information.
- ▶ Boards to span across GTEC Dryliner Channels with bound edges at right angles to channels.
- ▶ Board ends and joints to be centred over channels.
- ▶ Boards to be mechanically fixed to GTEC Dryliner Track at 150mm centres using appropriate GTEC Drywall Screws. See screw selector p334.
- ▶ Boards to be mechanically fixed to GTEC Dryliner Channels at 230mm centres in field of board or at bound edges and at 150mm centres at cut edges, using appropriate GTEC Drywall Screws. See screw selector p334.
- ▶ Board joints to be staggered between layers.
- ▶ Any GTEC Fire Board, or other GTEC Type F (BS EN 520) board, required by the system performance, to be installed as the outermost/finishing layer.

MOVEMENT CONTROL JOINTS

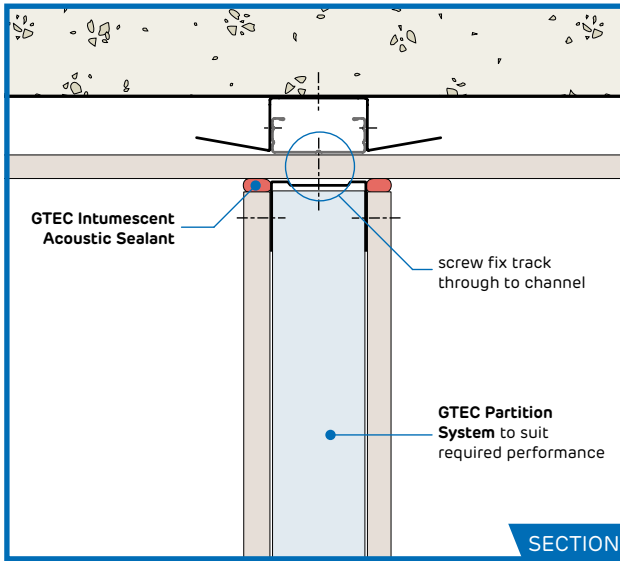
FC-DC-301S-Movement joint



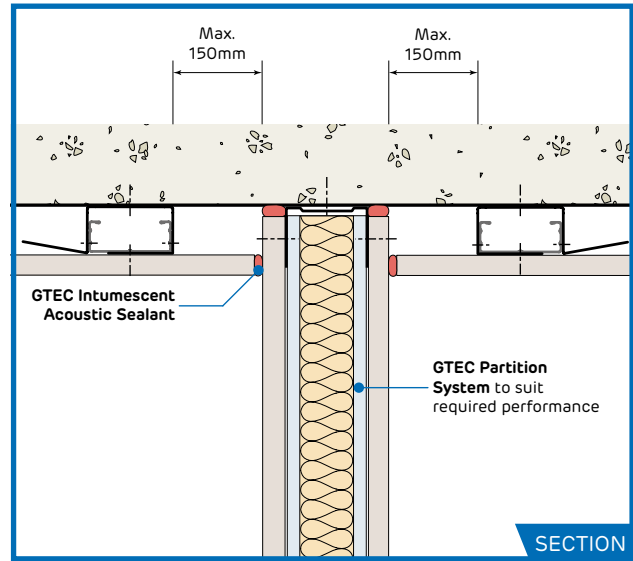
- ▶ Form movement control joints at maximum 10m intervals in any direction in ceiling run.
- ▶ Form movement control joints where ceiling crosses a structural movement joint.
- ▶ Fix GTEC Movement Control Joint, butted end-to-end, to board with sheradised or galvanised staples.
- ▶ Follow measures to ensure fire resistance and stability as shown in Construction Details.

HEIGHT CHANGE & JUNCTIONS

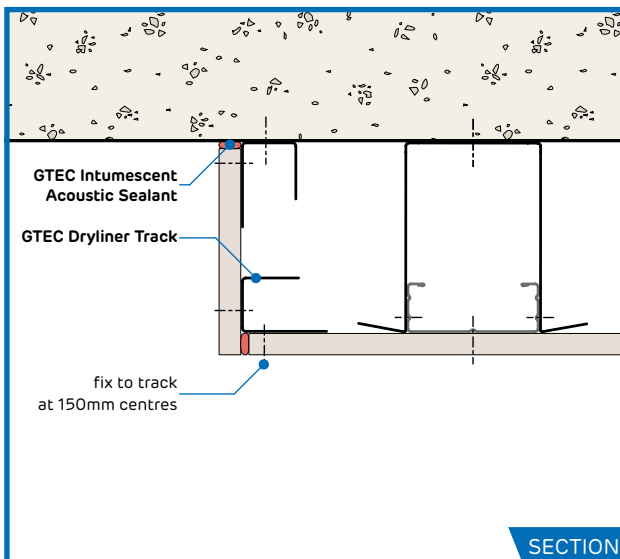
FC-DC-501S-Junction of partition to ceiling



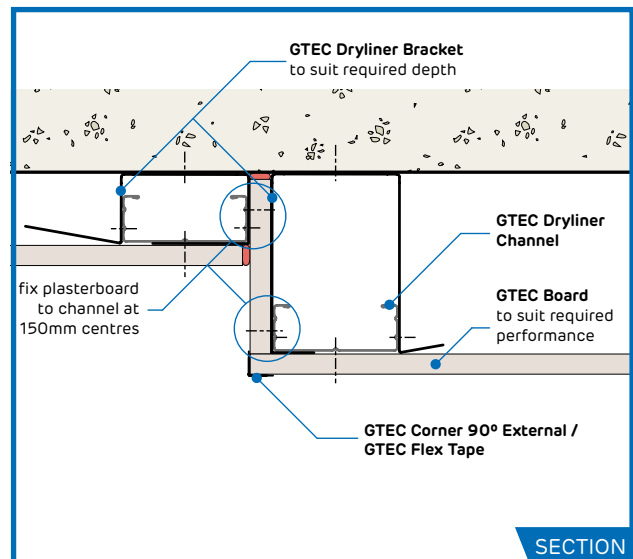
FC-DC-502S-Junction of ceiling to partition



FC-DC-503S-Bulkhead



FC-DC-504S-Change in ceiling height



- ▶ Abutting partitions to coincide with and fix to GTEC Dryliner Channel, install additional intermediate 'pick-up' channels with brackets where required.
- ▶ Where ceiling abuts partition fix GTEC Dryliner Track through to stud and install GTEC Dryliner Channels with brackets within 150mm of partition.

- ▶ Form 90° junction in ceiling with GTEC Dryliner Track as corner reinforcement or position GTEC Dryliner brackets to receive edge board along legs.

FIXTURES

- ▶ Fixtures and loadings to be suspended from structural soffit/joist and not GTEC Dryliner Ceiling system.
- ▶ Any services or installations in ceiling void to be supported by structural soffit/joist and not GTEC Dryliner Ceiling System.

PENETRATIONS

- ▶ M&E runs and other services to be pre-planned to minimise or eliminate penetrations through rated ceilings.
- ▶ Any penetrations must be fully sealed with GTEC Intumescent Acoustic Sealant or other fire and sound resisting material.

FINISHING

- ▶ All board joints to be taped, jointed or finished according to guidance in Finishing section (p276-291) to achieve system performances. Where ceiling is not intended to be decorated GTEC Intumescent Acoustic Sealant to be used to seal board joints.
- ▶ GTEC Finish materials appropriate to board type to be used.

SYSTEM CONTINUITY

- ▶ Full, imperforate system continuity to be maintained to achieve rated performances.
- ▶ Bead of GTEC Intumescent Acoustic Sealant to be applied to perimeter of all runs and in all other locations specified in Construction Detail Drawings.
- ▶ GTEC Intumescent Acoustic Sealant to seal all other acoustic or air paths to prevent fire/smoke spread and acoustic transmission.
- ▶ GTEC Dryliner Ceiling system may be used to upgrade existing, retained ceilings provided all fixing is into structural soffit/joists and any combustible material is removed from retained ceiling or evaluated as inert.

GTEC DIRECT-TO-TIMBER CEILING SYSTEMS

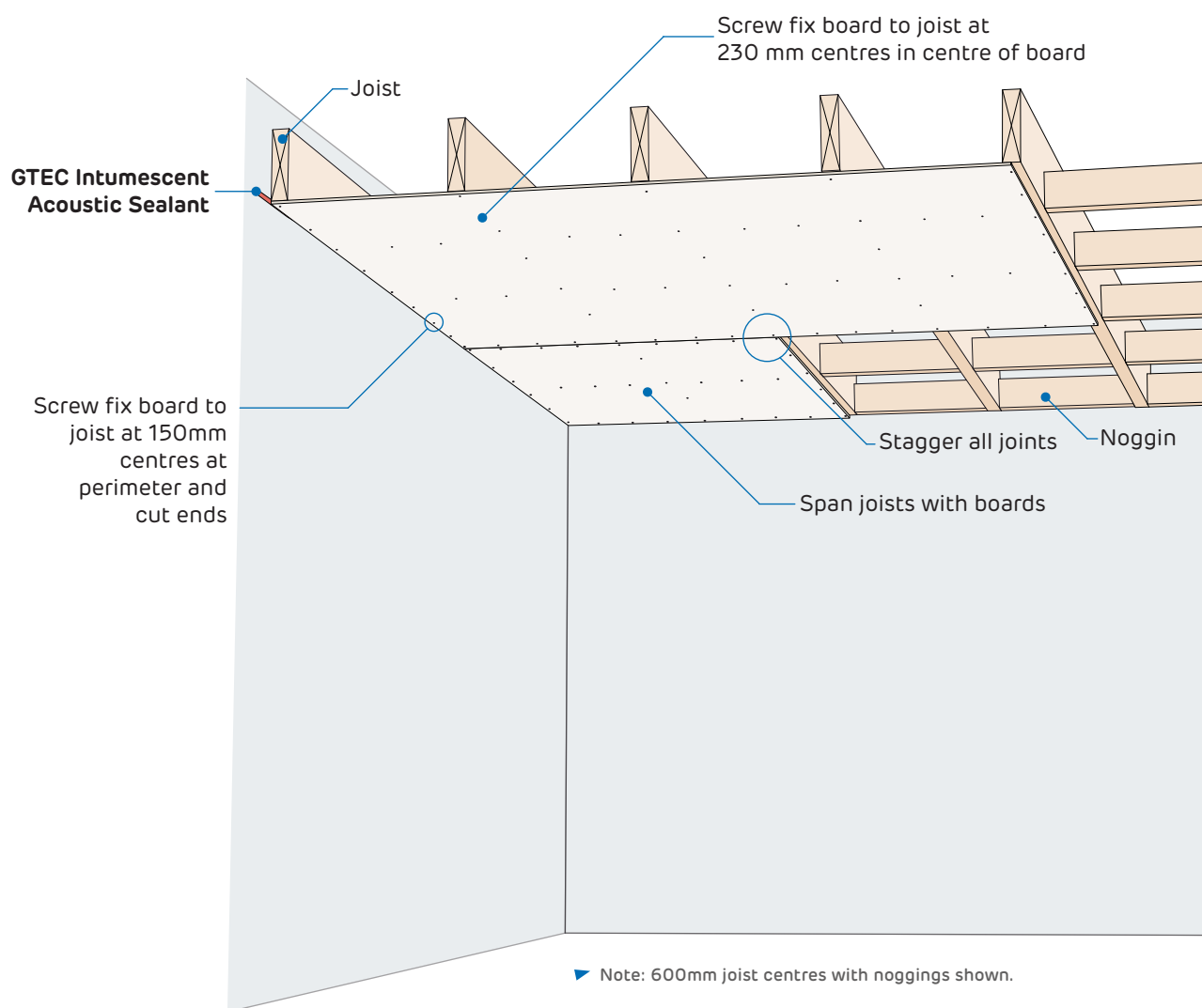
The GTEC Direct-to-Timber Ceiling system is the simplest method of creating a flat ceiling surface for decoration and achieving excellent fire performance.

GTEC Plasterboard is attached directly to the underside of floor joists or to the bottom chords of roof trusses with insulation between rafter to boost acoustic and fire performance. Refer to the System Performance Tables on pages 122 to 126 for full details.








WHERE TO USE:

- The GTEC Direct to Timber system is used in both renovation and new-build domestic applications.

FEATURES	BENEFITS
Only requires board and screws	Reduces installation time and costs
Compatible with GTEC Board options	Achieves required fire performance
Flat finish	Provides easy to decorate surface
Can be used with GTEC Resilient Bar	Improves acoustic performance and reliability with some engineered joists



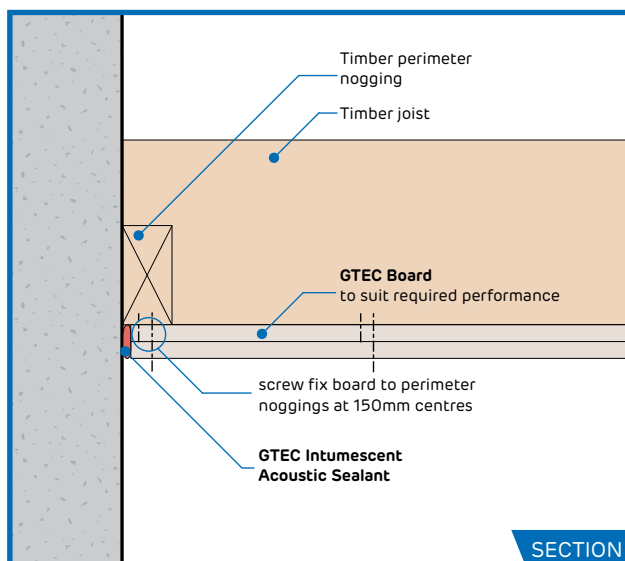
SYSTEM COMPONENT TABLE

System Component	System primary use	Product Reference
BOARDS		
	All GTEC Boards Provides wall surface suitable for finishing	See performance tables, p122-126
FRAME		
	Timber frame Structural frame forming part of an external or internal wall	Supplied by others
	GTEC Resilient Bar Metal profile to provide acoustic separation of board and joists	RBD3000
FIX		
	GTEC High Thread Screws (as appropriate) For attaching plasterboard to timber	See screw selector, p334
FINISHING		
	GTEC Joint Tape Joint reinforcement in conjunction with GTEC Jointing Compounds	n/a
	GTEC Intumescent Acoustic Sealant Perimeter sealing to restrict smoke, sound and fire penetration. Ensures system performance	n/a
	GTEC Compounds To finish joints between boards and bed corner beads prior to decorating. Ensures system performance	See compounds guidance, p280
	GTEC Sealers To seal plasterboard prior to decoration	n/a

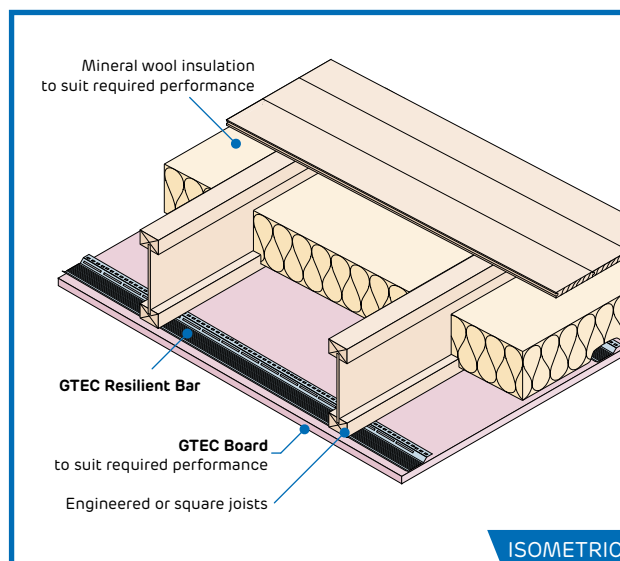
SYSTEM GUIDANCE

FRAME

FC-DT-101S-Perimeter detail



FC-DT-102M-Timber ceiling with resilient bar



- ▶ Joist spacings without noggings to be maximum 450mm for boards up to 15mm and maximum 600mm for 19mm GTEC Plank.
- ▶ Joist spacings with noggings to be maximum 600mm for all boards.
- ▶ Noggings to be fitted around perimeter of ceiling, around any obtrusions such as columns and between joists to provide board fixing at bound board edges.
- ▶ Joists and noggings to have minimum bearing face of 44mm. Trusses to BS 5268-3 may have bearing face of minimum 38mm.
- ▶ Inclusion of GTEC Resilient Bar is recommended when fixing boards to engineered joists to mitigate potential for differential movement between substrate and board.

INSULATION

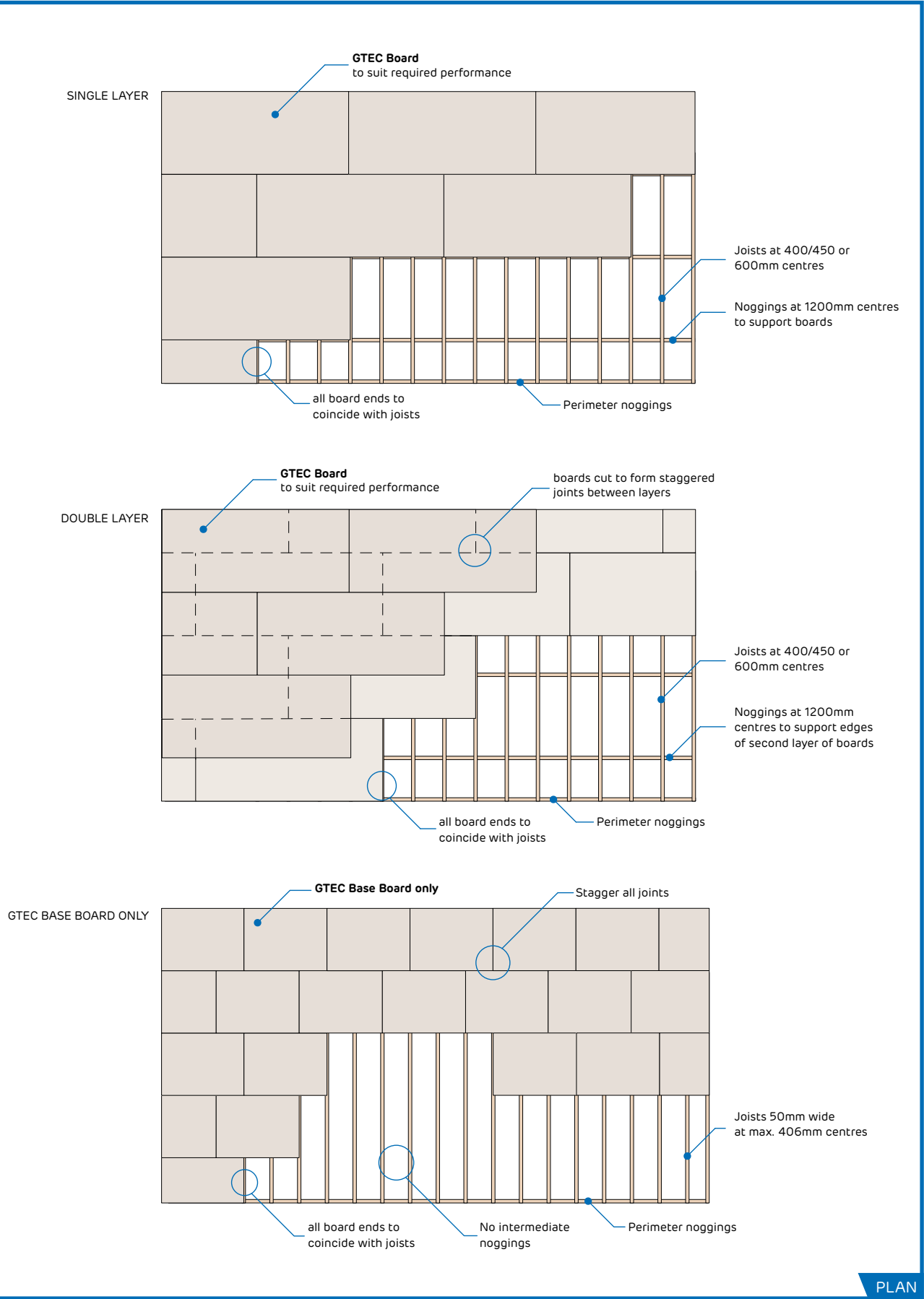
- ▶ Any insulation to be of type and thickness to achieve performance and tightly installed in a continuous layer between joists.

GTEC Resilient Bar option only:

- ▶ GTEC Resilient Bar to be installed across joists at maximum 450mm centres and fixed to each joist with suitable GTEC High Thread Drywall Screws (see screw selector p334).
- ▶ GTEC Resilient Bar to be spliced if necessary by overlapping at joists and fixing both sections to joist.
- ▶ Pieces of Resilient Bar required to provide fixing of boards at perimeter of ceiling.

BOARDING

FC-DT-201, 202 & 203P-Board Layout – single layer



- GTEC Direct-to-Timber Ceiling system is suitable for single, double and multiple layer boarding.
- Select base layer(s) and finishing layer(s) GTEC Boards by consulting System Performance Tables (p133-p136) and Product Specification (p294-307) to achieve required performance. See High Performance Boards guide p12 for further selection information.
- Boards to span across joists with bound edges at right angles to joists.
- Board ends and joints to be centred over joists or intermediate noggings.
- Boards to be mechanically fixed to perimeter noggings at 150mm centres using appropriate GTEC High Thread Drywall Screws. See screw selector p334.
- Boards to be mechanically fixed to joists or intermediate noggings at 230mm centres in centre of board or bound edges and at 150mm centres at cut edges, using appropriate GTEC High Thread Drywall Screws. See screw selector p334.

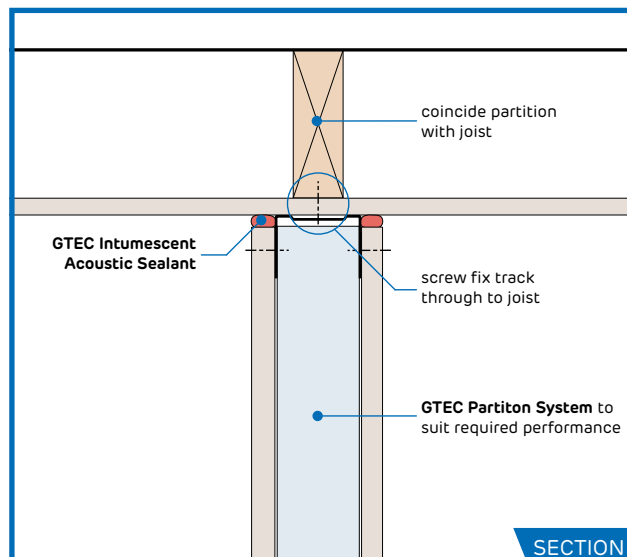
- Board joints to be staggered between layers.
- Any GTEC Fire Board, or other GTEC Type F (BS EN 520) board, required by the system performance, to be installed as the outermost/finishing layer.

GTEC Resilient Bar option only:

- GTEC Resilient Bar is suitable for single and double layer boarding.
- Boards to be mechanically fixed to GTEC Resilient Bar only at 150mm centres for cut edges and perimeter and at 230mm centres in centre of board and bound edges, using shortest appropriate GTEC Drywall Screws. See screw selector p334.
- Boards to be fixed to GTEC Resilient Bar only to ensure acoustic performance. Screws must not penetrate through to substrate.

JUNCTIONS

FC-DT-501S-Junction of partition to ceiling



- Abutting partitions to coincide with and fix to joist install additional intermediate 'pick-up' joists/noggings as required.
- Separate boards at partition head to reduce sound transmission.

FIXTURES

- ▶ Fixtures and loadings to be suspended from structural soffit/joist and not GTEC Board.
- ▶ Services running through ceiling void to be supported by structural soffit/joist and not GTEC Board.

PENETRATIONS

- ▶ M&E runs and other services to be pre-planned to minimise or eliminate penetrations through rated ceilings.
- ▶ Any penetrations must be fully sealed with GTEC Intumescent Acoustic Sealant or other fire and sound resisting material.

FINISHING

- ▶ All board joints to be taped, jointed or finished according to guidance in Finishing section (p276-291) to achieve system performances. Where ceiling is not intended to be decorated GTEC Intumescent Acoustic Sealant to be used to seal board joints.
- ▶ GTEC Finish materials appropriate to board type to be used.

SYSTEM CONTINUITY

- ▶ Full, imperforate system continuity to be maintained to achieve rated performances.
- ▶ Bead of GTEC Intumescent Acoustic Sealant to be applied to perimeter of all runs and in all other locations specified in Construction Detail Drawings.
- ▶ GTEC Intumescent Acoustic Sealant to seal all other acoustic or air paths to prevent fire/smoke spread and acoustic transmission.



GTEC ACOUSTIC FLOOR SYSTEMS

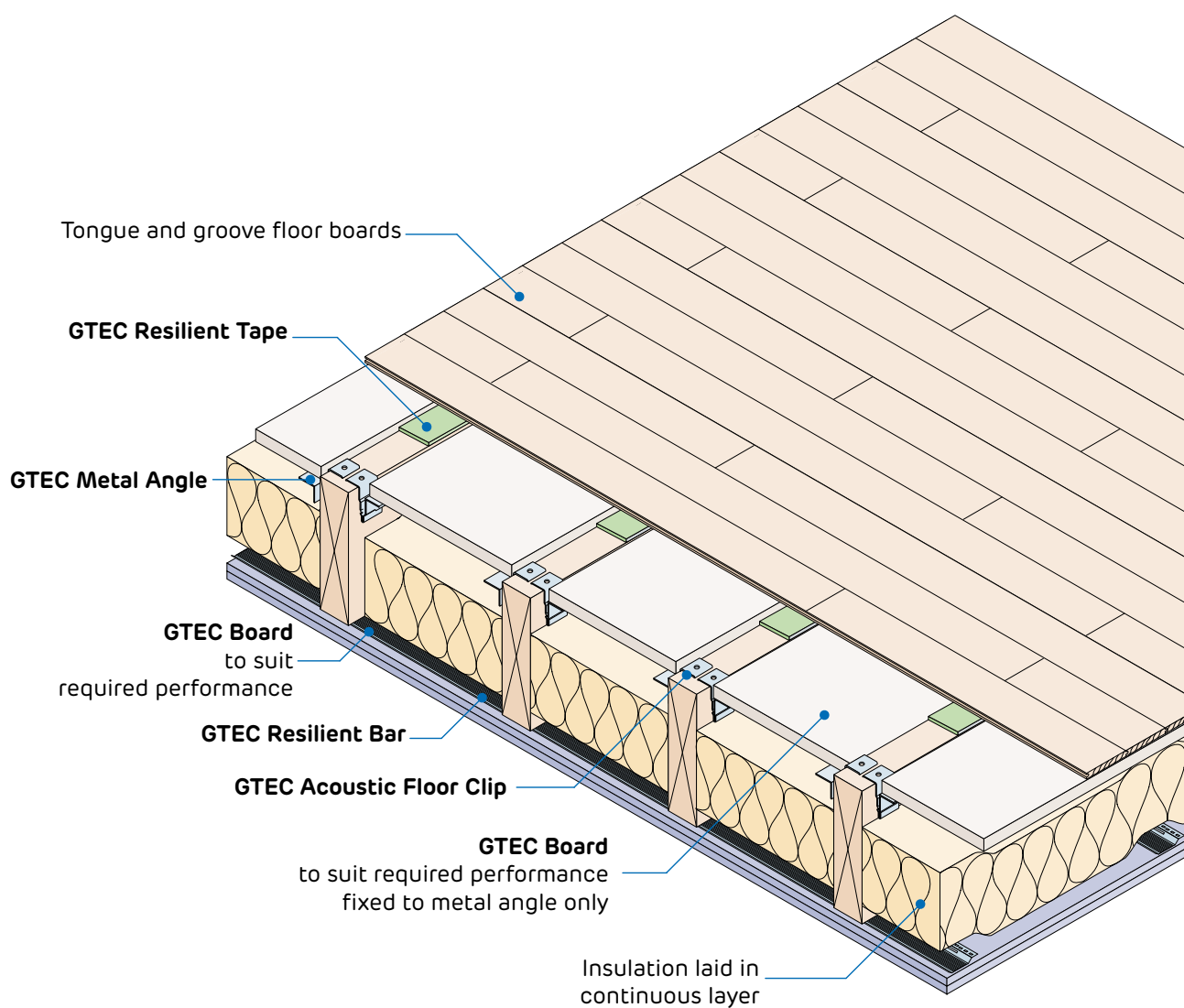
Load bearing timber floors separating dwellings or other spaces have limited sound reduction properties. The GTEC Acoustic Floor, 'floating floor' system improves the acoustic performance of these floors with minimal additional depth.

The system is installed in a two stage process. GTEC Acoustic Clips temporarily support GTEC Board mounted on GTEC Metal Angle between the joists, until the final floorboard layers are fixed to the plasterboard. The only contact between the board and structure is through GTEC Resilient Tape. The GTEC Acoustic Floor system also enables fire protection for existing, hard to renovate, decorative ceilings by applying GTEC Fire Board from above. Refer to the System Performance Tables on page 137 for full details.

WHERE TO USE:

- GTEC Acoustic Floors are used for domestic renovation and conversion projects or new build.

FEATURES	BENEFITS
Improved acoustic performance	Meets new build and conversion regulations
Provision of GTEC Fire Board	Cost effective method of achieving required fire rating to existing timber joist flooring
Low profile system design	Minimal addition to floor depth



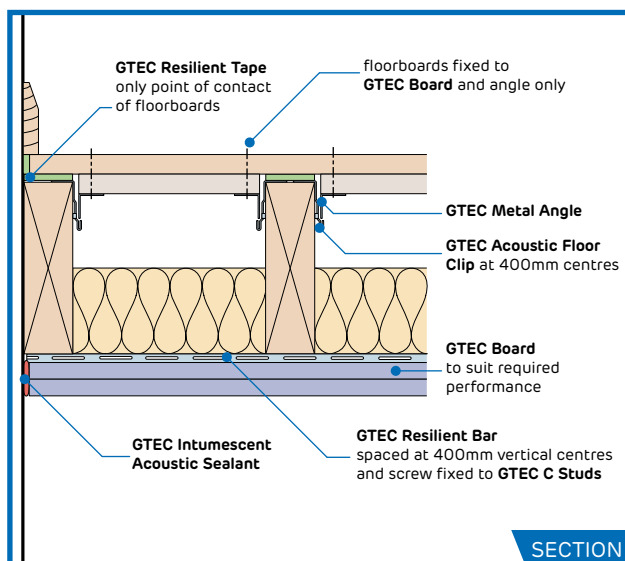
SYSTEM COMPONENT TABLE

System Component	System primary use	Product Reference
BOARDS		
	All GTEC Boards Provides wall surface suitable for finishing	See performance tables, p137
FRAME		
	GTEC Acoustic Floor Clip Metal clips for connecting to wooden joists	RAFC25
	GTEC Resilient Tape Self adhesive acoustic isolation tape	RAFT50
	GTEC Metal Angle Metal section to brace joists and acoustic floor	MFC2330 MFC2525 MFC2550
	GTEC Resilient Bar Metal profile to provide acoustic separation of board and joists	RBD3000
FIX		
	GTEC Acoustic Floor Self Tapping Screws For attaching plasterboard to metal angle	See screw selector, p334
FINISHING		
	GTEC Joint Tape Joint reinforcement in conjunction with GTEC Jointing Compounds	n/a
	GTEC Intumescent Acoustic Sealant Perimeter sealing to restrict smoke, sound and fire penetration	n/a
	GTEC Compounds To finish joints between boards and bed corner beads prior to decorating	See compounds guidance, p280

SYSTEM GUIDANCE

FRAME

FC-AF-101S-Perimeter detail



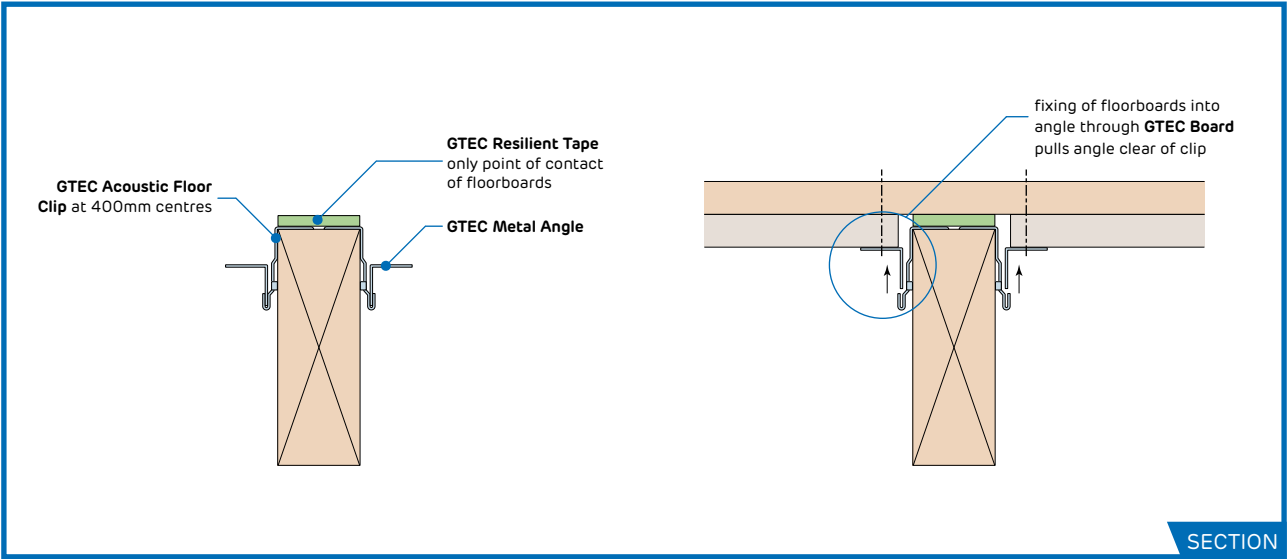
- GTEC Acoustic Floor Clips to be fixed to joists at 400mm centres each side of joist. Perimeter joists to be fitted with clips on open side. Joists to be minimum 38mm thick and structurally sound.
- GTEC Acoustic Floor Clips on opposing sides to be fixed at same point where joist width allows and staggered where joist is too narrow.
- GTEC Resilient Tape to be fitted along top of joist and any full depth noggings, over clips, to isolate floorboards.
- GTEC Acoustic Floor Screws to be used to fix floorboard through plasterboard to GTEC Metal Angle.
- GTEC Metal Angle MFC2330 to be fitted into GTEC Acoustic Floor Clips Joists with short leg into clip. Lengths of metal angle to have minimum number of joints with any joints located at clips.
- Where required by system configuration GTEC Resilient Bar to be installed across underside of joists at maximum 450mm centres and fixed to each joist with suitable GTEC High Thread Drywall Screws (see screw selector p334).
- GTEC Resilient Bar may be spliced by overlapping at joists and fixing both sections to joist.
- Pieces of Resilient Bar required to provide fixing of board at perimeter of ceiling.

INSULATION

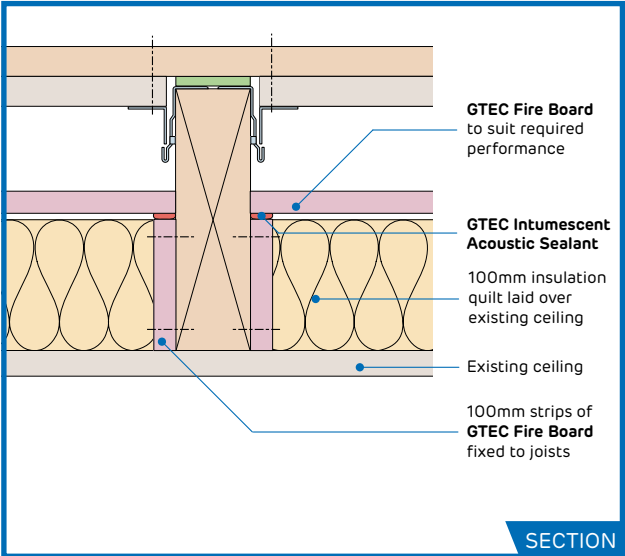
- Insulation to be of type and thickness to achieve performance and tightly installed in a continuous layer between joists.

BOARDING

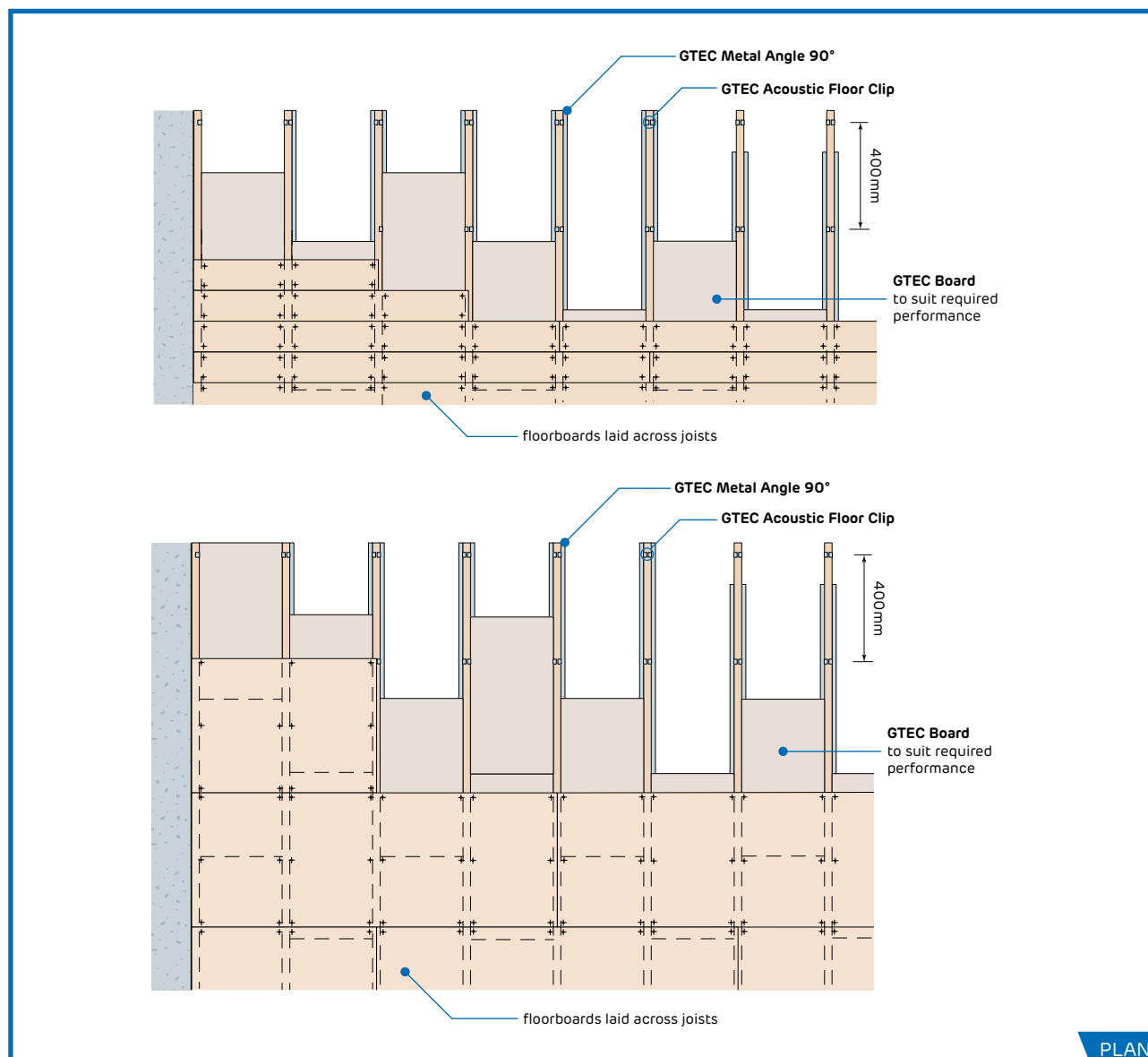
FC-AF-201S-Assembly stages – 1 and 2



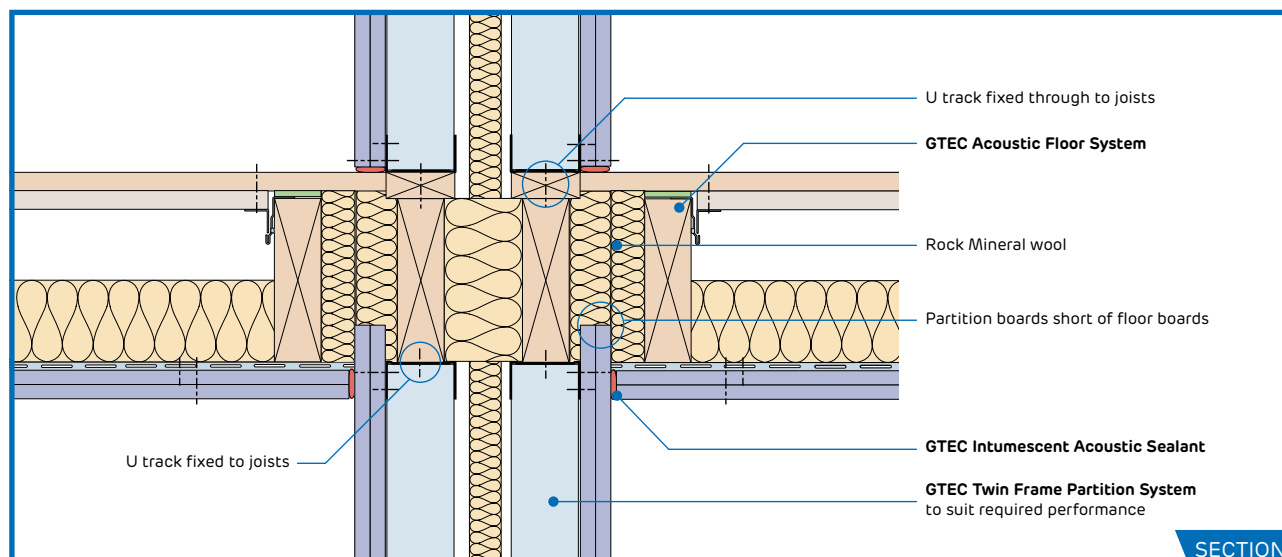
FC-AF-202S-Retained ceiling



FC-AF-203P-Flooring layout



FC-AF-501S-Acoustic Floor and Twin Frame partition



BOARDING continued

- ▶ Boarding to underside of ceiling to follow guidance in GTEC Direct-to-Timber section p162-169.
- ▶ Where required by retained ceiling system configuration 100mm strips of 15mm GTEC Fire Board to be fitted along each side of joists. Further 15mm GTEC Fire Board to be installed to bridge from strip to strip providing a continuous barrier between joists.
- ▶ Select GTEC Board as required by system performance cut 4mm shorter than space between joists, to be temporarily secured to GTEC Metal Angle only at approx. 600mm centres.
- ▶ Floorboards to be installed across joists and fixed through GTEC Board to GTEC Metal Angle both sides of every joist using appropriate GTEC Acoustic Floor Screws in pattern shown in Construction Detail drawing. Free-floating floor is created when angle is pulled out of clips during fixing of floorboards and GTEC Board to GTEC Metal Angle.
- ▶ Floorboards to be in contact with GTEC Resilient Tape only.
- ▶ Floorboards to be 3mm clear of perimeter wall and sealed with GTEC Acoustic Intumescent Sealant.
- ▶ Softwood floorboards may require gluing to a plywood base to prevent warping.

PENETRATIONS

- ▶ M&E runs and other services to be pre-planned to minimise or eliminate penetrations through rated ceilings.
- ▶ Any penetrations must be fully sealed with GTEC Intumescent Acoustic Sealant or other fire and sound resisting material.

SYSTEM CONTINUITY

- ▶ Full, imperforate system continuity to be maintained to achieve rated performances.
- ▶ Bead of GTEC Intumescent Acoustic Sealant to be applied to perimeter of all runs and in all other locations specified in Construction Detail Drawings.
- ▶ GTEC Intumescent Acoustic Sealant to seal all other acoustic or air paths to prevent fire/smoke spread and acoustic transmission.

