HOW TO:
ACHIEVE PART B FIRE REGULATIONS
WITH PLASTERBOARD

GTEC FIREBOARD

siniat
Shaping the way people build
FIRE PROTECTION

Fire is a very common, unpredictable disaster that can result in the loss of human lives, as well as physical destruction of homes, businesses and neighbourhoods, causing serious emotional distress to everyone affected.

The government have issued strict regulations which must be complied with when building a new property or significantly altering an existing one.

The Building Regulations Part B are designed to prevent the spread of fire, giving occupants time to escape and providing fire crews the opportunity to put out the fire as quickly as possible.
Gypsum is a naturally fire resistant material, locking in water which will be released during a fire. This water controls the temperature allowing plasterboard systems to survive a fire for substantial lengths of time.

This how to guide has been designed to highlight common installations to achieve the required 30, 60, 90 and 120 minute fire regulations.

Please note we have not included any references to direct bond installations, the reason for this is that although fireboard can be installed this way the bonding compound will fail before achievement of required building regulations.

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<td>Between rooms within a dwelling or office unit</td>
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<td>120 mins</td>
<td>Fire fighting or escape routes and</td>
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<td>between units in higher rise buildings</td>
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* Consult relevant buildings regulations and fire strategy consultants for precise needs
SINIAT FIREBOARDS

GTEC Partitions and GTEC Ceilings achieve a full range of fire resistance by using Siniat’s range of fireboards. They are used in multi-storey apartments, dense housing developments and detached houses all enabling design flexibility and economic construction.

SINIAT GTEC FIREBOARD

Available in 12.5mm square edge and 12.5mm & 15mm tapered edge boards.

SINIAT GTEC MR BOARD

Provides both fire and moisture resistance and is available in 12.5mm and 15mm tapered edge boards. Ideal for areas of high humidity such as kitchens and utility rooms.

SINIAT GTEC FIRE V BOARD

Fireboard with an additional vapour control layer and is available in 12.5mm & 15mm tapered edge boards.

Siniat also has a gypsum alternative board called ‘Multi Purpose Panel’ that can be used on partitions and ceilings requiring 30mins fire resistance. Please see appendix for installation guidelines or contact our Technical team for further information.
Siniat GTEC products are tested for reaction to fire and other fire sensitive properties to European and British Standards.

The tests are carried out in 3m x 3m aperture furnaces (pictured below) which simulate the most intensive period of a fire. The results of these tests are expressed in terms of integrity, insulation and loadbearing capacity (where applicable).

In addition, to ensure continued quality, rigorous testing of every batch of Siniat GTEC Fireboard manufactured is tested to EN standards and is CE marked.
30 MINUTES PROTECTION (BS476-21)

Typical use: between rooms within a home or office unit.

METAL PARTITION

Facing Outer Layer(s): 1 x 12.5mm GTEC Fire Board
Studs: Single GTEC CS50Rx C Studs at 600mm centres

If fire protection is on 1 side only then 2 fire boards must be attached to that side to meet the regulations.

TIMBER PARTITION

Facing Outer Layer(s): 1 x 12.5mm GTEC Fire Board
Studs: 38 x 63mm Timber Studs at 600mm centres
Insulation: 50mm 16k m³ glass mineral wool

If fire protection is on 1 side only then 2 fire boards must be attached to that side to meet the regulations.

WALL LINING

Facing Outer Layer(s): 1 x 15mm GTEC Vapour Fire Board
Lining: Sheathing board – Recommended GTEC Aqua Board
Insulation: 120mm glass fibre (BS5250)
Internal Wall Leaf: Timber Frame Stud work
External Wall Leaf: Brickwork

CEILING

Ceiling Outer Layer(s): 1 x 12.5mm GTEC Fire Board
Structure: 47mm x 200mm joists at 600mm centres with noggins
Flooring Make-up: 22mm tongue and grooved chipboard
60 MINUTES PROTECTION (BS476-21)
Typical use: separating adjacent units in low rise buildings.

METAL PARTITION

Facing Outer Layer(s):
1 x 15mm GTEC Fire Board
Studs: Single GTEC CS90Rx
C Studs at 600mm centres
If fire protection is on 1 side only then 2 fire boards must be attached to that side to meet the regulations.

TIMBER PARTITION

Facing Outer Layer(s):
1 x 15mm GTEC Fire Board
Studs: 50 x 100mm Timber
Studs at 600mm centres
If fire protection is on 1 side only then 2 fire boards must be attached to that side to meet the regulations.

WALL LINING

Facing Layer(s):
2 x 12.5mm GTEC Fire Board
Lining: GTEC Dryliner
Channel System
Insulation: 25mm glass mineral wool 16kg/m³
Wall Leaf: 102mm brickwork
Finish: Sand Cement Render

CEILING

Ceiling Outer Layer(s):
1 x 15mm GTEC Fire Board
(Fixed with 63mm GTEC High Thread screws)
Structure: 47mm x 200mm joists at 600mm centres with noggins
Flooring Make-up: 22mm tongue and grooved chipboard
90 MINUTES PROTECTION (BS476-21)
Typical use: between units in medium rise buildings.

METAL PARTITION

Facing Inner Layer(s):
1 x 12.5mm GTEC Standard Board

Facing Outer Layer(s):
1 x 12.5mm GTEC Fire Board

Studs: Single GTEC CS70Rx C Studs at 600mm centres

TIMBER PARTITION

Facing outer layer
1 x 15mm GTEC Fire Board

Facing Inner Layer
1 x 15mm GTEC Fire Board

Studs: 38 x 89mm Timber Studs at 600mm centres

Insulation: 50mm 16kg/m3 glass mineral wool

CEILING

Ceiling Inner Layer(s):
1 x 15mm GTEC Fire Board
(Fixed with 50mm GTEC High Thread screws)

Ceiling Outer Layer(s):
1 x 15mm GTEC Fire Board
(Fixed with 75mm GTEC High Thread screws)

Structure: 47mm x 200mm joists at 600mm centres with noggins
Flooring Make-up: 22mm tongue and grooved chipboard

Note: Siniat do not offer a ceiling system with 90 mins, this system will actually achieve 120 mins fire resistance exceeding the required level of protection.
120 MINUTES PROTECTION (BS476-21)
Typical use: fire fighting or escape routes and between units in higher rise buildings.

METAL PARTITION

Facing Inner Layer(s):
1 x 12.5mm GTEC Fire Board

Facing Outer Layer(s):
1 x 12.5mm GTEC Fire Board

Studs: Single GTEC CS70Rx C Studs at 600mm centres

TIMBER PARTITION

Facing outer layer
1 x 15mm GTEC Fire Board

Facing Inner Layer
1 x 15mm GTEC Fire Board

Studs: 50 x 100mm Timber Studs at 600mm centres

CEILING

Ceiling Inner Layer(s):
1 x 15mm GTEC Fire Board
(Fixed with 50mm GTEC High Thread screws)

Ceiling Outer Layer(s):
1 x 15mm GTEC Fire Board
(Fixed with 75mm GTEC High Thread screws)

Structure: 47mm x 200mm joists at 600mm centres with noggins
Flooring Make-up: 22mm tongue and grooved chipboard
HOW TO FINISH THE BOARDS

Taping and Jointing is a simple finishing solution for drylining installations, to reinforce joints to prevent cracking and ensure fire and sound performances are achieved. It is suitable for areas of plasterboard where speed and ease of application can greatly reduce installation time and costs versus a skim finish.

TRADITIONAL 3 STAGE PROCESS (RECOMMENDED)

BEDDING & FILL COAT
Tape or bead is bedded into the compound and taper filled out

1ST FINISH COAT
The taper is re-filled with compound where required

2ND FINISH COAT
Final compound layer is applied and sanded for a smooth finish

2 STAGE PROCESS

BEDDING & FILL COAT
Tape or bead is bedded into the compound and taper filled out

2ND FINISH COAT
Final compound layer is applied and sanded for a smooth finish
TAPERED EDGE

• Tapered edge board provides the best finish by allowing the joint tape to sit below the finished surface
• Board surfaces to be dry, clean, protected from weather, secure and evenly fixed
• Square edge plasterboard may also be jointed using the method on the following page
SQUARE OR CUT EDGE

GTEC Joint Tape

Bed tape into layer jointing compound

GTEC Joint Tape and bedding layer

Bedding layer down both edges of tape

Second coat feathered out beyond filling layer

Finishing layer feathered out on to plasterboard and sanded once dry

- Correct screw fixings to be used with screw heads just below surface of board
- Gaps over 3mm to be filled with GTEC Joint Filler Xtra or GTEC Easy Finish prior to tape installation
**INTERNAL CORNER**

- Compound to be applied in nominal 1mm layers. Thicker layers will extend drying time.
- GTEC Joint Tape cut to length to be pressed into bedding compound.
- Second coat of jointing compound if required to be applied over dry joint, feathered out 50 – 60mm beyond the edge of first coat.
- Finishing coat of compound feathered out 50 – 60mm beyond second coat. Finished, dry joint to be sanded to smooth finish for sealing and decoration.
Square edge joints only:
Joint width to be wider to reduce visible crowning.

External corners only:
GTEC Flex Tape to be applied in place of GTEC Joint Tape as reinforcement.
Once the taping and jointing process has been completed, Universal Sealer must be applied to prevent ‘regency striping’.

This term is used to describe the effect of the paint finish reacting differently on the joints to the surface of the board, if the sealer is not applied the joints may be visible no matter how good the taping and jointing process has been completed. Once dry a paint finish can be applied in the normal manner.
APPENDIX

Installation Guideline on 30 minute fire resistant timber and steel partitions for MultiPurpose Panel

NON LOAD BEARING STEEL STUD PARTITION

• Max height 2.7m
• GTEC CS50/RX studs at 610mm centres and GTEC UT52/RX tracks
• 9mm thick Siniat MultiPurpose Panel
• 75mm wide x 9mm thick Siniat MultiPurpose Panel cover strips fixed to studwork on both faces and behind board joints
• 25mm Drywall screws fixed at 250mm centres
• 1 layer of 50mm Rockwool Flexi between studs
STEEL STUD PARTITION

- 6mm x 75mm FILLET
- 9mm SINIAT MULTIPURPOSE PANEL
- 25mm ROCKWOOL FLEXI
- GTEC UT/Rx U TRACK
  52mm x 30mm x 0.52mm STEEL U-CHANNEL FIXED TO PERIMETER WITH M6 FIXINGS AT 600mm CENTRES
- GTEC CS50/Rx STUD
  50mm x 36/34mm x 0.52mm STEEL C- STUD
- 25mm DRYWALL SCREW

NON LOAD BEARING STEEL STUD PARTITION

- 25mm DRYWALL SCREWS
- 9mm SINIAT MULTIPURPOSE PANEL
- GTEC CS50/Rx STUD
  50mm x 36/34mm x 0.52mm STEEL C-STUD
- 9mm x 75mm FILLET
- 50mm ROCKWOOL FLEXI
NON LOAD BEARING TIMBER STUD PARTITION

- Max height 4m
- 63mm x 38mm C16 CLS timber studs at 610mm centres
- Timber nogging at horizontal board joints
- 9mm thick Siniat MultiPurpose Panel
- 38mm x 2.5mm round head nails fixed at 200mm centres
- 1 layer of 50mm Rockwool Flexi between studs
TIMBER FRAME PARTITIONS

- 50mm ROCKWOOL FLEXI
- 38mm ROUND HEAD NAILS
- 63mm x 38mm C16 CLS TIMBER STUD
- 9mm SINIAT MULTIPURPOSE PANEL
INSULATION TIPS
For a step-by-step video guide and installation tips on using metal frame systems and installing thermal boards, check out our Siniat UK YouTube Channel.
www.youtube.com/siniatukchannel

For help with installation:
Contact our Technical Enquiry line on:
01275 377 789 or
Visit the new Siniat website at
www.siniat.co.uk