

Roof Fire Details

The fire resistance of any such roof is a result of the combination of the design, the materials used (trusses, noggins, lining etc.), including their thickness, spacing and fixing of the materials i.e. the build-up, together with the workmanship employed during assembly.

Typically, there are three scenarios where the truss roof may need fire resistance.

- 1** Where there is a requirement for a protected corridor, such as in a dwelling house with three or more storeys, a truss roof must form part of a fire-resistant construction, as failure of the truss would compromise the protected escape route.
- 2** Where "Attic" type trusses, commonly called dormer trusses are forming the floor in the dormer area, the floor formed by the truss is required to have a fire resistance. The required fire resistance will depend on the height of the floor above ground level i.e. R 30, REI 15 or REI 30. As the integrity of the truss depends on all elements remaining intact, the fire resistance required for the floor will also apply to the walls and ceiling in the dormer area as well as the ceiling below the dormer area.
- 3** Where a roof serves as an escape route from an upper storey, the roof must have a fire resistance from the underside. The fire tested roof build-ups involved load bearing timber trusses of different chord and web thickness, affixed with varying combinations of single or double plasterboard slabs, with and without battens or noggins.

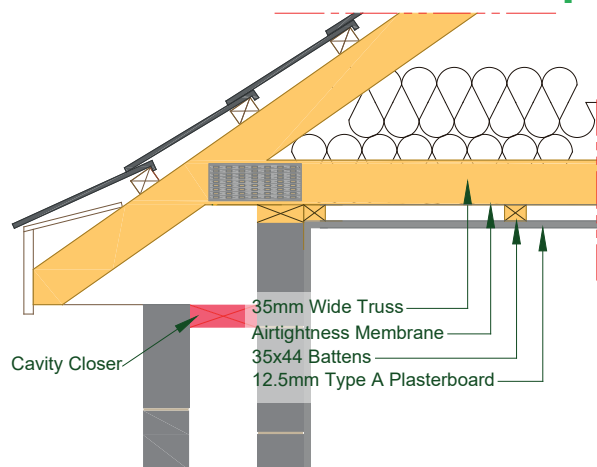
Fire Resistant Roof Build-ups with Penetrations

All penetrations, such as sockets, switches, down-lighters, soil vent pipes, ventilation duct heads, etc., in the plasterboard "creates" vulnerability in the fire resistant construction and as such must be fire stopped by the use of fire collars, fire hoods or fire rated products. An exception to this requirement is sockets or switches in the vertical wall section of a dormer roof truss. The provision of a service void below an imperforate ceiling in any roof may avoid the need for fire stopping.

Note: Where loadbearing studs are used to support a truss roof, the stud must also have the same fire resistance as required for the truss.

Roof build-ups, which met a fire resistance of 30 minutes (REI30), by fire test are detailed below.

2 STOREY - CL1 - No Fire Requirement

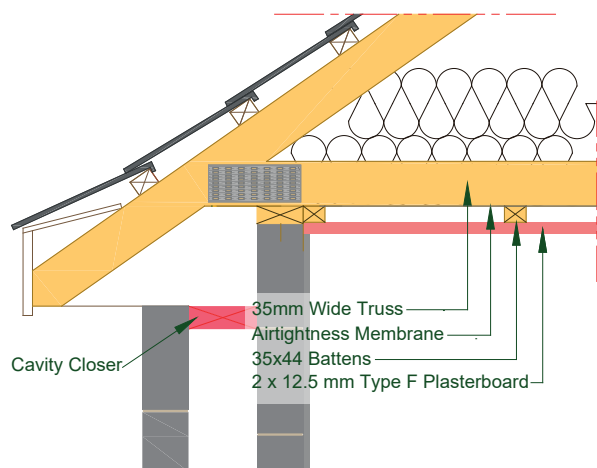


CEILING	MATERIAL	FIXINGS
INNER FACE	1 x 12.5mm Type A Plasterboard	3.5 x 42mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	35 x 44mm Battens @ 400mm (service cavity)	2.81 x 75mm smooth shank nails @ 200mm CTRS
	Vapour Control Layer	Stapled to truss bottom chord
INSULATION	400mm Mineral Wool	Friction fitted without fixings
TRUSS	35mm wide Truss TR26 timber @ 600mm CTRS	Truss Clips
NOGGINS	None	n/a
NOTES	Mineral Wool to EN13162 All plasterboard to EN 520 All fasteners to EN 14592/EN14545 with minimum corrosion resistance to Service Class 2 All service penetrations to have appropriate fire stopping as required All service penetrations to have appropriate fire stopping and EN standard as required	

TEST DETAILS - No Requirements

Test Lab.	n/a
Test report	n/a
Test standard	n/a
Load applied	n/a

3 STOREY COLD ROOF - CL2

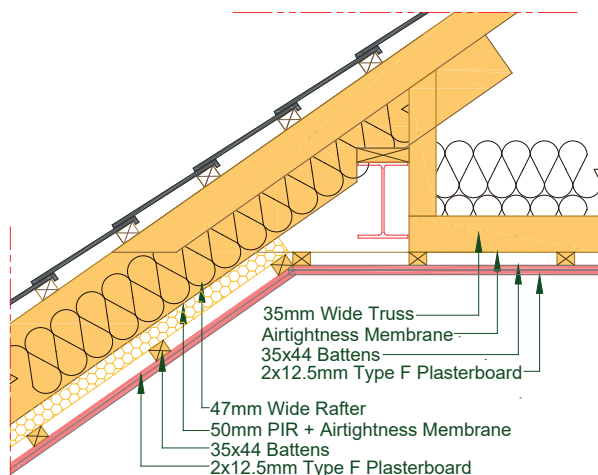


COLD ROOF	MATERIAL	FIXINGS
INNER FACE	1 x 12.5mm Type F Plasterboard	3.5 x 60mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	1 x 12.5mm Type F Plasterboard	3.5 x 42mm self-tapping drywall screws @ 150mm CTRS
	35 x 44mm Battens @ 400mm (service cavity)	2.81 x 75mm smooth shank nails @ 200mm CTRS
	Vapour Control Layer	Stapled to truss bottom chord
INSULATION	400mm Mineral Wool	Friction fitted without fixings
TRUSS	35mm wide Truss TR26 timber @ 600mm CTRS	Truss Clips
NOGGINS	None	n/a
NOTES	First Layer of plasterboard fitted parallel to battens, 2nd layer of plasterboard fitted perpendicular to battens Stagger all plasterboard joints No board edge noggins required Mineral Wool to EN13162 All plasterboard to EN 520 All fasteners to EN 14592/EN14545 with minimum corrosion resistance to Service Class 2 All service penetrations to have appropriate fire stopping as required All service penetrations to have appropriate fire stopping and EN standard as required	

TEST DETAILS

Test Lab.	Warrington Fire
Test report	406101
Test standard	EN1365-2
Load applied	100% of in-service capacity

3 STOREY WITH PURLINS - COLD / SLOPED ROOF - CL2 - COUNTER BATTEN



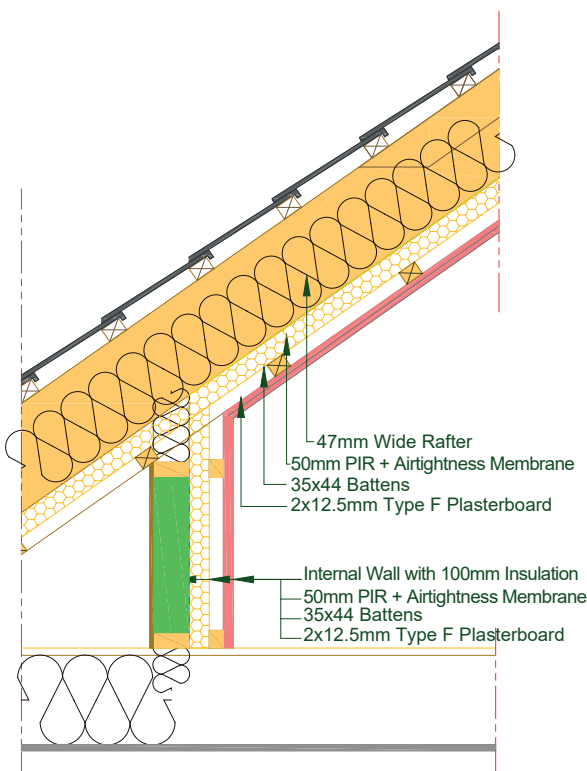
TEST DETAILS

Test Lab.	Warrington Fire
Test report	406101
Test standard	EN1365-2
Load applied	100% of in-service capacity

COLD ROOF	MATERIAL	FIXINGS
INNER FACE	1 x 12.5mm Type F Plasterboard	3.5 x 60mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	1 x 12.5mm Type F Plasterboard	3.5 x 42mm self-tapping drywall screws @ 150mm CTRS
	35 x 44mm Batts @ 400mm (service cavity)	2.81 x 75mm smooth shank nails @ 200mm CTRS
	Vapour Control Layer	Stapled to truss bottom chord
INSULATION	400mm Mineral Wool	Friction fitted without fixings
TRUSS	35mm wide Truss TR26 timber @ 600mm CTRS	Truss Clips
NOGGINS	None	n/a
NOTES	First Layer of plasterboard fitted parallel to battens, 2nd layer of plasterboard fitted perpendicular to battens Stagger all plasterboard joints No board edge noggins required Mineral Wool to EN13162 All plasterboard to EN 520 All fasteners to EN 14592/EN14545 with minimum corrosion resistance to Service Class 2 All service penetrations to have appropriate fire stopping as required All service penetrations to have appropriate fire stopping and EN standard as required	

SLOPED ROOF	MATERIAL	FIXINGS
INNER FACE	1 x 12.5mm Type F Plasterboard	3.5 x 60mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	1 x 12.5mm Type F Plasterboard	3.5 x 42mm self-tapping drywall screws @ 150mm CTRS
	35 x 44mm Batts @ 400mm (service cavity)	2.81 x 130mm smooth shank nails @ 200mm CTRS
	Vapour Control Layer	Stapled to truss bottom chord
	50mm PIR Insulation	n/a
INSULATION	180mm Mineral Wool	Friction fitted without fixings
TRUSS	47mm wide Rafter TR26 timber @ 600mm CTRS	3.1 x 75mm nails
NOGGINS	None	n/a
NOTES	First Layer of plasterboard fitted parallel to battens, 2nd layer of plasterboard fitted perpendicular to battens Stagger all plasterboard joints No board edge noggins required Mineral Wool to EN13162. PIR to EN1365 All plasterboard to EN 520 All fasteners to EN 14592/EN14545 with minimum corrosion resistance to Service Class 2 All service penetrations to have appropriate fire stopping as required All service penetrations to have appropriate fire stopping and EN standard as required	

3 STOREY WITH PURLINS - KNEE WALL - CL2 - COUNTER BATTEN

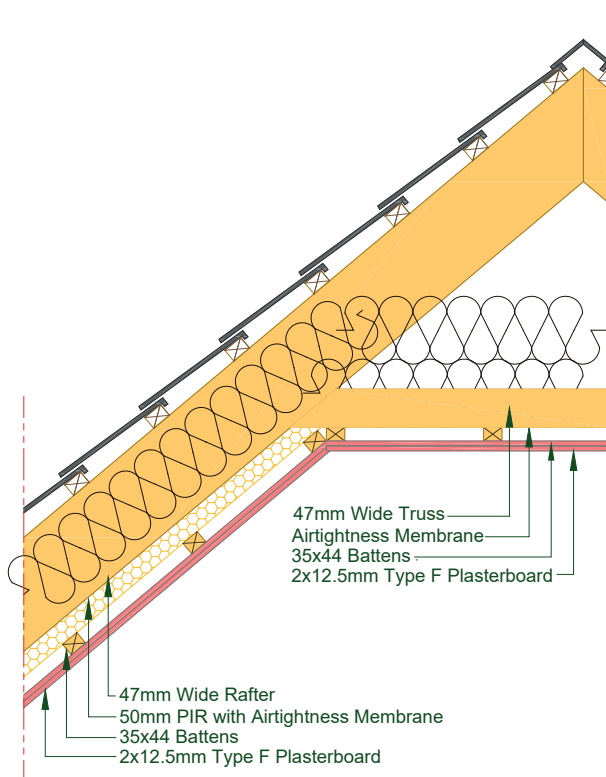


TEST DETAILS

Test Lab.	Warrington Fire
Test report	406101
Test standard	EN1365-2
Load applied	n/a

	MATERIAL	FIXINGS
INNER FACE	1 x 12.5mm Type F Plasterboard	3.5 x 60mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	1 x 12.5mm Type F Plasterboard	3.5 x 42mm self-tapping drywall screws @ 150mm CTRS
	35 x 44mm Batts @ 400mm (service cavity)	2.81 x 130mm smooth shank nails @ 200mm CTRS
	Vapour Control Layer	Stapled to truss bottom chord
	50mm PIR Insulation	n/a
INSULATION	100 mm Mineral Wool	Friction fitted without fixings
STUDS	38mm x 89mm C16 CLS timber @ 600mm CTRS	3.1mm x 88mm twist shank nails. 2 per stud
OUTER (VOID) FACE	1 x 9mm OSB/3 Sheathing	2.81x50 smooth shank nails @ 150mm CTRS (perimeter) and 300mm CTRS (intermediate studs)
NOTES	First Layer of plasterboard fitted parallel to battens, 2nd layer of plasterboard fitted perpendicular to battens Stagger all plasterboard joints No board edge noggins required Mineral Wool to EN13162. PIR to EN1365 All plasterboard to EN 520 All fasteners to EN 14592/EN14545 with minimum corrosion resistance to Service Class 2 All service penetrations to have appropriate fire stopping as required All service penetrations to have appropriate fire stopping and EN standard as required	

ATTIC TRUSSES - COLD / SLOPED ROOF - CL2 - COUNTER BATTEN



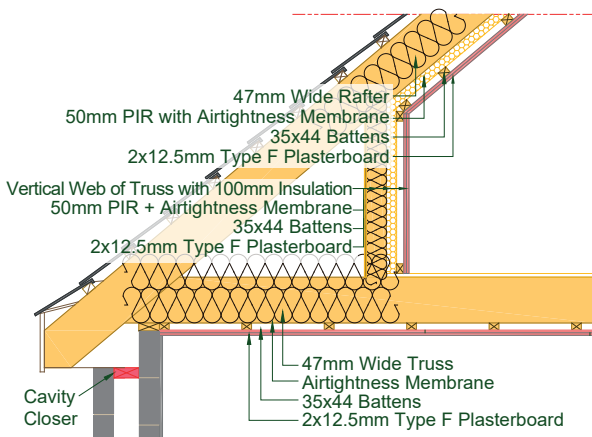
COLD ROOF	MATERIAL	FIXINGS
INNER FACE	1 x 12.5mm Type F Plasterboard	3.5 x 60mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	1 x 12.5mm Type F Plasterboard	3.5 x 42mm self-tapping drywall screws @ 150mm CTRS
	35 x 44mm Battens @ 400mm (service cavity)	2.81 x 75mm smooth shank nails @ 200mm CTRS
	Vapour Control Layer	Stapled to truss bottom chord
INSULATION	400mm Mineral Wool	Friction fitted without fixings
TRUSS	47mm wide Rafter TR26 timber @ 600mm CTRS	3.1 x 75mm nails
NOGGINS	None	n/a
NOTES	First Layer of plasterboard fitted parallel to battens, 2nd layer of plasterboard fitted perpendicular to battens Stagger all plasterboard joints No board edge noggins required Mineral Wool to EN13162 All plasterboard to EN 520 All fasteners to EN 14592/EN14545 with minimum corrosion resistance to Service Class 2 All service penetrations to have appropriate fire stopping as required All service penetrations to have appropriate fire stopping and EN standard as required	

TEST DETAILS

Test Lab.	Warrington Fire
Test report	406101
Test standard	EN1365-2
Load applied	100% of in-service capacity

SLOPED ROOF	MATERIAL	FIXINGS
INNER FACE	1 x 12.5mm Type F Plasterboard	3.5 x 60mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	1 x 12.5mm Type F Plasterboard	3.5 x 42mm self-tapping drywall screws @ 150mm CTRS
	35 x 44mm Battens @ 400mm (service cavity)	2.81 x 130mm smooth shank nails @ 200mm CTRS
	Vapour Control Layer	Stapled to truss bottom chord
	50mm PIR Insulation	n/a
INSULATION	180mm Mineral Wool	Friction fitted without fixings
TRUSS	47mm wide Truss TR26 timber @ 600mm CTRS	Truss clips
NOGGINS	None	n/a
NOTES	First Layer of plasterboard fitted parallel to battens, 2nd layer of plasterboard fitted perpendicular to battens Stagger all plasterboard joints No board edge noggins required Mineral Wool to EN13162. PIR to EN1365 All plasterboard to EN 520 All fasteners to EN 14592/EN14545 with minimum corrosion resistance to Service Class 2 All service penetrations to have appropriate fire stopping as required All service penetrations to have appropriate fire stopping and EN standard as required	

ATTIC TRUSSES - KNEE WALL - CL2 - COUNTER BATTEN



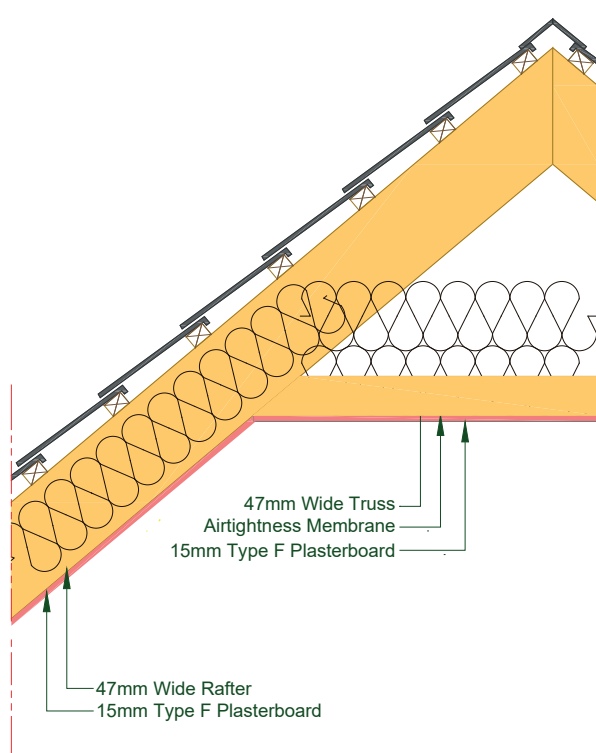
TEST DETAILS - No Requirements

Test Lab.	Warrington Fire
Test report	406101
Test standard	EN1365-2
Load applied	100% of in-service capacity

KNEE WALL	MATERIAL	FIXINGS
INNER FACE	1 x 12.5mm Type F Plasterboard	3.5 x 60mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	1 x 12.5mm Type F Plasterboard	3.5 x 42mm self-tapping drywall screws @ 150mm CTRS
	35 x 44mm Battens @ 400mm (service cavity)	2.81 x 130mm smooth shank nails @ 200mm CTRS
	Vapour Control Layer	Stapled to truss bottom chord
	50mm PIR Insulation	n/a
INSULATION	100mm Mineral Wool	Friction fitted without fixings
TRUSS	47mm x 97mm TR26 timber @ 600mm CTRS	Truss plates
OUTER (VOID) FACE	1 x 9mm OSB/3 Sheathing	2.81x50 smooth shank nails @ 150mm CTRS
NOTES	First Layer of plasterboard fitted parallel to battens, 2nd layer of plasterboard fitted perpendicular to battens Stagger all plasterboard joints No board edge noggins required Mineral Wool to EN13162. PIR to EN1365 All plasterboard to EN 520 All fasteners to EN 14592/EN14545 with minimum corrosion resistance to Service Class 2 All service penetrations to have appropriate fire stopping as required All service penetrations to have appropriate fire stopping and EN standard as required	

FLOOR AREA	MATERIAL	FIXINGS
INNER FACE	1 x 12.5mm Type F Plasterboard	3.5 x 60mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	1 x 12.5mm Type F Plasterboard	3.5 x 42mm self-tapping drywall screws @ 150mm CTRS
	35 x 44mm Battens @ 400mm (service cavity)	2.81 x 75mm smooth shank nails @ 200mm CTRS
	Vapour Control Layer	Stapled to truss bottom chord
INSULATION	400mm Mineral Wool	Friction fitted without fixings
TRUSS	47mm wide Rafter TR26 timber @ 600mm CTRS	Truss plates
NOTES	First Layer of plasterboard fitted parallel to battens, 2nd layer of plasterboard fitted perpendicular to battens Stagger all plasterboard joints No board edge noggins required If there is no floor area in the attic the 400mm insulation will be continue across the bottom chord of the truss Mineral Wool to EN13162 All plasterboard to EN 520 All fasteners to EN 14592/EN14545 with minimum corrosion resistance to Service Class 2 All service penetrations to have appropriate fire stopping as required All service penetrations to have appropriate fire stopping and EN standard as required	

ATTIC TRUSSES - DIRECT FIX - COLD & SLOPED ROOF - CL2



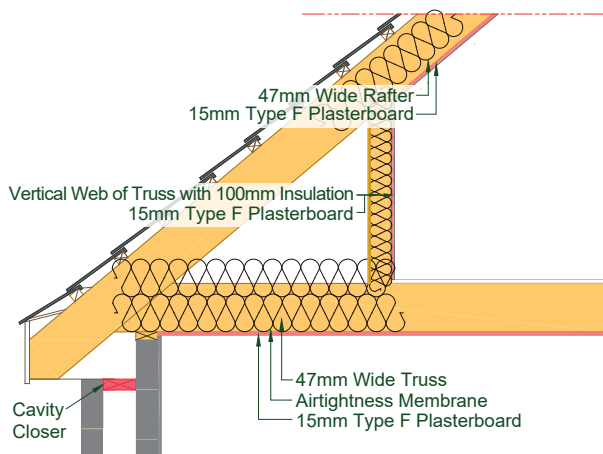
TEST DETAILS

Test Lab.	Warrington Fire
Test report	406101
Test standard	EN1365-2
Load applied	100% of in-service capacity

COLD ROOF	MATERIAL	FIXINGS
INNER FACE	1 x 15mm Type F Plasterboard	3.5 x 42mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	Vapour Control Layer	Stapled to truss chord
INSULATION	400mm Mineral Wool	Friction fitted without fixings
TRUSS	47mm wide Truss TR26 timber @ 600mm CTRS	Truss clips
NOGGINS	<u>35 x 72mm Noggins to support all plasterboard edges</u>	3.1 x 90mm twist shank nails 2 per noggin
NOTES	Truss must be 47mm, all board edges supported with noggins 35x72 Mineral Wool to EN13162 All plasterboard to EN 520 All fasteners to EN 14592/EN14545 with minimum corrosion resistance to Service Class 2 All service penetrations to have appropriate fire stopping as required All service penetrations to have appropriate fire stopping and EN standard as required	

SLOPED ROOF	MATERIAL	FIXINGS
INNER FACE	1 x 15mm Type F Plasterboard	3.5 x 85mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	Vapour Control Layer	Stapled to truss chord
INSULATION	180mm Mineral Wool	Friction fitted without fixings
TRUSS	47mm wide Truss TR26 timber @ 600mm CTRS	Truss clips
NOGGINS	<u>35 x 72mm Noggins to support all plasterboard edges</u>	3.1 x 90mm twist shank nails. 2 per noggin
NOTES	Truss must be 47mm, all board edges supported with noggins 35x72 Mineral Wool to EN13162 All plasterboard to EN 520 All fasteners to EN 14592/EN14545 with minimum corrosion resistance to Service Class 2 All service penetrations to have appropriate fire stopping as required All service penetrations to have appropriate fire stopping and EN standard as required	

ATTIC TRUSSES - DIRECT FIX - KNEE WALL - CL2 - DIRECT FIX TO TRUSS



TEST DETAILS

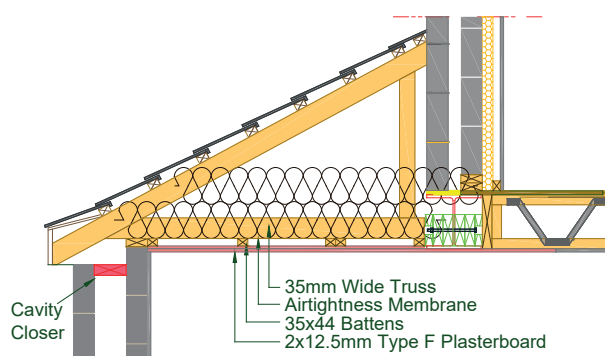
Test Lab.	Warrington Fire
Test report	406101
Test standard	EN1365-2
Load applied	100% of in-service capacity

KNEE WALL	MATERIAL	FIXINGS
INNER FACE	1x15mm Type F Plasterboard	3.5 x 85mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	Vapour Control Layer	Stapled to truss bottom chord
INSULATION	100mm Mineral Wool	Friction fitted without fixings
STUDS	47mm x 97mm TR26 timber @ 600mm CTRS	Truss plates
OUTER (VOID) FACE	1 x 9mm OSB/3 Sheathing	2.81 x 50 smooth shank nails @ 150mm CTRS
NOGGINS	35 x 72mm Noggins to support all plasterboard edges	3.1 x 90mm twist shank nails. 2 per noggin
NOTES	Truss must be 47mm, all board edges supported with noggins 35x72 Mineral Wool to EN13162. PIR to EN1365 All plasterboard to EN 520 All fasteners to EN 14592/EN14545 with minimum corrosion resistance to Service Class 2 All service penetrations to have appropriate fire stopping and EN standard as required	

FLOOR AREA	MATERIAL	FIXINGS
INNER FACE	1 x 15mm Type F Plasterboard	3.5 x 42mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	Vapour Control Layer	Stapled to truss bottom chord
INSULATION	400mm Mineral Wool	Friction fitted without fixings
TRUSS	47mm x 97mm TR26 timber @ 600mm CTRS	Truss plates
NOGGINS	35 x 72mm Noggins to support all plasterboard edges	3.1 x 90mm twist shank nails. 2 per noggin
NOTES	Truss must be 47mm, all board edges supported with noggins 35x72 If there is no floor area in the attic the 400mm insulation will be continue across the bottom chord of the truss	

SINGLE STOREY OUT SHOT COLD ROOF - CL2 - COUNTER BATTEN TO CEILING

WHERE ROOF IS USED AS A FIRE EXCAPE ROUTE



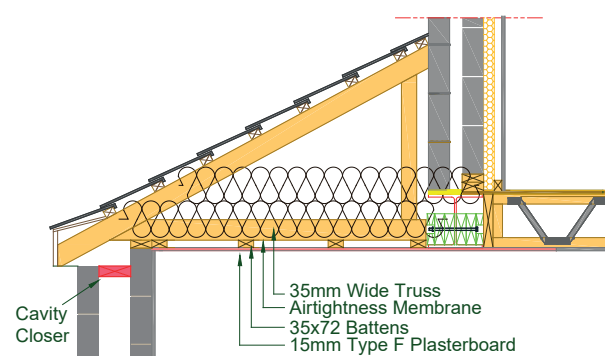
TEST DETAILS

Test Lab.	Warrington Fire
Test report	406101
Test standard	EN1365-2
Load applied	100% of in-service capacity

	MATERIAL	FIXINGS
INNER FACE	1 x 12.5mm Type F Plasterboard	3.5 x 85mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	1 x 12.5mm Type F Plasterboard	3.5 x 42mm smooth shank nails @ 150mm CTRS
	35 x 44mm Battens @ 400mm (service cavity)	2.81 x 75mm smooth shank nails @ 200mm CTRS
	Vapour Control Layer	Stapled to truss bottom chord
INSULATION	400mm Mineral Wool	Friction fitted without fixings
TRUSS	35mm wide Truss TR26 timber @ 600mm CTRS	Truss plates
NOTES	First Layer of plasterboard fitted parallel to battens, 2nd layer of plasterboard fitted perpendicular to battens Stagger all plasterboard joints <u>No board edge noggins required</u> Mineral Wool to EN13162 All plasterboard to EN 520 All fasteners to EN 14592/EN14545 with minimum corrosion resistance to Service Class 2 All service penetrations to have appropriate fire stopping as required All service penetrations to have appropriate fire stopping and EN standard as required	

SINGLE STOREY OUT SHOT COLD ROOF - CL2 - COUNTER BATTEN TO CEILING

WHERE ROOF IS USED AS A FIRE EXCAPE ROUTE



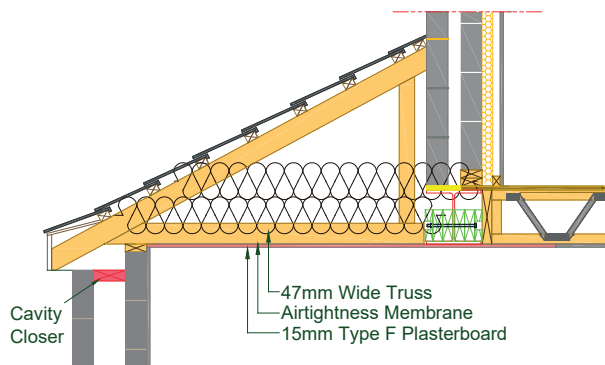
TEST DETAILS

Test Lab.	Warrington Fire
Test report	406101
Test standard	EN1365-2
Load applied	100% of in-service capacity

	MATERIAL	FIXINGS
INNER FACE	1 x 15mm Type F Plasterboard	3.5 x 42mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	35 x 72mm Battens @ 400mm (service cavity)	2.81 x 75mm smooth shank nails @ 200mm CTRS
	Vapour Control Layer	Stapled to truss bottom chord
INSULATION	400mm Mineral Wool	Friction fitted without fixings
INSULATION	35mm wide Truss TR26 timber @ 600mm CTRS	Truss plates
NOTES	<u>All board edges to be supported with noggins 35x72mm</u> Mineral Wool to EN13162 All plasterboard to EN 520 All fasteners to EN 14592/EN14545 with minimum corrosion resistance to Service Class 2 All service penetrations to have appropriate fire stopping as required All service penetrations to have appropriate fire stopping and EN standard as required	

SINGLE STOREY OUT SHOT COLD ROOF - CL3 - DIRECT FIX TO TRUSS

WHERE ROOF IS USED AS A FIRE EXCAPE ROUTE



TEST DETAILS

Test Lab.	Warrington Fire
Test report	406101
Test standard	EN1365-2
Load applied	100% of in-service capacity

	MATERIAL	FIXINGS
INNER FACE	1 x 15mm Type F Plasterboard	3.5 x 42mm self-tapping drywall screws @ 150mm CTRS All joints taped and filled
	Vapour Control Layer	Stapled to truss bottom chord
INSULATION	400 mm Mineral Wool	Friction fitted without fixings
TRUSS	47mm wide Truss TR26 timber @ 600mm CTRS	Truss plates
NOGGINS	35 x 72mm Noggins to support all plasterboard edges	3.1 x 90mm twist shank nails 2 per noggin
NOTES	<p><u>All board edges to be supported with noggins 35x72mm</u> Mineral Wool to EN13162 PIR to EN1365 All plasterboard to EN 520 All fasteners to EN 14592/EN14545 with minimum corrosion resistance to Service Class 2 All service penetrations to have appropriate fire stopping as required All service penetrations to have appropriate fire stopping and EN standard as required</p>	