Gypsum
Technical Manual
Marley Building Systems Gypsum Ceilings & Partitioning Product Range:

Introduction to Siniat Plasterboard:

- Plasterboard Properties 9
- Technical Specification and Material Safety 9
- Product Range Identification 9
  - Siniat Standard Plasterboard 9
  - Siniat Technical Plasterboard 10
  - Siniat Fire Check Plasterboard 10
  - Siniat Moisture Check Plasterboard 10
- Building with Plasterboard 11
- Profile 11
- 1.1 Performance Specifications/Properties 11-12
  - Sound Insulation Performance (Acoustics) 12
  - Description of Common Terms used when describing sound Insulation Performance 12-13
  - Effect of Different Walls on Sound Insulation Performance 13-14
  - Fire Resistance 14
  - Evaluation Criteria 14
  - Modifications to Fire Rated systems 15
  - Fire Hazard Properties 15
- 1.2 Contextual Application and protection 16
  - Condensation and Ventilation 16
  - External Applications 16
  - Exposure to High Humidity 17
  - Exposure to Excessive Heat 17
- 1.3 Storage, Delivery and Handling 17
  - Handling of Siniat Plasterboard 18
  - Cutting of Siniat Plasterboard 18
  - Setting Out and Installation 18-19
  - Environmental Control 19-20
  - Accessories and Spacings 20
- 1.4 Siniat Plasterboard Finishing Guide 20
  - Surface Preparation 20
  - General Recommendations 21
  - Jointing of Plasterboard Tapered Edges 21
  - Checklist 22
  - Typical Light Conditions and Finishing Levels 22-23

Siniat Fixed Partition Systems:

- Internal Partition Systems 24
- Plasterboard Jointing 24
- Typical Locating of Studs 24
- Typical Partition Layout 25
- Typical stud Location at Door Openings 25
- Typical Partition Corner Details 25
- Typical door Track Location on Corners 26
- Typical Door Frame Details 26
- Typical "T" Junction Details 26-27
- Standard Specifications for Drywall Systems up to 3600mm 28-35
- Plasterboard Partition from 3600mm to 8000mm in Height 36-37
- Plasterboard Partition over 8000mm in Height 37-39
- Siniat 89mm Partition System 3D Door Detail 40
- Protection of Lift and Vent Shafts 41
- Curved Walls 42
- Siniat Door Frame Kit 43
- Siniat Window Frame Kit 44
- Siniat Fixed Partition Aluminium Trim Accessories 45-48
- Technical Specification 49-52
- Typical Residential Wall Divisions 52-55
### Index

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet Area Specification</td>
<td>55-57</td>
</tr>
<tr>
<td>Construction Details for Wet Areas</td>
<td>58</td>
</tr>
<tr>
<td>Fixtures and Fittings</td>
<td>59-60</td>
</tr>
<tr>
<td>Plasterboard Fitting and Fixing Details</td>
<td>61</td>
</tr>
<tr>
<td>Curved Wall</td>
<td>61</td>
</tr>
<tr>
<td><strong>Siniat Ceiling Systems:</strong></td>
<td></td>
</tr>
<tr>
<td>Mastergrid Layout Details</td>
<td>62</td>
</tr>
<tr>
<td>Standard Specifications for Ceilings</td>
<td>62</td>
</tr>
<tr>
<td>Grid Layout for Suspended Ceilings using 1200mm Cross T-Section</td>
<td>62</td>
</tr>
<tr>
<td>Typical Suspension Details</td>
<td>63</td>
</tr>
<tr>
<td>• Suspension Details for Exposed Ceiling Grid</td>
<td>63</td>
</tr>
<tr>
<td>• Grid Layout for Suspended Ceilings using 600mm Cross T-Section</td>
<td>63</td>
</tr>
<tr>
<td>• Sub Grid Detail (Strained Wire) Exposed Ceiling</td>
<td>63</td>
</tr>
<tr>
<td>• Lay-in Suspended Ceiling</td>
<td>63-64</td>
</tr>
<tr>
<td>• Siniat Mastergrid Suspended Ceiling</td>
<td>64-65</td>
</tr>
<tr>
<td>• Recommendation for the Suspension of Tee Systems</td>
<td>66</td>
</tr>
<tr>
<td>• Installation of the Exposed Grid System</td>
<td>66-67</td>
</tr>
<tr>
<td>• Siniat Lay-in Ceiling Grid System</td>
<td>69</td>
</tr>
<tr>
<td>• Grid Layout for Lay-in Ceilings Sub Grid Detail</td>
<td>69</td>
</tr>
<tr>
<td>Ceiling Trim Details</td>
<td>70</td>
</tr>
<tr>
<td>Siniat Ceiling Tiles</td>
<td>70-72</td>
</tr>
<tr>
<td>• Painted and Perforated Ceiling Tiles</td>
<td>73</td>
</tr>
<tr>
<td>Timber Brandering</td>
<td>74</td>
</tr>
<tr>
<td>Steel Brandering</td>
<td>75</td>
</tr>
<tr>
<td>Siniat 75mm Cornice Detail</td>
<td>76-79</td>
</tr>
<tr>
<td>Grid Layout for Plasterboard Ceilings using 1200mm Cross T-Section</td>
<td>79</td>
</tr>
<tr>
<td>Suspended Plaster Grid</td>
<td>80</td>
</tr>
<tr>
<td>• Siniat Plaster Grid System (Siniat Mastergrid)</td>
<td>81</td>
</tr>
<tr>
<td>Aluminium Sections</td>
<td>81-82</td>
</tr>
<tr>
<td>Grid Layout for Ceilings Sub Grid Detail</td>
<td>83</td>
</tr>
<tr>
<td>Siniat Main suspension Methods for Ceiling Grid</td>
<td>83</td>
</tr>
<tr>
<td>9mm and 12mm Flush Plastered Ceiling</td>
<td>84</td>
</tr>
<tr>
<td>Curve Ceilings</td>
<td>84</td>
</tr>
<tr>
<td>Fire Rated Ceiling Systems</td>
<td>84</td>
</tr>
<tr>
<td>Fire Rated Suspended Ceiling Systems</td>
<td>84</td>
</tr>
<tr>
<td>Fixed Fire Rated Systems</td>
<td>86</td>
</tr>
<tr>
<td>75mm Siniat Cove Cornice Detail for Fire Property Specification</td>
<td>86</td>
</tr>
<tr>
<td>Grid Layout Fire Resistance Plastered Ceiling</td>
<td>86</td>
</tr>
<tr>
<td>Siniat XPS Decor Cornices</td>
<td>87-90</td>
</tr>
<tr>
<td>Fixing Instructions for Cornices</td>
<td>90-92</td>
</tr>
<tr>
<td>Preparing Joints and Corner Mitre of Cornices</td>
<td>92</td>
</tr>
<tr>
<td>Opening Solutions</td>
<td>93-95</td>
</tr>
</tbody>
</table>
Marley Building Systems is part of ETEX, a Belgian Industrial group that manufactures and markets high quality building materials and systems.

We strive to be the leader in sustainable and affordable building solutions. To meet these needs and anticipate new trends, we have developed a strategy based on our four core businesses: cladding and building boards in fibre cement and plaster, roofing materials, passive fire protection and high performance insulation. This has earned us a place in the market as a leading supplier of high quality and affordable roofing, cladding and construction products.

Together with Marley Roofing’s 60 year industry experience we aim to not only supply products and services that redefine building methodology, but also give complete peace of mind.

Marley Building Systems’ product portfolio includes all types of concrete and clay tiles, fibre cement slates, profiled roof sheeting, fibre cement and gypsum based cladding solutions and decorative façades.

With over 100 years’ experience, we have industry knowledge that is second to none and can offer our customers complete confidence in the products and services we provide. Marley Building Systems’ market leading products deliver a combination of eco-friendly materials and surpasses all performance demands.

Marley Building Systems South Africa
44 Industry Road
Oliefantsfontein
Telephone: (011) 389 4500 | Fax: (011) 864 6816
Marley Building Systems offers a comprehensive range of plasterboard systems to meet the practical and performance needs of new build and refurbishment projects, covering all sectors of the market, residential, commercial, retail, hospitality & health. The comprehensive range of systems is designed to offer the Architect, Developer and Specifier the possibility of translating exciting visual concepts into actual on-site reality.

**Plasterboard Types**

**Standard plasterboards**
- **6.4mm square edge**
  - 2400x900 - 2400x1200
  - 2700x900 - 2700x1200
  - 3000x900 - 3000x1200
  - 3300x900 - 3300x1200
  - 3600x900 - 3600x1200
  - 4200x900 - 4200x1200

**6mm tapered edge**
- 2400x1200
- 2700x1200
- 3000x1200
- 3300x1200
- 3600x1200
- 4200x1200

**Technical Plasterboards**

**12,5mm & 15mm Firecheck**

**Tapered edge**
- 2400x1200 • 2700x1200
- 3000x1200 • 3600x1200

**12,5mm & 15mm Moisture Check Tapered edge**
- 2700x1200 • 3000x1200
- 3600x1200

**Siniat Studs**
- 51mm
- 58mm
- 63.5mm
- 102mm

**Lengths:** 2100, 2400, 2700, 3000, 3600, 4200
Or can be made to required length max 8m

**Siniat Track**
- 52mm
- 59mm
- 65mm
- 102mm
- 103mm

**Lengths of 3000mm**

**Siniat plasterboards**

Construction practice and Building Regulations call for a range of boards to match specific installation needs.

Siniat plasterboards are complemented by high performance products specifically designed for fire resistance, moisture resistance, acoustic applications and provide thermal and vapour resistance when used in conjunction with other complementary product.

Siniat plasterboards carry the SANS 266 – 2003 standards mark.

Siniat plasterboards systems are tested for fire resistance to SANS 10177 Part 2 – 2005 for stability, integrity and insulation.

Siniat plasterboards carry GreenTag level B certification.

**Siniat Partition & metal system sections**

Marley Building Systems has developed a complete range of metal systems for use in combination with its plasterboards and accessory products. Together they provide solutions to meet all the design requirements of a modern construction market.

To complement its range of plasterboard partitions, ceilings, and plasters, Marley Building Systems offers specialist accessories such as aluminium trim systems, door and window frame kits, access panels and fixings.
Siniat Mastergrid Suspended Systems

Siniat Mastergrid suspended exposed and suspended fixed systems comprise of high quality T Bar grid sections that are assembled to form a grid system where product is either lay-in or fixed to form a ceiling system. A full range of plasterboard, ceiling tiles and plasters are available to complete to specific requirements. These systems offer easy access for general maintenance plus solutions for both aesthetic and acoustic absorbance requirements (NRC). Refer to pg80 for more info.

Siniat Mastergrid System

Exposed main tee’s
- 24mm white cap face
  - 3600mm
  - 3500mm

Exposed Grid cross tee’s
- 1500mm
- 1200mm
- 600mm

Plaster Grid main tee’s
- 35mm galvanized knurled face
  - 3600mm

Plaster Grid cross tee’s
- 1200mm

Marley Building Systems Light Steel Frame

- Strength of material: G550Mpa with a gauge of 0.8mm thick galvanised sheet
- LSF is not a stock item but it may be designed and supplied as per request
- For any enquiry regarding LSF, please contact Marley Building Systems Technical Department
Siniat Steel Brandering System

**Knurled**
- 2400mm
- 2700mm
- 3000mm
- 3300mm
- 3600mm

**Suspension bracket**
- Straight joiner
- 2 way joiner
- 3 way joiner
- 4 way joiner

Siniat Steel Brandering has been designed as an alternative to timber brandering. Steel brandering can also be used in bulkhead construction. A range of joiners are also available to facilitate change in direction and easier construction. The advantages in using steel brandering range from being cost effective, transportation, handling and storage, easy to suspend, easy to level, straightness, varied lengths, easy cutting, minimum wastage, easy installation and eco friendly.

Siniat Steel Brandering Accessories

- Straight joiner
- 2 way joiner
- 3 way joiner
- 4 way joiner
- Steel frame hat purlin - SFHP
- Steel frame batten - SFMB
Plasterboard is finished using plaster compounds, where either a final float finish or sanding is undertaken and then finally painted to achieve a smooth and even appearance.

No building lining system has a surface that is perfectly flat and totally free of imperfections. By paying attention to framing, plasterboard sheet orientation, paint finishes and lighting conditions, it is possible to attain the perception of flatness. The range of plaster compounds, when applied to specification will assist in achieving the finishes as specified.

Marley Building Systems range of plaster compounds

**Plaster product**
(Full skim)
- Siniat Skim – Lite 10kg / 40kg
- Siniat Skim – Stone 33kg

**Finishing product**
(Full skim)
- Siniat Finishing compound 25kg

**Jointing product**
(Plasterboard joints)
- Siniat Premium Jointing Compound 20kg
Introduction to Siniat Plasterboard

Product Range

- **Plasterboard properties**

Plasterboard consists of a core that is made from gypsum, a naturally occurring material. The liner paper used to make this product is biodegradable and made from 100% recycled paper. Hence, the environmental benefit of Plasterboard is that it is 100% recyclable.

The plasterboard manufacturing process operates under strict environmental guidelines, adhering to and encompassing the following:

- Efficient use of energy and water
- Efficient collection and monitoring of dust
- Ongoing waste reduction
- Minimisation of plant impact on surroundings

- **Technical Specification & Material Safety:**

Standard plasterboard is not classified as hazardous as the product is non-toxic and Non-flammable.

Material Safety Data Sheets are available on request from our Technical Department.

The Siniat Plasterboard range is SABS Approved under specification SANS 266

- **PRODUCT RANGE IDENTIFICATION**

- **Siniat Standard Plasterboard**

Siniat Standard Plasterboard is identified by the ivory face and brown backing paper liners, with no special additives to the gypsum core or special treatment to the paper liners except that with the 6,4/9/12/15mm plasterboard, fibreglass strands have been added to the core to allow for greater strength and flexibility. This product is used for domestic and commercial ceiling applications as well as partitioning applications to SABISA spec. Siniat Standard Plaster board is also used to create bulkheads, curved ceilings and curved walls. 6.4mm Siniat Standard Plasterboard is suitable for bandering ceilings, and may be used for plasterboard ceiling applications to SABISA specifications at a max. of 300mm centers and plastering not exceeding 6mm.
Introduction to Siniat Plasterboard

• Siniat Technical Plasterboard:

The Siniat Technical Plasterboard composition is manufactured to enhance and meet particular environmental specific design, performance and utilitarian requirements. Marley Building Systems manufacturers two types of technical plasterboards, namely:

• Siniat Fire Check Plasterboard:

The Siniat Fire Check Plasterboard has exfoliated vermiculite and fibreglass strands in the gypsum core to increase fire resistance. It is differentiated by its covering of pink paper liner. Available in 12.5mm and 15mm thicknesses and is recommended for areas where additional fire resistance is required, e.g.: fire rated walls, fire rated ceilings, protection of load bearing structures, fire breaks, occupancy separating walls, division separating walls, etc.

• Siniat Moisture Check Plasterboard:

Siniat Moisture Check Plasterboard has silicone in the gypsum core and is suitable for use in "wet areas" showers, bathrooms, kitchens and protected external applications. Siniat Moisture Check 12.5mm and 15mm Plasterboard can be used in areas where ceramic wall tiling is required. This plasterboard is not suitable for protection against continuous dampness or as a base for cement rendering. Moisture Check Plasterboards are lined on both sides with a distinctive green water repellent paper for ease of identification. The boards are not suitable for use in temperatures above 52°C, and must not be subjected to freezing temperatures without risk of damage.

Moisture Check Plasterboard is recommended for bathroom and kitchen applications where the air can contain high levels of water vapour intermittently.
Introduction to Siniat Plasterboard

Building with Plasterboard

The comprehensive range of Siniat Plasterboard ‘specific systems’ meet both the practical and performance needs of both new and refurbishment projects, ranging from basic to high-end systems.

Profile

The 6.4mm Siniat Plasterboard is manufactured with a square edge only. The Siniat 9mm, 12mm / 12.5mm and 15mm Plasterboards are manufactured with a taper edge.

The 12mm / 12.5mm and 15mm boards can be manufactured with a square edge if required, but is dependent on order volume. Enquire from Sales beforehand.

Taper edges on the long ends of Plasterboard are provided to ensure that jointing can be achieved easily with a smooth and level finish.

1.1 Performance Specifications / Properties

- Dimensional Stability:

Plasterboard is dimensionally stable when compared to other building materials.

Two measures of dimensional stability are listed below:

- Thermal coefficient of linear expansion (α) = 16.7 x 10⁻⁶ / °C, measured unrestrained over the temperature range of 3 °C - 32 °C
- Hygral coefficient of expansion = 6.5 x 10⁻⁶ mm/m, measured unrestrained over the Relative Humidity (RH) range of 10% - 90%

- Siniat ceiling tiles are stable in moist conditions up to 90% R.H.
  
  Typical sagging can be expected under these conditions is as follows:
  
  600mm x 600mm x 9mm Ceiling Tiles - 0.75mm
  1200mm x 600mm x 9mm Vinyl Ceiling Tiles - 3.95mm
  1200mm x 600m x 12mm Vinyl Ceiling Tiles - 2.95mm

- Thermal Properties:

Thermal conductivity (K-value) is the measure of a material’s ability to transmit heat; it is expressed as heat flow in watts per square metre of surface area for a temperature difference of 1°C per metre thickness and is expressed as W/m.°C or W/m.K

Thermal coefficient of linear expansion (α) = 16.7 x 10⁻⁶ / °C, measured unrestrained over the temperature range of 3°C - 32°C

Hygral coefficient of expansion = 6.5 x 10⁻⁶ mm/m, measured unrestrained over the Relative Humidity (RH) range of 10% - 90%
The lower the Thermal Conductivity (K-value) of the material, the better is its insulation. The Thermal Resistance (R-Value) of plasterboard is a measure of its thermal insulation ability. Higher numbers indicate a better insulator. The board R-value can be calculated by dividing the thickness of board (m) by the K-value (W/m.K). Similarly the R-values for insulation can be determined. The total R-value = T1/K1 + T2/K2 + T2/K3 + ...............

Where T1, T2, T3 = Thickness (m) of the individual components of the wall or ceiling element. K1, K2, K3 = Thermal conductivity (W/m.K) of the individual components 1, 2 and 3.

• Sound Insulation Performance (Acoustics):
  There are three types of acoustic functions-

  I.)  Sound Insulation:
  Sound insulation refers to the ability of a material or partition / ceiling system to stop or reduce airborne sound.
  a) Internal Sound Insulation:
  Internal sound insulation is important when designing a partition wall, to stop noise passing through from an adjoining room
  b) External Sound Insulation:
  External sound insulation refers to the ability of materials to reduce sound transferring into or from a building. Good external sound insulation is important when designing and constructing external elements of a building. This includes walls, windows, doors, ventilation and roofing.

  II.)  Sound Absorption:
  The Siniat Pregybel system is recommended for applications where high levels of sound absorption is required.

  III.)  Flanking:
  Flanking is the transfer of noise through paths around a building element, rather than through the element itself. Flanking describes the transfer of noise through, gaps, cracks in the building element, and incorrectly sealed junctions between objects. It is recommended that closed cell neoprene strips be used to seal off any air gaps through which sound may travel.

• Description of common terms used when describing sound insulation performance:
  dB = The decibel (dB) is the unit used for sound level measurement.
  Variations of (dB) are used for different types of noise measurement. The most commonly used variation is the (dBA)
**dB**A = Unit of sound level in weighted decibels. The human ear is not equally sensitive to all frequencies of sound. The A weighting approximates the sensitivity of the ear by filtering these frequencies. A (dB)A measurement is considered representative of average human hearing.

**Rw** = Known as the Weighted Sound Reduction Index, Rw is a single number (dBA) referring to the ability of a wall or other building structure to provide sound insulation. The higher the number, the better the sound insulation. Rw refers to sound insulation achieved in an acoustic testing laboratory.

**DnT,w** = Referred to as the Weighted Standardised Field Level Difference, DnT,w, is a measure of the sound insulation performance of a building element that indicates the level of speech privacy between spaces. It is characterised by the difference in noise level on each side of a wall or floor. It is a field’s measurement that relates to the Rw laboratory measurement. The higher the number, the better the insulation performance.

**L'nT,w** = Referred to as Weighted Standard Field Impact Sound Pressure Level. L'nT,w is a measure of noise impact performance on a floor. It is a field measure of the amount of impact sound reaching a space via a floor. It is measured in the field and is therefore subject to inherent inaccuracies. It is the equivalent field measurement to the L'n,w laboratory measurement. The lower the number, the better the performance.

**Rw + Ctr** = This measures the same as Rw but includes an adaptation factor (Ctr) to take into account low frequency sounds generated by home theatre and sound system equipment. The adaptation factor is a negative number and therefore Rw + Ctr is lower than Rw. This is the appropriate measurement for internal sound insulation.

**NRC** = The Noise Reduction Coefficient, defines how much sound specific materials absorb. It is the average sound absorption between 250Hz-2kHz. A material with low NRC rating absorbs little sound and a material with a higher NRC rating absorbs more sound.

- **Effect of Different walls on sound insulation performance:**

<table>
<thead>
<tr>
<th>Rw</th>
<th>Rw + Ctr</th>
<th>Effect of different values of Rw and Rw + Ctr</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>22</td>
<td>Normal speech can be heard</td>
</tr>
<tr>
<td>30</td>
<td>25</td>
<td>Loud speech can be heard</td>
</tr>
<tr>
<td>35</td>
<td>28</td>
<td>Loud speech can be heard but not understood</td>
</tr>
<tr>
<td>42</td>
<td>35</td>
<td>Loud speech heard as a murmur</td>
</tr>
<tr>
<td>45</td>
<td>38</td>
<td>Must strain to hear loud speech</td>
</tr>
<tr>
<td>48</td>
<td>40</td>
<td>Loud speech can barely be heard</td>
</tr>
<tr>
<td>53</td>
<td>44</td>
<td>Loud speech cannot be heard</td>
</tr>
<tr>
<td>63</td>
<td>55</td>
<td>Music heard faintly, bass notes ‘thump’</td>
</tr>
<tr>
<td>70</td>
<td>60</td>
<td>Loud music still heard faintly</td>
</tr>
</tbody>
</table>
Introduction to Siniat Plasterboard

*Note: Marley Building Systems has a programme that can calculate acoustic requirements on information given and make recommendations.
This programme is theoretically based.

**Typical Acoustical Solutions for Walls**

<table>
<thead>
<tr>
<th>Acoustical Insulation</th>
<th>Stud Size</th>
<th>Maximum Stud Spacing (mm)</th>
<th>Insulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>R40</td>
<td>Single skin 12mm</td>
<td>600</td>
<td>No insulation</td>
</tr>
<tr>
<td>R50</td>
<td>Single skin 12mm Check Boards</td>
<td>600</td>
<td>50mm 60 density glass wool</td>
</tr>
<tr>
<td>R51</td>
<td>Single skin 12mm Check Boards</td>
<td>600</td>
<td>50mm 60 density glass wool</td>
</tr>
<tr>
<td>R52</td>
<td>Single skin 12mm Standard Plasterboard</td>
<td>102mm</td>
<td>50mm 14 density polyester wool</td>
</tr>
</tbody>
</table>

**Typical Acoustical Solutions for Suspended Ceilings**

<table>
<thead>
<tr>
<th>Acoustical Insulation</th>
<th>Ceiling Tiles</th>
<th>Grid Type</th>
<th>Insulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>R25</td>
<td>Siniat 10mm Ceiling Tiles</td>
<td>Exposed Mastergrid</td>
<td>50mm 14 density glass wool</td>
</tr>
<tr>
<td>R30</td>
<td>Siniat 9mm Ceiling Tiles</td>
<td>Exposed Mastergrid</td>
<td>50mm 80 density mineral wool</td>
</tr>
<tr>
<td>R31</td>
<td>Siniat 9mm Ceiling Tiles</td>
<td>Exposed Mastergrid</td>
<td>100mm 47 density glass wool</td>
</tr>
<tr>
<td>R32</td>
<td>Siniat 9mm Ceiling Tiles</td>
<td>Exposed Mastergrid</td>
<td>50mm 14 density glass wool</td>
</tr>
<tr>
<td>R33</td>
<td>Siniat 12mm Ceiling Tiles</td>
<td>Exposed Mastergrid</td>
<td>50mm 80 density mineral wool</td>
</tr>
<tr>
<td>R34</td>
<td>Siniat 12mm Ceiling Tiles</td>
<td>Exposed Mastergrid</td>
<td>100mm 47 density glass wool</td>
</tr>
<tr>
<td>R35</td>
<td>Siniat 12mm Ceiling Tiles</td>
<td>Exposed Mastergrid</td>
<td>50mm 80 density mineral wool</td>
</tr>
</tbody>
</table>

**Fire Resistance:**

Plasterboard is naturally fire resistant. The core slows down the spread of fire by releasing chemically bound water when heated. This is a similar process to evaporation and aids cooling.

Systems Fire testing is carried out in accordance with SANS 10177-2, Fire testing of materials, components and elements used in buildings Part 2: Fire resistance test for building elements.

Fire systems are rated to withstand a fire under test conditions for a certain period of time. This is known as the fire resistance level (FRL) and consists of three main evaluation criteria.

**Evaluation Criteria**

I.) Stability: The ability to maintain stability
II.) Integrity: The ability to resist the passage of flames as specified
III.) Insulation: The ability to maintain a temperature over the whole of the exposed surface below that specified in the test standards
IV.) Loadbearing: Loadbearing elements are to remain below the softening point for the duration of the required fire rating. For thin gauge steel the softening point is at 385°C and for timber it is at the combustion point of 200°C.

**Continuity and Installation.**

Fire rated systems must be built in accordance with the specific instructions, there are some variations allowed that will not degrade the performance of the system:

- Increasing cavity width
- Increasing stud size or metal thickness
- Adding noggins to support fixtures or services
• Decreasing the stud spacing
• Decreasing the fastener spacing
• Adding specified layers to a system up to a weight of 20kg/m² and no thicker than 25mm.
• For load bearing walls, the load per stud must include the extra lining

• Modifications to Fire rated Systems

Fire rated systems are often modified by the installation of:
- Fire rated inspection hatches
- Fire rated power points
- Fire rated light fittings
- Fire rated doors
- Fire dampers
- Electrical cables
- Metal or plastic pipes
- Other fire rated penetrations
- Insulation materials

It is recommended that all services through fire rated walls be run through a galvanized steel pipe, which is filled with a fire rated foam with a rating equivalent to the fire rated wall to seal off any air gaps. The hole cut for this pipe must be cut as close as possible to the external pipe diameter and any gaps between the pipe and the board must be fully sealed with Fire Seal or Infumescent Sealer. It is the responsibility of the installer of these components to ensure that the fire and acoustic properties of the plasterboard system are maintained.

• Fire Rated Walls and Sagging Concrete Slabs:

Concrete slabs that are not yet fully cured may sag, the code SANS 10160-1 recommends that a gap of 15mm be allowed between the concrete slab and the top track. This gap needs to be filled with compressible material of equivalent fire resistance. i.e. mineral wool. As the slab sags it will compress the fire seal into the wall system to ensure a tight fit of the wall between the floor and the slab.

For structural stability the partition wall needs to be fully anchored at the bottom and vertical sides.

• Fire Hazard Properties:

Fire hazard properties relate to the combustibility of plasterboard, or for that matter any other building material product, and not its performance in a fire test. For product combustibility information refer to SANS 10400 National Building Regulations.

The Siniat Plasterboard is rated as Class 1 in accordance with SANS 10177:3 Surface Fire Index of Surfacing Materials.

Siniat Plasterboard range in thickness of 9mm or above are classed as Class A1 and 6.4mm Plasterboard as B1 in accordance with SANS 428.
1.2 CONTEXTUAL APPLICATION & PROTECTION

Condensation & Ventilation:

The Siniat Plasterboard range should not be installed until the building envelope is sealed to prevent moisture damage to the boards.

Condensation of water onto either the face or back of the plasterboard must be avoided. Insufficient protection from condensation can result in joint distortion, plasterboard sagging, mould growth and fastener popping. Many inter-related factors must be taken into account to control condensation. A good practice is to make use of wall/ceiling insulation and vapour barriers, as well to especially employ good ventilation solutions.

Plasterboard can also be affected by high humidity conditions after installation and prior to painting. Rain entering unsealed buildings, water on floors or other sources of open water may cause excessive humidity. This humidity may be absorbed by unpainted plasterboard resulting in sagging ceilings, fungi and mould growth in walls and ceilings. Therefore plasterboard must not be installed until the building is waterproofed.

To minimize the effects of condensation:

• Use Moisture Check plasterboard to increase protection against moisture
• Use moisture barriers. However it is important that the right type is selected for the construction type and that it is installed correctly (refer to manufacturers specifications)
• Use foil backed insulation under metal roofs as they are susceptible to forming condensation
• Install eaves, gable or ridge vents in the roof cavity
• Remove humidity from bathrooms via an extraction fan to the outside
• In hot humid climates where the building is air-conditioned below the dew point of the outside air, the wall and ceiling framing members and internal linings should be fully protected by moisture barriers to separate them from the humid external air. The moisture barriers should be thermally insulated to maintain them at a temperature above the dew point
• Use a quality paint system to provide protection against paint peeling and condensation soaking into plasterboard and compounds
• Use thermal breaks between steel members and external cladding

• External Applications:

Minimum conditions to use plasterboard in ceilings of balconies and under roof walkways:

• Siniat Moisture Check Plasterboards should be used in conditions where moisture vapour may be present, but no direct rain or run-off water
• The Siniat Moisture Check Plasterboard and components are not subjected to any direct water, long periods of high humidity or damp conditions
• Seal the Siniat Moisture Check Plasterboard with suitable sealer before installation
• The Siniat Moisture Check Plasterboard substrate is designed for the appropriate wind loading conditions
• The roof has cross ventilation above the plasterboard ceiling
• Related product is used to improve temperature control, reduce wind pressure and control ventilation

• Exposure to High Humidity:

Rooms such as indoor swimming pools and communal showers are subject to long periods of high relative humidity “RH” (above 90%). The use of plasterboard in such areas is not recommended by Marley Building Systems. The vaporised chlorine in areas surrounding swimming pools can also lead to corrosion of the plasterboards.

For rooms with intermittent periods of high humidity “RH”, Moisture Check MAY BE USED. In these rooms ventilation is required, to enable removal of excess moisture, via an open window or extraction fan.

• Exposure to Excessive heat:

Plasterboard is an ideal building material for normal ambient temperatures. It is not suited for long periods at elevated temperatures such as near fireplace flues or chimneys. Fire Check is no exception as it is designed to slow down a fire and not to resist constant elevated temperatures.

A competent fire engineer needs to provide a rational design where fireplaces or other heating equipment is installed in walls. Fire places and hearths need to be manufactured out of non-combustible materials and any adjacent walls need to be well insulated with mineral wool to protect the wall against heat transfer from such fireplaces or hearths.

1.3 Storage, Delivery & Handling

General:

To reduce the possibility of damage, delivery to site should occur immediately just before installation and care should be taken not to damage edges. Once delivered (as in storage) plasterboard must be kept dry and should be stacked clear off the floor using supports (bearers) not more than 400 apart.

Siniat Plasterboards must be installed indoors in a dry area to help protect plasterboard from absorbing humidity:

• Avoid open sources of water such as wet floors
• Wrap the plasterboard with plastic overnight
• Provide ventilation
• Install soon after delivery
• Install during dry weather for best results.
Introduction to Siniat Plasterboard

Handling of Siniat Plasterboard

• Siniat Plasterboard should be stacked flat on bearers in a dry and level area to avoid ground dampness and should be elevated from the ground.
• Stack plasterboard and/or timber bearers to required specifications.
• The maximum number of Siniat Plasterboard for each stack is 80 sheets for 6.4mm board and 40 sheets for 9, 12 and 15mm thick boards.
• No more than 5 stacks should be piled on top of one another. The bearers between each stack must be aligned and not more that 400mm apart.
• Siniat Plasterboard should be kept indoors and exposure to water and the weather must be avoided
• Siniat Plasterboard should be carried on its edges in an upright position by two people, rather than flat. No more than 2 plasterboards should be carried at a time.

Cutting of Siniat Plasterboard:

Siniat Plasterboard can be cut using a sharp utility knife or a fine tooth saw. The board should be placed flat on a level surface with the face upwards. Mark the area to be cut with a chalk line or pencil. Place a straight edge next to the line and with a sharp utility knife score the face layer of paper. Slide the board over the edge of the level surface or stand it on edge and snap the core of the board, the back layer of paper can now be cut. A fine tooth saw may also be used to saw through the board. Sand all cut edges.

When required to cut an L shape out of a board, the one limb must be cut with a fine toothed saw and the other limb with a utility knife as described above.

Setting Out & Installation:

General

Ceiling, bulkhead and partition construction work should not start until all services are in position and tested. The building envelope needs to be completely sealed, including all windows and exterior doors, glazing and the roof shall be watertight prior to the start of plasterboard and ceiling tile installation.

Identify all components as well as prefabricated components.
Plan, calculate and mark the layout of the partition.
Plan the required material quantities.
Tak care that the boards are installed with the correct side facing outwards.

Installation of lightweight steel frame buildings

A rational design signed by a competent structural engineer is required for lightweight steel frame building in accordance with SANS 517.

Siniat Steel Partitioning

Fix the track to the floor, cut as required, remembering to leave space for door openings. Plumb upwards to correctly position and install the ceiling track or head/wall channel. Alternately fix head channel to the ceiling and plumb downwards. Insert the studs at spacing’s of 600mm, twist the stud in place and friction will keep the stud in position. Remember to position studs for doors, glazing and corners.
Insert additional studs for corners and abutments.
Load bearing studs and suitable timber insert should be used to achieve the strength requirements of the framing assembly and adequately support the weight of the door.

**Insulation**
Fit securely with closed joints, leaving no gaps. Unless the insulation is self supporting, fix the insulation at head of frame using 25mm x 25mm galvanized angle.

**Services**
All services to be completed before installation of any partition or ceiling system.

**Install Siniat Plasterboard**
Establish a starting point.
When installing the first plaster board ensure that the first joint will be plumb (as the wall may not be plumb). Line up the studs as you proceed from here, remember the studs are spaced at 600mm centres maximum, but spacing may be reduced to 400mm centres in the case of certain fire rated systems or heights.
Use small sections of plaster board during installation to keep plaster boards off the ground to prevent moisture from creeping up the plaster boards.
Fix plaster boards to steel frame work using 25mm drywall screws spaced at 220mm centres; fixings on plaster board joints to be staggered.

**Vertical Joints**
Lightly butt boards together.
Centre joints on studs. Ensure that the joints on opposite sides of studs are staggered. For double layer boarding, stagger the joints between layers.

**Horizontal Joints**
Lightly butt boards together.
Horizontal joints are not needed in walls less than or equal to 3600mm. In walls over 3600mm (exceeding the maximum available length of board), firstly agree on positions of joints where not specified and then provide horizontal framing to support the horizontal edges of boards. Ensure that the horizontal joints on opposite sides of studs are staggered. For double board lining, stagger joints between layers by at least 600mm. Provide horizontal framing to support the horizontal edges of the first layer of plaster board.

**Environmental Control:**

**Acoustics**
Refer to Marley Building Sysytems specifications on page 14 or a project pack may be created for a specific project on request. Sound seal location, at junctions between drywall frame and adjoining structure. Sound seal to be provided as a continuous band to clean, dry, and dust free surfaces, leaving no gaps. Seal any gaps and service penetrations.
Fire stopping
Seal any gaps and service penetrations, with fire rated foam or mineral wool, to prevent penetration of flame.

Accessories and Spacings:

Fixing Plasterboard to Siniat metal Studs:
Single layer: fix securely to all supports at 220mm centres maximum using 25mm drywall screws.
Double layer: (outer layer) fix securely to all supports at 220mm centres maximum using 41mm drywall screws.
Stagger the drywall screws along plasterboard butt joints.
Position the drywall screws not less than 13mm from cut edges and 10mm from bound edges of plasterboard.

Bottom track needs to be anchored to the floor using at least a 6mm diameter Nylon nail in anchor to be embedded a minimum of 40mm into the concrete surface bed slab. The anchors should be fixed though the steel foottrack adjacent to where the studs are positioned at 600mm centres.

Deflection Heads
To be specified by the project structural engineer.

Specification
Installation to conform to detail as specified by Marley Building Systems and AAAMSA, SABISA General Specification for Drywall Partitions and Lightweight internal walls.

Drylining:
Drylining consisting of 12mm Siniat Plasterboard fixed with Siniat Finishing plaster to brick, block or masonry walls. Finishing plaster to be applied in vertical dabs of 75X250 at 300mm centres. Dabs are to be spaced at 600mm centres and continuous runs along top and bottom of wall. Plasterboard to be supported off the floor with a 12mm Plasterboard strip spacer. The Siniat Plasterboard lining is to be firmly bedded onto the Finishing plaster dabs, and then straightened with a straight edge in both vertical and horizontal plains. Only full length boards are to be used. All vertical joints are to be lined up, joints between adjacent boards to be 1-2mm. Joints are to be reinforced with Fibatape, filled with Siniat Jointing Plaster and finished off as per manufacturer’s instructions.

1.4 Siniat Plasterboard Finishing Guide

Surface Preparation:
Gypsum board surfaces to receive paint shall be properly prepared before paint can be applied. The proper level of gypsum board finish shall be specified and completed prior to painting. The selected level of finish will vary with the final decoration to be applied, location of the surface within the building, and type and angle of both natural and artificial lighting expected.
General Recommendations:

Specified products and techniques for painting gypsum board must be used to attain a quality level of finish on interior surfaces. A variety of factors in the painting process affect the creation of a pleasing finish. Recommendations of paint manufacturers vary greatly; therefore, specific recommendations of the manufacturer of the paint or other coating material shall be followed when those recommendations are more stringent than the general specifications provided here.

Jointing of Plasterboard Tapered Edges:

**NB:**

1. Check board surface. Any repairs and/or joints wider than 5mm should be filled with Siniat Jointing Plaster. Pull off any loose paper and re tape where core is exposed.
2. Apply self-adhesive Fibatape over the centre of the joint.
3. Apply the first layer of Siniat Jointing Plaster to the joint using a trowel, allow it to set and then apply a second layer of Jointing Plaster.
4. Apply Fibatape to internal corner ensuring that the tape is evenly spaced either side. Apply a coat of Siniat Jointing Plaster to one side and allow it to set before applying the plaster to the other side.
5. On the outer corner apply a layer of Siniat Jointing Plaster to each side of the corner bead using a trowel. When set, apply another layer of jointing plaster to each side. Clean off the outside edges.
6. Screws can be flushed using a trowel. Apply a small amount of Siniat Jointing Plaster over the screw head in one direction and wipe in a right angle direction. Apply 2nd coat in the same way, allowing setting in between coats.
7. A control joint is fitted between brickwork and drywall where they are in the same line or as an expansion joint on a long continuous drywall, e.g. walls longer than 10m should have a control joint every 5m. Note that a full height door frame acts as a control joint. Allow 1cm gap between plasterboard and brickwork. Butter this joint with Siniat Jointing Plaster then press control joint firmly into position. Joint in normal manner.
8. When all final coats are set, sand lightly to a smooth level finish using a fine grit sand paper (80 / 100 grit). Do not over-sand.

Expansion Joints

**NB:** Remember to clean off all excess Siniat Jointing Plaster and feather out.

Using a damp cloth remove all powder from the joint and surface of board prior to decoration.

DO NOT use oil or solvent based undercoats. Use any good quality paint for the finishing coat.
Introduction to Siniat Plasterboard

Checklist:

1. Make sure that the Siniat Jointing Plaster is allowed to set thoroughly between coats.
2. Check that the screws and metal trims are completely covered with compound.
3. Check that all finished joints are smooth and dry for decoration.
4. Check surface generally for smoothness and possible unfinished work.

All correctly prepared gypsum board surfaces which are to be painted shall be primed with a minimum of one coat of a good quality drywall primer (or other material manufactured especially for the purpose) to equalize the absorption between the gypsum board face paper, joint compound, and skim coating materials. A good quality primer shall be used as the first coat over gypsum board. The recommendation of the primer manufacturer shall be followed; however, the minimum dry film thickness of the primer shall be not less than 0.025mm.

The number of coats of finishing paint and the total dry film thickness of the finish coat(s) depends upon the paint being used. The paint manufacturer’s recommendations on total dry film thickness shall be followed. NOTE: The total dry film thicknesses recommended by some paint manufacturers may or may not include the primer thickness. It is recommended to have no dilution of primer coat and also to initially apply paint onto board’s first, with the second coat of paint onto joints. Also it is important to ensure the provision of adequate air circulation to properly dry the paint within the time frame specified by the paint manufacturer.

Attention must be given to paint techniques. Rolling paint onto a wall can result in lines which can spoil the overall aesthetics of walls. A matt paint with high hiding power will hide joints far better that a thin paint with a sheen, especially where the whole surface of the wall was not skimmed and only the joints have been plastered.

Typical Light Conditions & Finishing Levels:

Quality finishing of gypsum products or any constructed surface is paramount for protection (longevity), maintenance and of course aesthetic reasons, especially in public areas and/or highly visible areas. This is even more critical in environments that are well lit and ventilated.

Mixing and Coverage:

<table>
<thead>
<tr>
<th></th>
<th>Siniat Skim Stone</th>
<th>Siniat Skim Lite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water/plaster mixing ratio</td>
<td>1 part water + 2 parts plaster</td>
<td>1 part water + 2 parts plaster</td>
</tr>
<tr>
<td>Working Time</td>
<td>60 to 90 minutes</td>
<td>45 to 60 mins</td>
</tr>
<tr>
<td>Setting Time</td>
<td>90 to 120 minutes</td>
<td>90 to 120 mins</td>
</tr>
<tr>
<td>Shelf-life</td>
<td>6 months</td>
<td>6 months</td>
</tr>
<tr>
<td>Packaging</td>
<td>33kg</td>
<td>40kg</td>
</tr>
<tr>
<td>Coverage ratio</td>
<td>1 - 3mm to 18m2, 5 - 6mm to 10m2</td>
<td>1 - 3mm to 22m2, 5 - 6mm to12m2</td>
</tr>
<tr>
<td></td>
<td>12 - 13mm to 3m2 (per 33kg bag)</td>
<td>12 - 13mm to 4m2 (per 40kg bag)</td>
</tr>
</tbody>
</table>
Prior to commencing with finishing works, it is important to determine and understand the correct finishing level (L) as numerically indicated in the table below:

<table>
<thead>
<tr>
<th>Level</th>
<th>Joints</th>
<th>Interior Angles</th>
<th>Accessories</th>
<th>Fasteners</th>
<th>Surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No taping, finishing or accessories required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Tape set in joint compound.</td>
<td>Tape set in joint compound.</td>
<td>Tool marks the ridges acceptable. Surface free of excess joint compound.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Tape embedded in joint compound and wiped with a joint knife, leaving a thin coat of compound over tape.</td>
<td>Tape embedded in joint compound and wiped with a joint knife, leaving a thin coat of compound over tape.</td>
<td>Shall be covered by one additional coat of joint compound.</td>
<td>Surface shall be free of excess joint compound. Tool marks and ridges acceptable. Joint compound applied over the body of the tape at the time of tape embedment shall be considered a separate coat of joint compound shall satisfy the conditions of this level.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Tape embedded in joint compound and one additional coat of jointing compound applied over joints.</td>
<td>Tape embedded in joint compound and one additional coat of jointing compound applied over joints.</td>
<td>Shall be covered by one additional coat of joint compound.</td>
<td>Shall be covered by one additional coat of joint compound.</td>
<td>Joint compound shall be smooth and free of tool marks and ridges. Note: It is recommended that the prepared surface be coated with a drywall primer prior to the application of final finishes. See painting and wall covering specifications.</td>
</tr>
<tr>
<td>4</td>
<td>Tape embedded in joint compound and one additional coat of jointing compound applied over joints.</td>
<td>Tape embedded in joint compound and one additional coat of jointing compound applied over joints.</td>
<td>Shall be covered by two separate coats of joint compound.</td>
<td>Shall be covered by two separate coats of joint compound.</td>
<td>Joint compound shall be smooth and free of tool marks and ridges. Note: It is recommended that the prepared surface be coated with a drywall primer prior to the application of final finishes. See painting and wall covering specifications.</td>
</tr>
<tr>
<td>5</td>
<td>Tape embedded in joint compound and wiped with a joint knife, leaving a coat of compound over tape and taper.</td>
<td>Tape embedded in joint compound and wiped with a joint knife, leaving a coat of compound over tape and taper.</td>
<td>Shall be covered by one separate coat of joint compound.</td>
<td>Shall be covered by one separate coat of joint compound.</td>
<td>A skim coat of plaster compound, or a material manufactured especially for this purpose, shall be applied to the entire surface, the thickness to the manufacturer’s specification. The surface shall be smooth and free of tool marks and ridges. Note: It is recommended that the prepared surface be coated with a drywall primer prior to the application of final finishes. See painting specification.</td>
</tr>
</tbody>
</table>

This level of finish may be useful in temporary construction or whenever the final decoration has not been determined.

Frequently specified in plenum areas above ceilings, in attics, in areas where the assembly would generally be concealed, or in building service corridors and other areas not normally open to public view. Accessories optional at specifier discretion in corridors and other areas with pedestrian traffic. Some degree of sound and smoke control is provided. Where a fire-resistance rating is required for the gypsum board assembly, details of the construction shall be in accordance with reports of fire tests of assemblies that have met the fire-rating requirements.

Specified where water-resistant gypsum backing board is used as a substrate for tile. May also be specified in garages, warehouse storage or other similar areas where surface appearance is not of primary concern.

Typically specified in appearance areas where lighting is favourable and light tone flat or low sheen paints are used before final painting, or where heavy-grade wall coverings are to be applied as the final decoration. Unbacked vinyl wall covering; deep tone paints are not recommended over this level of finish.

This level should be specified where flat paints, light textures of wall covering are to be applied. In critical lighting areas, flat paints applied over light textures tend to reduce joint photographing. Gloss, semi-gloss, deep tone paints and enamel paints can be recommended over this level of finish. The weight, texture and sheen level of wall covering applied over this level of finish should be carefully evaluated. Joints and fasteners must be adequately concealed if the wall covering material is lightweight, contains limited pattern, has a gloss finish or any combination of these features is present.

This level of finish is highly recommended where gloss, semi-gloss, enamel or non-textured flat paints are specified, or where severe lighting conditions occur. The highest quality finish is the most effective method to provide a uniform surface and minimize the possibility of joint photographing and of fasteners showing through the final decoration.
Internal partition system

Siniat Partition Systems are quick to erect with very high levels of fire and acoustic performance. A variety of different specification options achieve acoustic insulation standards up to 65dB and fire resistance up to 150 minutes. The partitions use metal studs with 12mm or 15mm Siniat Plasterboard. Siniat Fire Check Plasterboards are used where 60 minutes or more fire resistance is required.

Components are light and easy to handle, quick and simple to install, and enable minimum wastage. Marley Building Systems partitions are dimensionally accurate and will not bow, warp or shrink. Standard cut-outs in both studs and tracks accommodate mechanical and electrical services without the need for site-formed holes.

Plasterboard Jointing

Typical Plaster Joint Detail - Tape & Joint

Typical Plaster Joint for Flush Plastering

Typical Locating of Studs

Internal Partitioning System

1. Drywall studs to be inserted into floor and ceiling track with a twist motion
2. Allow a 10mm clearance between top of stud and track
3. Erect studs at 400/600mm cts
Typical Partition Layout

Internal Partitioning System

1. Set out as required, allowing openings on bottom track for door frames
2. Fix Siniat track to floor
3. Fix Siniat track to ceiling
4. or Fix head section as required
5. Position studs at 400/600mm c/c

Typical Stud Location at Door Openings

Internal Partitioning System

1. Door openings are constructed as per detail
2. Extra support in the form timber/steel tubing will be required when hanging solid doors
3. Check that the tracks are securely fixed @400/600mm c/c at ends
4. Check that the appropriate studs are secured
5. Check that all studs are properly spaced
6. Check all walls are level and plumb
7. Check all door frames and openings are properly fixed

Typical Partition Corner Details

90 Degree Corner Detail
Typical Floor Track Location on Corners

**Internal Partitioning System**

1. Floor track fixed as per detail
2. To anchor the bottom track, use a 6mm diameter Nylon nail in anchor a minimum of 40mm into a concrete surface bed slab. The anchors should be fixed through the steel foot track adjacent to where the studs are positioned at not more than 600mm c/c

Typical Door Frame Details

**Internal Partitioning System**

1. Steel door frames are fixed by screwing drywall studs to fixing plate welded inside the steel door frame
2. Position the stud to allow for plasterboard location on other side

Typical “T” Junction Details

**Internal Partitioning System**

1. T-junction studs erected as per details allowing clearance between A and B for plasterboard
2. Alternate Option
Siniat Fixed Partition Systems

Standard Specifications for Drywall Systems up to 3600mm

LPS51-0/1
Marley Building System Drywall Internal Partition System
Non-load bearing drywall system
12mm Standard Plasterboard - one layer each side
APPLICATION: Commercial, educational

WALL PROPERTIES
51mm stud
Sound insulation reduction index 36dB
Thickness 76mm
Approximate weight 20kg/m²

Material Used
A: 51mm Drywall steel stud
B: 52mm Drywall steel track
C: 12mm Standard Tapered edge Plaster Board
25mm Drywall Screws
Siniat Drywall jointing system
Floor and ceiling finishes as per specification

APPLICATION DETAIL
1. Set Siniat steel studs spaced at 600mm c/c maximum into steel track at floor and ceiling
2. Apply a single layer of 12mm Siniat Taper edge plasterboard to each side using 25mm drywall screws spaced at 220mm c/c maximum
3. Tape and joint according to specification
4. Refer to standard specification
5. Acoustic performance requires sealing between track, floor, ceiling and any other abutment joints
6. Stagger the plasterboard joints in the system

LPF 58-0/1
Marley Building System Drywall
Non-load bearing drywall system
15mm Technical Fire Check Plasterboard - one layer each side
APPLICATION: Commercial, Residential & educational

WALL PROPERTIES
58mm stud
Sound insulation reduction index 40dB
Thickness 88mm
Approximate weight 23kg/m²

Material Used
A: 58mm Drywall steel stud
B: 59mm Drywall steel track
C: 15mm Fire Check Board
25mm Drywall Screws
Siniat Drywall jointing system
Floor and ceiling finishes as per specification

APPLICATION DETAIL
1. Set Siniat steel studs spaced at 600mm c/c maximum into steel at floor and ceiling
2. Apply a single layer of 15mm Fire Check Taper edge plasterboard to each side using 25mm drywall screws spaced at 220mm c/c maximum
3. Tape and joint according to specification
4. Refer to standard specification
5. Acoustic performance requires sealing between track, floor, ceiling and any other abutment joints
6. Stagger the plasterboard joints in the system
LPS64-30/1
Marley Building Systems Drywall
30min Fire Rated Internal Partition System
Non load bearing drywall system
15mm Standard Plasterboard - one layer each side

APPLICATION: Commercial, residential, educational, healthcare and hotels

WALL PROPERTIES
64mm stud
30Min fire rating
Sound insulation reduction index - 40dB
Thickness - 88mm
Approximate weight - 21kg/m²
R-Value(Thermal) - 0.53K/m².W

Material Used
A: 64mm Drywall steel stud
B: 65mm Drywall steel track
C: 15mm Standard Tapered edge Plaster board
25mm Drywall Screws
Siniat Drywall jointing system

Floor and ceiling finishes as per specification

APPLICATION DETAIL
1. Set Siniat steel studs spaced at 600mm c/c into steel track at floor and ceiling.
2. Apply a single layer of 15mm Siniat Taper edge plasterboard to each side using 25mm drywall screws spaced at 220mm c/c
3. Tape and joint according to specification.
4. Refer to standard specification.
5. Acoustic performance requires sealing between track, floor, ceiling and any other abutment joints.
6. Stagger the plasterboard joints in the system.

LPS64-30/2
Marley Building Systems Drywall Lfs 64 - 30/2(4,2)
30min Fire Rated Internal Partition System
Non load bearing drywall system
12mm Standard Plasterboard - one layer each side

APPLICATION: Commercial, residential, educational, healthcare and hotels

WALL PROPERTIES
64mm stud
30Min fire rating
Sound insulation reduction index - 38dB
Thickness - 94mm
Approximate weight - 21kg/m²
R-Value(Thermal) - 0.53K/m².W

Material Used
A: 64mm Drywall steel stud
B: 65mm Drywall steel track
C: 15mm Standard Tapered edge Plaster board
25mm Drywall Screws
Siniat Drywall jointing system

Floor and ceiling finishes as per specification

APPLICATION DETAIL
1. Set Lafarge steel studs spaced at 400mm c/c into steel track at floor and ceiling.
2. Apply a single layer of 12mm Siniat Taper edge plasterboard to each side using 25mm drywall screws spaced at 220mm c/c
3. Tape and joint according to specification.
4. Refer to standard specification.
5. Acoustic performance requires sealing between track, floor, ceiling and any other abutment joints.
6. Stagger the plasterboard joints in the system.
LPF64-60/1
Marley Building Systems Drywall Lpf 64 - 60/1
60min Fire Rated Internal Partition System
Non load bearing drywall system
15mm Technical Fire Check Plasterboard - one layer each side
APPLICATION: Commercial, residential, educational, healthcare and hotels
WALL PROPERTIES
64mm stud
60Min fire rating
Sound insulation reduction index - 40dB
Thickness - 94mm
Approximate weight - 23kg/m²
R-Value(Thermal) - 0.53K/m².W
Material Used
A: 64mm Drywall steel stud
B: 65mm Drywall steel track
C: 15mm Fire Check Plaster board
25mm Drywall Screws
Siniat Drywall jointing system
Floor and ceiling finishes as per specification
APPLICATION DETAIL
1. Set Siniat steel studs spaced at 600mm c/c into steel track at floor and ceiling.
2. Apply a single layer of 15mm Fire Check Taper edge plasterboard to each side using 25mm drywall screws spaced at 220mm c/c
3. Tape and joint according to specification.
4. Refer to standard specification.
5. Accoustic performance requires sealing between track, floor, ceiling and any other abutment joints.
6. Stagger the plasterboard joints in the system.

LPF64-60/2
Marley Building Systems Drywall
60min Fire Rated Internal Partition System
Non-load bearing drywall system
12mm Standard Plasterboard - double layer each side
WALL PROPERTIES
64mm stud
60Min fire rating
Sound insulation reduction index - 45dB
Thickness - 112mm
Approximate weight - 39kg/m²
Material Used
A: 64mm Drywall steel stud
B: 65mm Drywall steel track
C: 15mm Fire Check Plasterboard
25mm Drywall Screws
Siniat Drywall jointing system
Floor and ceiling finishes as per specification
APPLICATION DETAIL
1. Set Siniat steel studs spaced at 600mm c/c into steel track at floor and ceiling.
2. Apply a single layer of 15mm Fire Check Taper edge plasterboard to each side using 25mm drywall screws spaced at 220mm c/c
3. Tape and joint according to specification.
4. Refer to standard specification.
5. Accoustic performance requires sealing between track, floor, ceiling and any other abutment joints.
6. Stagger the plasterboard joints in the system.
7. Seal all joints with Siniat Jointing Plaster

Siniat Fixed Partition Systems
Siniat Fixed Partition Systems
LPF64-60/3
Marley Building Systems Drywall Lpf 64 - 60/3
60min Fire Rating

INTERNAL PARTITION SYSTEM
Non load bearing drywall system
12.5mm Technical Fire Check Plasterboard- one layer each side, 60kg/m² of U-thermomatt 6

WALL PROPERTIES
64mm stud
60min fire rating
Sound reduction index with U-thermomatt 6 of 60kg/m²
60kg/m² - 49dB
Thickness - 68mm
Approximate weight - 30kg/m²
R-Value(Thermal) - 1.78K/m².W

Material Used
A: 64mm Drywall steel stud
B: 65mm Drywall steel track
C: 12.5mm Fire Check board
25mm Drywall Screws
Siniat Drywall jointing system
Floor and ceiling finishes as per specification
U-thermomatt of 60kg/m²

APPLICATION DETAIL
1. Set Siniat steel studs spaced at 600mm c/c into steel track at floor and ceiling.
2. Apply a single layer of 12.5mm fire check board vertical to one side using 25mm drywall screws spaced at 220mm c/c.
3. Position Insulmatt insulation between studs, fold the top over and secure to top track by positioning and fixing with galvanised angle.
4. Apply a single layer of 12.5mm Fire Check board vertical to the other side using 25mm drywall screws spaced at 220mm c/c.
5. Tape and joint according to specification.
6. Refer to standard specification.
7. Acoustic performance requires sealing between track, floor, ceiling and any other abutment joints.
8. Stagger the plasterboard joints in the system.

LPF102-60/1
Marley Building Systems Drywall
60min Fire Rated Internal Partition System

Non-load bearing drywall system
15mm Technical Fire Check Plasterboard - one layer each side

APPLICATION: Residential

WALL PROPERTIES
102mm stud
60min Fire Rating
Sound insulation reduction index 40dB
Thickness 132mm
Approximate weight 24kg/m²

Material Used
A: 102mm Drywall steel stud
B: 103mm Drywall steel track
C: 15mm Fire Check Tapered edge Plaster Board
25mm Drywall Screws
Siniat Drywall jointing system
Floor and ceiling finishes as per specification

APPLICATION DETAIL
1. Set Siniat steel studs spaced at 600mm c/c maximum into steel track at floor and ceiling.
2. Apply a single layer of 15mm Fire Check Taper edge plasterboard to each side using 25mm drywall screws spaced at 220mm c/c maximum stagger joints.
3. Tape and joint according to specification.
4. Refer to standard specification.
5. Acoustic performance requires sealing between track, floor, ceiling and any other abutment joints.
6. Stagger the plasterboard joints in the system.
7. Seal all joints with Siniat Jointing Plaster.

Siniat Fixed Partition Systems

MARLEY
Building Systems
**LPF64-120/1**

Marley Building Systems Drywall Lpf 64 - 120/1
120min Fire Rated Internal Partition System

Non load bearing drywall system
12.5mm Technical Fire Check Plasterboard- 0.5mm galvanised steel between double layer of Technical Fire Check Plasterboard on each side.

**WALL PROPERTIES**

- 64mm stud
- 120min fire rating
- Sound reduction index - 48dB
- Thickness - 115mm
- Approximate weight - 50kg/m²
- Thermal R-Value - 0.70kg/m².W

**Material Used**

- A: 64mm Drywall steel stud
- B: 65mm Drywall steel track
- C: 12.5mm Taper Edge Technical Fire Check board
- D: 0.5mm galvanised steel sheet
- 25mm and 41mm Drywall Screws
- Siniat Drywall jointing system
- Floor and ceiling finishes as per specification

**APPLICATION DETAIL**

1. Set Siniat steel studs spaced at 600mm c/c into steel at floor and ceiling.
2. Apply a single layer of 12.5mm taper edge fire check plasterboard vertical to one side using 25mm drywall screws spaced at 220mm c/c
3. Apply 0.5mm galvanised steel sheet to each side (min 30mm overlap)
4. Apply a face layer of 12.5mm taper edge fire check plasterboard to both sides.
5. Tape and joint according to specification.
6. Refer to standard specification.
7. Acoustic performance requires sealing between track, floor, ceiling and any other abutment joints.
8. Stagger the plasterboard joints in the system.
9. All joints to be plastered.

This system is also suitable for applications where severe impact resistance is required.

---

**LPF64-60/2**

Marley Building Systems Drywall Lpf 64 - 60/2
60min Fire Rated Internal Partition System

Non load bearing drywall system
12mm Standard Plasterboard- double layer each side

**WALL PROPERTIES**

- 64mm stud
- 60min fire rating
- Sound reduction index - 45dB
- Thickness - 112mm
- Approximate weight - 39kg/m²
- R-Value(Thermal) - 0.76kg/m².W

**Material Used**

- A: 64mm Drywall steel stud
- B: 65mm Drywall steel track
- C: 12mm tapered edge plaster board
- 25mm and 41mm Drywall Screws
- Siniat Drywall jointing system
- Floor and ceiling finishes as per specification

**APPLICATION DETAIL**

1. Set Siniat steel studs spaced at 600mm c/c into steel track at floor and ceiling.
2. Apply a single layer of 12mm standard plasterboard vertical to both sides using 25mm drywall screws spaced at 220mm c/c, staggering joints.
3. Apply a face layer of 12mm standard plasterboard to both sides staggering all joints, using 41mm drywall screws spaced at 220mm c/c
4. Tape and joint according to specification.
5. Refer to standard specification.
6. Acoustic performance requires sealing between track, floor, ceiling and any other abutment joints.
7. Stagger the plasterboard joints in the system.
8. Seal all joints with Siniat Jointing Plaster
<table>
<thead>
<tr>
<th>LFG partition system</th>
<th>Key Features/drawing?</th>
<th>Sound Reduction (dB (Rw))</th>
<th>Thermal Values (Rw)</th>
<th>Fire Resistance (min)</th>
<th>Partition Width (mm)</th>
<th>Approximate Weight (Kg/m²)</th>
<th>Height (m)</th>
<th>Segment/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPS 51 - 0/1</td>
<td>Non load bearing drywall system, 12mm Standard Plasterboard - one layer each side. Steel studs spaced at 600mm c/c maximum. Drywall screws spaced at 220mm c/c maximum.</td>
<td>36 dB</td>
<td>0.47</td>
<td>0</td>
<td>76</td>
<td>20</td>
<td>3.6</td>
<td>Commercial</td>
</tr>
<tr>
<td>LPS 51 - 0/1</td>
<td>Non load bearing drywall system, 12mm Standard Plasterboard - one layer each side. Steel studs spaced at 600mm c/c maximum. Drywall screws spaced at 220mm c/c with 14-18kg/m³ cavity batt</td>
<td>40 dB</td>
<td>0.47</td>
<td>0</td>
<td>76</td>
<td>20</td>
<td>3.6</td>
<td>Commercial</td>
</tr>
<tr>
<td>LPS 58 - 0/1</td>
<td>Non load bearing drywall system, 15mm Technical Fire Check Plasterboard - one layer each side. Steel studs spaced at 600mm c/c maximum. Drywall screws spaced at 220mm c/c maximum.</td>
<td>40 dB</td>
<td>0.50</td>
<td>0</td>
<td>88</td>
<td>23</td>
<td>3.6</td>
<td>Commercial Residential</td>
</tr>
<tr>
<td>LPS 58 - 0/1</td>
<td>Non load bearing drywall system, 15mm Standard Plasterboard - one layer each side. Steel studs spaced at 600mm c/c. Drywall screws spaced at 220mm c/c with 14-18kg/m³ cavity batt</td>
<td>45 dB</td>
<td>0.50</td>
<td>0</td>
<td>88</td>
<td>23</td>
<td>3.6</td>
<td>Commercial</td>
</tr>
<tr>
<td>LPS 64 - 30/1 (4.2)</td>
<td>Non load bearing drywall system, 15mm Standard Plasterboard - one layer each side. Steel studs spaced at 600mm c/c. Drywall screws spaced at 220mm c/c</td>
<td>40 dB</td>
<td>0.53</td>
<td>30</td>
<td>94</td>
<td>21</td>
<td>3.6</td>
<td>Commercial Residential</td>
</tr>
<tr>
<td>LPS 64 - 30/1</td>
<td>Non load bearing drywall system, 15mm Standard Plasterboard - one layer each side. Steel studs spaced at 600mm c/c. Drywall screws spaced at 220mm c/c with 14-18kg/m³ cavity batt</td>
<td>46 dB</td>
<td>0.53</td>
<td>30</td>
<td>94</td>
<td>21</td>
<td>3.6</td>
<td>Commercial Residential</td>
</tr>
<tr>
<td>LPS 64 - 302 (4.2)</td>
<td>Non load bearing drywall system, 12mm Standard Plasterboard - one layer each side. Steel studs spaced at 400mm c/c. Drywall screws spaced at 220mm c/c</td>
<td>38 dB</td>
<td>0.53</td>
<td>30</td>
<td>88</td>
<td>21</td>
<td>4.2</td>
<td>Commercial Residential</td>
</tr>
<tr>
<td>LFG partition system</td>
<td>Key Features/ drawing?</td>
<td>Sound Reduction (dB (Rw))</td>
<td>Thermal Values (Rw)/m².W</td>
<td>Fire Resistance (min)</td>
<td>Partition Width (mm)</td>
<td>Approximate Weight (Kg/m²)</td>
<td>Height (m)</td>
<td>Segment/s</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------------</td>
<td>---------------------------</td>
<td>--------------------------</td>
<td>----------------------</td>
<td>---------------------</td>
<td>-------------------------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>LFS 64-30/2 (4.2)</td>
<td>Non load bearing drywall system, 12mm Standard Plasterboard- one layer each side. Steel studs spaced at 400mm c/c, drywall screws spaced at 220mm c/c with 14-18kg/m³ cavity batt</td>
<td>41 dB</td>
<td>0.53</td>
<td>30</td>
<td>88</td>
<td>21</td>
<td>4.2</td>
<td>Commercial Residential</td>
</tr>
<tr>
<td>LFS 64-30/3</td>
<td>Non load bearing drywall system, 12mm Standard Plasterboard- one layer each side. Steel studs spaced at 600mm c/c, drywall screws spaced at 220mm c/c</td>
<td>38 dB</td>
<td>0.53</td>
<td>30</td>
<td>88</td>
<td>21</td>
<td>3.6</td>
<td>Commercial Residential</td>
</tr>
<tr>
<td>LFS 64-30/3</td>
<td>Non load bearing drywall system, 12mm Standard Plasterboard- one layer each side. Steel studs spaced at 600mm c/c, drywall screws spaced at 220mm c/c with 14-18kg/m³ cavity batt</td>
<td>41 dB</td>
<td>0.53</td>
<td>30</td>
<td>88</td>
<td>21</td>
<td>3.6</td>
<td>Commercial Residential</td>
</tr>
<tr>
<td>LPF 64-60/1</td>
<td>Non load bearing drywall system, 15mm Technical Fire Check Plasterboard- one layer each side. Steel studs spaced at 600mm c/c, drywall screws spaced at 220mm c/c</td>
<td>40 dB</td>
<td>0.53</td>
<td>60</td>
<td>94</td>
<td>23</td>
<td>3.6</td>
<td>Commercial Residential</td>
</tr>
<tr>
<td>LPF 64-60/1</td>
<td>Non load bearing drywall system, 15mm Technical Fire Check Plasterboard- one layer each side. Steel studs spaced at 600mm c/c, drywall screws spaced at 220mm c/c with 14-18kg/m³ cavity batt</td>
<td>48 dB</td>
<td>0.53</td>
<td>60</td>
<td>94</td>
<td>23</td>
<td>3.6</td>
<td>Commercial Residential</td>
</tr>
<tr>
<td>LFS 64-60/2</td>
<td>Non load bearing drywall system, 12mm Standard Plasterboard- double layer each side. Staggered joints. Steel studs spaced at 600mm c/c, drywall screws spaced at 220mm c/c</td>
<td>45 dB</td>
<td>0.76</td>
<td>60</td>
<td>112</td>
<td>39</td>
<td>3.6</td>
<td>Commercial Residential</td>
</tr>
<tr>
<td>LFS 64-60/2</td>
<td>Non load bearing drywall system, 12mm Standard Plasterboard- double layer each side. Staggered joints. Steel studs spaced at 600mm c/c, drywall screws spaced at 220mm c/c with 14-18kg/m³ cavity batt</td>
<td>52 dB</td>
<td>0.76</td>
<td>60</td>
<td>112</td>
<td>39</td>
<td>3.6</td>
<td>Commercial Residential</td>
</tr>
<tr>
<td>LFG partition system</td>
<td>Key Features/drawing?</td>
<td>Sound Reduction (dB (Rw))</td>
<td>Thermal Values (Rw) in k/m².W</td>
<td>Fire Resistance (min)</td>
<td>Partition Width (mm)</td>
<td>Approximate Weight (Kg/m²)</td>
<td>Height (m)</td>
<td>Segment/s</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------</td>
<td>---------------------------</td>
<td>-----------------------------</td>
<td>----------------------</td>
<td>---------------------</td>
<td>--------------------------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>LPF 64-60/3</td>
<td>Non load bearing drywall system, 12,5mm Technical Fire Check Plasterboard - one layer each side. Steel studs spaced at 600mm c/c. drywall screws spaced at 230mm c/c with 60kg/m³ Uthermomatt 6</td>
<td>44 dB</td>
<td>1.78</td>
<td>60</td>
<td>88</td>
<td>20</td>
<td>3.6</td>
<td>Commercial Residential</td>
</tr>
<tr>
<td>LPF 64-120/1</td>
<td>Non load bearing drywall system, 12,5mm Technical Fire Check Plasterboard - double layer each side 0,5mm galvanized steel sheet between plasterboard. Steel studs spaced at 600mm c/c. drywall screws spaced at 220mm c/c</td>
<td>48 dB</td>
<td>0.70</td>
<td>120</td>
<td>115</td>
<td>50</td>
<td>3.6</td>
<td>Commercial</td>
</tr>
<tr>
<td>LPF 64-120/2</td>
<td>Non load bearing drywall system, 12,5mm Technical Fire Check Plasterboard - double layer each side 0,5mm galvanized steel sheet between plasterboard. Steel studs spaced at 400mm c/c. drywall screws spaced at 220mm c/c</td>
<td>53 dB</td>
<td>0.70</td>
<td>120</td>
<td>115</td>
<td>50</td>
<td>3.6</td>
<td>Commercial</td>
</tr>
<tr>
<td>LPF 64-120/2 (4.2)</td>
<td>Non load bearing drywall system, 12,5mm Technical Fire Check Plasterboard - double layer each side 0,5mm galvanized steel sheet between plasterboard. Steel studs spaced at 400mm c/c. drywall screws spaced at 220mm c/c with 14-18kg/m² cavity batt</td>
<td>40 dB</td>
<td>0.70</td>
<td>120</td>
<td>115</td>
<td>50</td>
<td>4.2</td>
<td>Commercial</td>
</tr>
<tr>
<td>LPF 64-120/3</td>
<td>Non load bearing drywall system, 12,5mm Technical Fire Check Plasterboard - double layer each side. Steel studs spaced at 600mm c/c. drywall screws spaced at 230mm c/c with 14-18kg/m² cavity batt</td>
<td>53 dB</td>
<td>0.70</td>
<td>120</td>
<td>115</td>
<td>50</td>
<td>3.6</td>
<td>Commercial</td>
</tr>
<tr>
<td>LPF 64-120/3</td>
<td>Non load bearing drywall system, 15mm Technical Fire Check Plasterboard - double layer each side. Steel studs spaced at 600mm c/c. drywall screws spaced at 220mm c/c</td>
<td>55 dB</td>
<td>0.76</td>
<td>120</td>
<td>124</td>
<td>54</td>
<td>3.6</td>
<td>Commercial</td>
</tr>
<tr>
<td>LPF 64-120/3</td>
<td>Non load bearing drywall system, 15mm Technical Fire Check Plasterboard - double layer each side. Steel studs spaced at 600mm c/c. drywall screws spaced at 220mm c/c with 14-18kg/m² cavity batt</td>
<td>58 dB</td>
<td>0.76</td>
<td>120</td>
<td>124</td>
<td>54</td>
<td>3.6</td>
<td>Commercial</td>
</tr>
</tbody>
</table>
# Siniat Fixed Partition Systems

<table>
<thead>
<tr>
<th>Key Features/ drawing?</th>
<th>Fire Resistance (min)</th>
<th>Partition Width (mm)</th>
<th>Approximate Weight (Kg/m²)</th>
<th>Height (m)</th>
<th>Sound Reduction (dB (Rw))</th>
<th>Thermal Values (Rw in k/m²/W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPF 102/60 1</td>
<td>60</td>
<td>132</td>
<td>24</td>
<td>40 dB</td>
<td>0.72</td>
<td>0.72</td>
</tr>
<tr>
<td>LPF 102-60/1</td>
<td>60</td>
<td>132</td>
<td>24</td>
<td>40 dB</td>
<td>0.72</td>
<td>0.72</td>
</tr>
<tr>
<td>LPF 102-120/1</td>
<td>120</td>
<td>162</td>
<td>46.5</td>
<td>50 dB</td>
<td>0.72</td>
<td>0.72</td>
</tr>
</tbody>
</table>

- **LPF 102/60** Non-load bearing drywall system, 15mm Technical Fire Check Plasterboard - one layer each side. Steel studs spaced at 600mm c/c. Drywall screws spaced at 220mm c/c.
- **LPF 102-60/1** Non-load bearing drywall system, 15mm Technical Fire Check Plasterboard - double layer each side. Steel studs spaced at 600mm c/c. Drywall screws spaced at 220mm c/c.
- **LPF 102-120/1** Non-load bearing drywall system, 15mm Technical Fire Check Plasterboard - double layer each side. Steel studs spaced at 600mm c/c. Drywall screws spaced at 220mm c/c with 14-18kg/m³ cavity batt.

- **Sound Reduction**
  - 40 dB
  - 50 dB
- **Fire Resistance**
  - 60 min
  - 120 min
- **Partition Width**
  - 132 mm
  - 162 mm
- **Approximate Weight**
  - 24 Kg/m²
  - 46.5 Kg/m²
- **Height**
  - 40 dB
  - 50 dB
- **Thermal Values**
  - 0.72 k/m²/W

**Siniat Fixed Partition Systems**
## Siniat Fixed Partition Systems

**Plasterboard Partition from 3600mm to 8000mm in height**

<table>
<thead>
<tr>
<th>Maximum Partition Heights</th>
<th>30 Minutes</th>
<th>60 Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4500mm</td>
<td>![4500mm Diagram]</td>
<td>![4500mm Diagram]</td>
</tr>
<tr>
<td>5500mm</td>
<td>![5500mm Diagram]</td>
<td>![5500mm Diagram]</td>
</tr>
<tr>
<td>6000mm</td>
<td>![6000mm Diagram]</td>
<td>![6000mm Diagram]</td>
</tr>
<tr>
<td>6500mm</td>
<td>![6500mm Diagram]</td>
<td>![6500mm Diagram]</td>
</tr>
<tr>
<td>8000mm</td>
<td>![8000mm Diagram]</td>
<td>![8000mm Diagram]</td>
</tr>
</tbody>
</table>

- Siniat 15mm Fire Check Plasterboard - All Joints to be staggered
- 4.5mm coat plaster or glazed tiles.
- All drywall screws spaced at maximum 220mm centres
- All metal studs to be 63.5mm
- For internal application with max. deflection 1/150
- Maximum stud spacing 400mm throughout
- All joints to be taped with Fiba Tape and plastered with Siniat Jointing Compound
**Siniat Fixed Partition Systems**

Plasterboard Partition from 3600mm to 8000mm in height

<table>
<thead>
<tr>
<th>MAXIMUM PARTITION HEIGHTS</th>
<th>90 Minutes</th>
<th>120 Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4500mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5500mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6000mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6500mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8000mm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Siniat 15mm Fire Check Plasterboard - All Joints to be staggered
- 4.5mm coat plaster or glazed tiles.
- All drywall screws spaced at maximum 220mm centres
- All metal studs to be 63.5mm
- For internal application with max. deflection 1/150
- Maximum stud spacing 400mm throughout
- All joints to be taped with Fiba Tape and plastered with Siniat Jointing Compound
### MAXIMUM PARTITION HEIGHTS

<table>
<thead>
<tr>
<th>Height (mm)</th>
<th>30 Minutes</th>
<th>60 Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>8100mm</td>
<td><img src="image1.png" alt="Diagram" /></td>
<td><img src="image2.png" alt="Diagram" /></td>
</tr>
<tr>
<td>9000mm</td>
<td><img src="image3.png" alt="Diagram" /></td>
<td><img src="image4.png" alt="Diagram" /></td>
</tr>
<tr>
<td>9500mm</td>
<td><img src="image5.png" alt="Diagram" /></td>
<td><img src="image6.png" alt="Diagram" /></td>
</tr>
<tr>
<td>10700mm</td>
<td><img src="image7.png" alt="Diagram" /></td>
<td><img src="image8.png" alt="Diagram" /></td>
</tr>
<tr>
<td>12500mm</td>
<td><img src="image9.png" alt="Diagram" /></td>
<td><img src="image10.png" alt="Diagram" /></td>
</tr>
</tbody>
</table>

- Siniat 15mm Fire Check Plasterboard - All Joints to be staggered
- 4.5mm coat plaster or glazed tiles.
- All drywall screws spaced at maximum 220mm centres
- All metal studs to be 63.5mm
- For internal application with max, deflection 1/150
- Maximum stud spacing 400mm throughout
- All joints to be taped with Fiba Tape and plastered with Siniat Jointing Compound
### Maximum Partition Heights

<table>
<thead>
<tr>
<th>Height (mm)</th>
<th>90 Minutes</th>
<th>120 Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>8100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9000</td>
<td><img src="image1.png" alt="Diagram" /></td>
<td><img src="image2.png" alt="Diagram" /></td>
</tr>
<tr>
<td>9500</td>
<td><img src="image3.png" alt="Diagram" /></td>
<td><img src="image4.png" alt="Diagram" /></td>
</tr>
<tr>
<td>10700</td>
<td><img src="image5.png" alt="Diagram" /></td>
<td><img src="image6.png" alt="Diagram" /></td>
</tr>
<tr>
<td>12500</td>
<td><img src="image7.png" alt="Diagram" /></td>
<td><img src="image8.png" alt="Diagram" /></td>
</tr>
</tbody>
</table>

- Siniat 15mm Fire Check Plasterboard - All Joints to be staggered
- 4.5mm coat plaster or glazed tiles.
- All drywall screws spaced at maximum 220mm centres
- All metal studs to be 63.5mm
- For internal application with max. deflection 1/150
- Maximum stud spacing 400mm throughout
- All joints to be taped with Fiba Tape and plastered with Siniat Jointing Compound
Siniat 89mm Partition System
3D Door Detail

3D View

Detail A

Detail B

Detail C

12mm LaFarge Plasterboard

LaFarge Track

LaFarge Stud

Plan View

12mm LaFarge Plasterboard

LaFarge Track

LaFarge Stud
Protection of Lift and Vent Shafts

Protection of Vent Shafts - 2hr fire resistance

Protection of Lift Shafts - 2hr fire resistance
Curved Walls

Siniat 6.4mm Standard Plasterboard is recommended for the construction of curved partition walls. The minimum radius recommended is 1000mm. Notches in the bottom and top track will depend on the curvature required, but will usually vary between 120mm to 300mm. The web width needs to be completely cut.

The tracks are then folded to form the desired curvature. The bottom track need to be secured to the concrete floor at intervals not exceeding 300mm, using Nylon Anchor Nails 6mm x 50mm or larger.

Stud spacing will vary depending on the curvature from 120mm to 400mm, but it should not exceed 400mm. Siniat 6.4mm Standard Plasterboards must be installed in a horizontal direction and secured to each stud with Siniat dry wall screws not more than 220mm apart. The second layer of Siniat 6.4mm Standard Plasterboard must be staggered by at least 600mm so that the joints of the first and second layer of Plasterboards are not in line with each other.

All joints in the second layer of boards need to be taped with Fiba Tape and finished with Siniat Jointing Plaster. It is recommended that the complete surface be skimmed with Siniat Skim-Lite to obtain a smooth curvature.
Siniat Door Frame Kit

1. ID Width 820mm ±1.0mm
2. Leg styles final length to be cut on site to suit floor level
3. Dimensions tolerances 0.50mm
4. Material thickness 1.20mm
5. All section lengths have a tolerance of ±1.0mm
**Siniat Fixed Partition Aluminium Trim Accessories**

**76mm Siniat Fixed Partition System (12/12.5mm Plasterboard)**

The lightweight non-demountable partition system consists of Male and Female Aluminium extrusions.

- Female sections support and position the Sinait Plasterboard, as in conventional drywalling.
- Male sections are clip fixed to the Female sections to form Glazing Mullions and Transoms, Doorframe to Glazing details, and to facilitate full height Glazing and full height doors. Bubble Seal Gasket (which is used for both Doorframe and Glazing sections) is to be inserted before constructing the frames.

---

**Female Aluminium Sections**

- 84,10 mm for 76mm Partition
  - Die 6059
  - 4 Leg Door Frame (12mm Board)
  - Die 6056
  - 2 Leg Clip on Termination

**Male Aluminium Sections**

- 84,10 mm for 76mm Partition
  - Die 6060
  - 4 Leg Head/Wall Channel (12mm Board)
  - Die 6507
  - Traditional Door Frame (12mm Board)
  - Die 6668
  - 4 Leg Glazing (12mm Board)
  - Die 6680
  - 4 Leg Double Glazing (12mm Board)

---

**Siniat Fixed Partition Systems**

---
Siniat Fixed Partition Aluminium Trim Accessories continued

89mm Siniat Fixed Partition System (12/12.5mm Plaster Board)

Female Aluminium Sections

Male Aluminium Sections

Female Aluminium Sections

Male Aluminium Sections

Female Aluminium Sections

Male Aluminium Sections

Female Aluminium Sections

Male Aluminium Sections

Female Aluminium Sections

Male Aluminium Sections
Female Aluminium Sections

- Die 6679
  - 4 Leg Glazing
  - (12mm Board)

- Die 6164
  - 2 Leg Clip on Door Frame

Male Aluminium Sections

- Die 6676
  - 4 Leg Double Glazing
  - (12mm Board)

- Die 6678
  - 2 Leg Clip on Glazing

Die 6674
- Aluminium Glazing

Die 6304

Die 6207
- Recessed Base
- (12mm board)

Die 6638
- 12mm Plasterboard Trim
Siniat Fixed Partition Aluminium Trim Accessories continued

89mm Siniat Fixed Partition System (15mm Plaster Board)

**Female Aluminium Sections**

- 97.10 mm for 89mm Partition
- Die 6632: 4 Leg Head/Wall Channel (15mm Board)
- Die 6633: 4 Leg Door Frame (15mm Board)

**Male Aluminium Sections**

- 97.10 mm for 89mm Partition
- Die 6677: 4 Leg Glazing (15mm Board)
- Die 6637: 15mm Plasterboard Trim

Siniat Fixed Partition Aluminium Trim Accessories continued

**Aluminium Skirting: 75mm Ribbed Skirting**

- 75.00
- Die 6144

**Aluminium Skirting: 75mm Flat Skirting**

- 75.00
- Die 1823

**Aluminium Skirting: 100mm Flat Skirting**

- 100.00
- Die 1830
Technical Specification:

- Siniat Fixed Partition: 76mm
  Supply and install Siniat Fixed Partition from Siniat drywall partitioning system with an all over thickness of 76mm comprising internal framing formed of 51mm Siniat galvanized steel studs fixed at 600mm centers to Siniat galvanized steel track / aluminium female head section and Siniat galvanized steel floor track, where necessary, any additional galvanized steel studding to form door openings, glazing and other apertures, angles and corners and terminated ends. The internal steel framing is to be dressed on both sides with 12mm thick Siniat Plasterboard in single lengths to suit height, butt jointed and secured to steel studding with 25mm drywall screws at maximum 220mm centers. Joints are to be taped and jointed with Siniat Jointing Compound and prepared for painting or wallpapering. All external aluminium door frames, glazing frames, ceiling and wall channels and skirting are to be formed of natural anodized / colour anodized / powder coated to specific colour.

  Maximum height: 3600mm
  Installation to be in accordance with SABISA (South African Building Interior Systems Association) installation guidelines

- Siniat Fixed Partition: 89mm
  Supply and install Siniat Fixed Partition from Siniat drywall partitioning system with an all over thickness of 89mm comprising internal framing formed of 64mm Siniat galvanized steel studs fixed at 600mm centers to Siniat galvanized steel track / aluminium female head section and Siniat galvanized steel floor track, where necessary, any additional galvanized steel studding to form door openings, glazing and other apertures, angles and corners and terminated ends. The internal steel framing is to be dressed on both sides with 12mm/15mm thick Siniat Plasterboard in single lengths to suit height, butt jointed and secured to steel studding with 25mm drywall screws at maximum 220mm centers. Joints are to be taped and jointed with Siniat Jointing Compound and prepared for painting or wallpapering. All external aluminium door frames, glazing frames, ceiling and wall channels and skirting are to be formed of natural anodized / colour anodized / powder coated to specific colour.

  Maximum height: 3600mm
  Installation to be in accordance with SABISA (South African Building Interior Systems Association) installation guidelines
Siniat Fixed Partition Systems

- Siniat Fixed Partition: 112mm (1 Hour Fire Rating)
  Supply and install Siniat Fixed Partition from Siniat drywall partitioning system with an all over thickness of 112mm comprising internal framing formed of 64mm Siniat galvanized steel studs fixed at 600mm centers to Siniat galvanized steel track positioned at floor, head and walls. The internal steel framing is to be dressed on both sides with two layers of 12mm thick Siniat Plasterboard in single lengths to suit height, butt jointed and secured to steel studding with 25mm drywall screws at maximum 220mm centers (first layer) and 41mm drywall screws (second layer). Joints are to be taped and jointed, including first layer of Siniat Plasterboard, with Siniat Jointing Compound and prepared for painting.

  Maximum height: 3600mm
  Installation to be in accordance with SABISA (South African Building Interior Systems Association) installation guidelines

- Siniat Fixed Partition: 89mm (1 Hour Fire Rating)
  Supply and install Siniat Fixed Partition from Siniat Gypsum drywall partitioning system with an all over thickness of 89mm comprising internal framing formed of 64mm Siniat galvanized steel studs fixed at 600mm centers to Siniat galvanized steel track positioned at floor, head and walls. The internal steel framing is to be dressed on both sides with 12,5mm thick Siniat Fire Check Plasterboard in single lengths to suit height, butt jointed and secured to steel studding with 25mm drywall screws at maximum 220mm centers. Cavity to be filled with U Thermo Matt 6 insulation. Joints are to be taped and jointed with Siniat Jointing Compound and prepared for painting.

  Maximum height: 3600mm
  Installation to be in accordance with SABISA (South African Building Interior Systems Association) installation guidelines
- **Siniat Fixed Partition: 112mm (2 Hour Fire Resistance)**
  Supply and install Siniat Fixed Partition from Siniat drywall partitioning system with an all over thickness of 112mm comprising internal framing formed of 64mm Siniat galvanized steel studs fixed at 600mm centers to Siniat galvanized steel track positioned at floor, head and walls. The internal steel framing is to be dressed on both sides with two layers of 12.5mm thick Siniat Fire Check Plasterboard, stagger fixed, in single lengths to suit height, butt jointed and secured to steel studding with 25mm drywall screws at maximum 220mm centers (first layer) and 41mm drywall screws (second layer). Between the first and second layer of board each side, apply a sheet of 0.5mm galvanized steel. Joints are to be taped and jointed with Siniat Jointing Compound and prepared for painting.

  Maximum height: 3600mm
  Installation to be in accordance with SABISA (South African Building Interior Systems Association) installation guidelines

- **Siniat Fixed Partition: 126mm (Residential)**
  Supply and install Siniat Fixed Partition from Siniat drywall partitioning system with an all over thickness of 126mm comprising internal framing formed of 102mm Siniat galvanized steel studs fixed at 600mm centers to Siniat galvanized steel track, any additional galvanized steel studding to form door openings, glazing and other apertures, angles and corners and terminated ends. The internal steel framing is to be dressed on both sides with 12mm thick tapered edge Siniat Plasterboard in single lengths to suit height, butt jointed and secured to steel studding with 25mm drywall screws at maximum 220mm centers. Joints and wall abutments are to be taped and jointed with Siniat Jointing Compound and prepared for painting or wallpapering. All door frames, glazing frames and glazing frames to consist of either steel or timber frames installed to manufacturer’s specifications. Wall and ceiling junction to be dressed with specified cornice detail.

  Maximum height: 3600mm
  Installation to be in accordance with SABISA (South African Building Interior Systems Association) installation guidelines
- Residential Wall Unit (Entertainment Centre)
  Supply and install Siniat Plasterboard entertainment wall unit comprising of Siniat 51mm / 64mm stud and track, 25 x 25mm x 0.6mm Siniat galvanized steel angle, galvanized corner bead, flexible plastic corner bead, clad with 12mm Siniat Plasterboard secured with 25mm drywall screws at 220mm centers to specific design as detailed.

  Edges to be trimmed with corner bead, fixed into position and jointed with Siniat Jointing Plaster, alternatively the complete unit to be flush plastered in 2mm thick Siniat Finishing Compound.

  Maximum spacing of support structure 300mm, additional bracing and support to be fixed into position to cater for additional loading, dependent on individual design and location of entertainment equipment. Design can be modular or circular to cater for design criteria.

Typical residential wall divisions

Siniat Fixed Partition 132mm (residential) Internal room division wall
102mm Stud System, 15mm Fire check plaster board, Single layer either side
132mm Over all (60 minute fire rating)
100mm Insulation 14Kg/m3

Siniat fibre tape and jointing compound to boards tapered edge

Maximum Height 3600m
General:

Identify all components as well as prefabricated components
Plan, calculate and mark the layout of the partition
Plan the required material quantities

Siniat steel framing:
Fix the track to the floor, cut as required, remembering to leave space for door openings.
Plumb upwards to correctly position and install the ceiling track or head / wall channel

Alternately fix head channel to the ceiling and plumb downwards
Insert additional studs for corners and abutments.
Load bearing studs and suitable timber insert should be used to achieve the strength requirements of the framing assembly and adequately support the weight of the door.

Insulation:
Fit securely with closed joints, leaving no gaps. Unless the insulation is self-supporting, fix the insulation at head of frame using 25mm x 25mm galvanized angle.

Services:
All services are to be completed

Install Siniat Plasterboard:
Establish a starting point
When installing the first plasterboard, ensure that the first joint will be plumb (as the wall may not be plumb).
Line up the studs as you proceed from here, remember the studs are spaced at 600mm centers.
Use small sections of plasterboard during installation to keep plasterboards off the ground to prevent moisture from creeping up the plasterboards.
Fix plasterboards to steel frame work using 25mm drywall screws spaced at 220mm centers. Fixings on plasterboard joints to be staggered.

Vertical Joints:
Lightly butt boards together
Center joints on studs. Ensure that the joints on opposite sides of studs are staggered. For double-layer boarding, stagger the joints between layers.

Horizontal Joints:
Lightly butt boards together
Horizontal joints will not be permitted in walls less than or equal to 3600mm, only walls over 3600mm (exceeding the maximum available length of board). Agree positions of joints where not specified, provide horizontal framing to support the horizontal edges of boards. Ensure the horizontal joints on opposite sides of studs are staggered. For double board lining, stagger joints between layers by at least 600mm. Provide horizontal framing to support the horizontal edges of the first layer of the plasterboard.
Acoustics:
Refer to Marley Building Systems specifications.
Sound seal location, at junctions between drywall frame and adjoining structure. Sound seal is to be provided as a continuous band to clean, dry, dust-free surfaces, leaving no gaps.
Seal any gaps and service penetrations.

Fire stopping:
Seal any gaps and service penetrations with an intumescent sealant or compacted mineral wool to prevent penetration of flame.

Fixing Plasterboard to Siniat metal studs:
Single layer, fix securely to all supports at 220mm centers using 25mm drywall screws
Double layer (outer layer), fix securely to all supports at 220mm centers using 41mm drywall screws
Stagger the drywall screws along plasterboard butt joints
Position the drywall screws not less than 13mm from cut edges and 10mm from bound edges of plasterboard

Deflection Heads:
To be specified by the project structural engineer

Specification:
Installation to conform to detail as specified by Marley Building Systems and AAAMSA, SABISA General Specification for Drywall Partitions and Lightweight internal walls.

Finishing:
• Joints
  Material: Siniat Jointing Plaster and Fibatape
  Lightly sand cut edges of plasterboards to remove paper burrs. Cover all joints, gaps and internal angles with Siniat Fibatape and dress with Jointing Plaster. For application of Jointing Plaster, please refer to manufacturer’s specifications.

• Full Skim
  Material: Siniat Finishing Compound and Fibatape
  Lightly sand cut edges of plasterboards to remove paper burrs. Cover all joints, gaps with Siniat Fibatape and dress joints with Jointing Plaster. Apply skim coat to surface area as required. For application of Finishing Compound, please refer to manufacturer’s specifications.

• Corners
  Material: Siniat metal corner bead
  Apply corner bead to corners by fixing with drywall screws.
  Apply Jointing Compound to external face. For application methods of Jointing Plaster, please refer to manufacturer’s specifications.
Painting Plaster Finishes:

- Sand joints smooth using 80grit sand paper
- Should light sand papering be required on plastered ceilings, this can be done
- Use only PVA water-based paint
- Consult paint manufacturer for recommendations

Drawing reference:

Wet Area Specification:

Drywall:

Performance Criteria: As per drywall system

Framework:

- Studs: 102mm, 64mm x 35mm Siniat Studs at 400mm centers
- Floor Track: 102mm, 64mm x 22.5mm Siniat Track fixed with two rows of staggered fixings at 400mm centers.
- Head Track: 102mm, 64mm xx 22.5mm Siniat Track fixed with two rows of staggered fixings at 400mm centers
- Fixing details as per specification

Note: Additional timber supports positioned and fixed within studs, as noggins for support of fittings & fixture

Adequate support to be provided for Head Track

Deflection allowance: To be determined by structural engineer

Lining:

- As per drywall specification. One layer of 12.5mm Moisture Check Plasterboard as face layer.
- Plasterboard backing layer as required & specified
- Fix plasterboard with 25mm drywall screws at 220mm centers
- Finishing: Apply Fibatape to all joints, skim joints with Siniat Jointing Plaster and if required, full skim with Siniat Finishing Compound.

Insulation:

- Cavity insulation: 1200mm x 600mm x 100mm/50mm Cavity Batt
• **Tiling to Plasterboard:**
  Metal Stud Partition – Ceramic Tiles

  **Performance Criteria:** Maximum allowable load: 20kg/m²

  **Framework:**
  Studs: “102mm/64mm x 35mm Siniat Studs” at 400mm centers
  Floor Track: 102mm/64mm x 22.5mm Siniat Track
  Head Track: 102mm/64mm x 22.5mm Siniat Track (unless determined otherwise by deflection)
  Head Condition: Fixed to underside of structural soffit.
  Deflection Allowance: To be determined by structural engineer.

  **Lining:**
  1 Layer 12.5mm Siniat Moisture Check Plasterboard sealed using sealer. Screws first lining layer with 25mm drywall screws at 220mm centers. Cavity Insulation: 1200mm x 600mm x 100mm/50mm Cavity Batt
  Finishing: Apply Fibatape to all joints, skim joints with Siniat Jointing Plaster and if required full skim with Siniat Finishing Compound.

  **Finishing Requirements:** Tiled surface
  Siniat Corner Bead to all external corners finished with Siniat Jointing Compound
  Fibtape to all internal corners finished with Jointing Compounds.
  Surface Preparation:
  Mix 20kg Tylon “Plaskey CI250” with 10 litres of Tylon “Key-it CT 117”.
  Apply the mixture to drywall with a block brush – thickness 2mm.
  Allow to dry for 24 hours before commencing tiling.

  **Ceramic Tiles:**
  Always fix tiles to primed drywall. Use Tylon “Wall n Floor CM11” tile adhesive. Apply substrate to a minimum base thickness of 3mm. Allow the adhesive to dry for 24 hours before grouting.
  Should large, heavy or floor tiles be used, then the floor trowel must be used to spread the adhesive to a 6mm bedded thickness.

  **Grouting:**
  Grout with Tylon Tie Grout “CE33” cement-based grout.
  For more water resistance the grout must be mixed with Tylon Bond-It (replace the water normally used in the mix).
  Along the wall edges and corners apply silicon instead of grout.
• **Tiling to Plasterboard:**
  Metal Stud Partition – Painted Surface

**Framework:**
- Studs: “102mm, 64mm x 35mm Siniat Studs” at 400mm centers
- Floor Track: 102mm, 64mm x 22.5mm Siniat Track
- Head Track: 102mm, 64mm x 22.5mm Siniat Track (unless determined otherwise by deflection)
- Head Condition: Fixed to underside of structural soffit
- Deflection Allowance: To be determined by structural engineer

**Lining:**
- 1 Layer 12.5mm Siniat Moisture Check Plasterboard sealed using sealer
- Screws first lining layer with 25mm drywall screws at 220mm centers
- Cavity Insulation: 1200mm x 600mm x 100mm, 50mm Cavity Batt

**Finishing:**
- Apply Fibatape to all joints, skim joints with Siniat Jointing Plaster and if required, full skim with Siniat Finishing Compound.

**Finishing Requirements:** Painted surface
- Seal surface of plasterboard with Tylon Bond-it. Allow 24 hours to dry.
- Plaster the complete surface with Siniat Finishing Compound. Allow 24 hours to dry.
- Seal plastered surface with Tylon Bond-it. Allow 24 hours to dry.
- Paint surface with manufacturer’s recommended paint for wet areas.

Along the wall edges and corners apply silicon instead of grout.

In both applications, keep the plasterboard 10mm off the floor and before decoration seal this gap with suitable silicone or Polysulphide sealant.
Before decoration, seal all vertical and horizontal joints with suitable silicone or Polysulphide sealant.
Construction Details for Wet Areas

Tile adhesive (compatible with waterproof compound) and ceramic tiles.

Flexible Wet area sealant

Notch stud 20mm max and insert top bath return

Stiffening support for Stud

Fix 50mm from sheet bottom do not fix through track concrete or compressed fibre cement floor

Mortar bed

WALL DETAIL FOR BATH RECESS

SIDE ELEVATION OF THE TOILET

MARKLEY Building Systems
Fixtures and Fittings:

There is a wide variety of components suitable for securing fixtures and fittings to drywalling. Generally, the choice of individual fixing components will depend on the type of systems and the loading requirements.

This section gives recommendations on the selection of generic fixings.

Consider the layout of fixtures and fittings at the design stage to allow necessary supports to be provided.

The guidance given is primarily concerned with fixtures at the time of installation.

Subsequent installation is less easy, especially for heavier fixtures which will often require identification of the basic frame in hollow partitions.

Fixing (other than to secure lightweight components) should be made into studs, fixing channel, or timber noggins.

Medium to heavyweight components are required to be supported between studs.

Methods of fixing to Siniat Partition Systems:

1. Pictures, Calendars, etc:
   Use either a ‘stick-on’ type of picture hanger or the nail and hook type as per detail. Ensure that the nail is driven downwards into the Siniat Plasterboard at an angle of approximately 20°.

2. Mirrors, Ornaments, etc:
   Use a butterfly bolt type of fastener which is fitted onto the Siniat Plasterboard in any position.

3. Medium Objects (shelves):
   Fix through the plasterboard into the drywall stud with self-tapping screws, or into a cross-member between studs which should be provided during erection of the framing, or use a butterfly bolt-type fastener.

4. Heavy-Duty Objects (hand basins, cistems, etc):
   Drywall studs should be spaced more closely (e.g. 300mm). Run horizontal timber noggins of up to 114mm x 38mm or double-nested track channels between the vertical notched studs and secure with screw. Fix objects to noggins and studs.

5. Extra-Heavy Objects:
   Items subject to severe abuse or impact should be supported by a steel framework which is bolted to the floor and studs.

Note:
Please note that all plumbing and electrical fitting designs need to be signed off by the architect and need to comply with the requirements of SANS 10400: XA-2011.
1. Siniat Plasterboard, Fire Check or Moisture Check boards
2. Siniat Stud – use 102mm load-bearing stud for hanging toilets, baths, basins and urinals
3. Electrical trunking
4. Crush rail
5. Siniat Noggin fixed to the Siniat stud with a Siniat Wafertex screw (Change shape to reflect a noggin)
6. Metal back socket box
7. Galvanized plate (Change shape to reflect a strip of galvanized sheet)
8. Wall cupboard
9. 150mm x 50mm Grade V timber
10. Folding support rail
11. Replace with angle sections for the length of the board. The angle sections are to be fixed to web of the studs and the other face will offer fixing for the board.
12. 18mm Plywood
Plasterboard Fitting and Fixing Details

1. Siniat Plasterboard
2. Siniat Studs

A/B/C - Fixing to plasterboard
D - Fixing to Stud
E - Fixing to Nogging

- Hollow Wall Anchor With Hook
- Hollow Wall Anchor With Washer
- Nylon Plasterboard Anchor

Correct Depth, Too Deep, Too Shallow
Installation of ceilings

Installation of ceiling and bulkhead material that is sensitive to temperature and humidity conditions shall not start before the building is enclosed and all wet trades have been completed and have adequately dried out.

Standard Specifications for Ceilings

a) Siniat Mastergrid exposed Face 24mm (1200x600 system):
Supply and install Siniat Ceiling Grid exposed face 24mm tee suspended ceiling grid system. Main tee’s spaced at 1200mm & cross tee’s spaced at 600mm (1200x600 system)
Ceiling tee’s to be white capped.
Main tee’s supported at 1200mm maximum

Grid Layout for Suspended Ceilings using 1200mm Cross T-Section

1. Cross T-Section 1200mm
2. Main T-Section 3600mm @ 1200mm cts
3. Suspension 2.5mm
   Strained Wire max
   1200mm c/c.
4. Concrete Slab
5. Siniat Ceiling Tiles
Typical suspension details

Suspension Details for Exposed Ceiling Grid

Only side fixing is recommended and it is not recommended that fixings that rely on pull force are used. The following minimum anchors are recommended for side fixing:

<table>
<thead>
<tr>
<th>Type of roof truss or floor joists</th>
<th>Steel including light weight steel</th>
<th>Timber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems with up to two layers of board</td>
<td>One 5mm x 20mm Tek screw</td>
<td>One 6mm x 30mm chipboard screw</td>
</tr>
<tr>
<td>Systems with three layers of board</td>
<td>Two 5mm x 20mm Tek screws</td>
<td>Two 8mm x 50mm chipboard screws</td>
</tr>
</tbody>
</table>

b) Siniat Ceiling Grid exposed Face 24mm (600x600 system):

Supply and install Siniat Ceiling Grid exposed face 24mm tee suspended ceiling grid system. Main tee’s spaced at 1200mm & cross tee’s spaced at 600mm with 600mm cross tee’s spaced between 1200mm cross tee’s at 600 centers (600x600 system)

Ceiling tee’s to be white capped.

Main tee’s supported at 1200mm maximum

Grid Layout for Suspended Ceilings using 600mm Cross T-Section

1. Cross T-Section 600mm
2. Main T-Section 3600mm @ 1200mm cts
3. Suspension 2.5mm Strained Wire max 1200mm c/c
4. Concrete Slab
5. Siniat Ceiling Tiles

Sub-Grid Detail (Strained Wire) Exposed Ceiling

Grid Layout for Lay-In Ceilings Subgrid detail for plenums of more than 3m

1. Cross T-Section 1200mm @ 600 c/c
2. Main T-Section 3600 @ 1200mm c/c
3. Siniat Ceiling Tiles
4. Strained Wire of 2.5mm
5. Sub Grid Channel 1200 c/c
6. Galv Angle Lateral supports @ 1200 c/c
Siniat Mastergrid Suspended Ceiling

Features and Benefits

- Added strength through innovation, enabling the Siniat Master Grid™ to handle 17kg/m².
- Incomparable versatility and flexibility offered as a result of the newly defined hanger holes at 100mm intervals in Main Tees.
- This allows Main Tees to accommodate non-standard sizes of boards around the perimeter, as well as more frequent support to accommodate multiple board linings for high-tech solutions in acoustics and thermal solutions.
- Astounding rigidity and stability, ensuring uncompromised grid strength and, as such, low deflection under load.
- Class-leading quality standards accomplished, that are yet to be challenged.
- Siniat Master Grid™ now offers an improved clipping mechanism, ensuring remarkable system integrity at the most integral part of the grid.
- Exceptional fire safety factor of 2.5 due to innovative Fire Punch Out holes that retains the integrity of the Main Tee by allowing for expansion in the event of a fire.

Installing the Cross Tee into the Main Tee

1. The Cross Tee is in position, showing ratchet position.
2. Ensure that the clip fits into one side of the intermediate hole, one intermediate can slot two clips.
3. Ensure that there is a clicking sound when the Cross Tee clips into the Main Tee.
4. Now clip in the Cross Tee into the opposite side of the Main Tee.

To dismantle the Cross Tee from Main Tee, you need to:
- Use a small screw driver to push the clip back in.
- Slowly pull out the Cross Tee horizontally on the one side.
- By using a screw driver, re-align the clip from the inside before re-installing the Cross Tee to the Main Tee.
Installing the Main Tee into another Main Tee

1. Ensure that there is a clip sound when the Main Tee clips into each other.
2. When installing the Main Tees, the Fires Punch Out should face the same direction.
   Ensure that they are not next to each other.

How to dismantle the Main Tees

1. Hold both Main Tees.
2. Use two small screw drivers, slot them into the clip, twist and click out (this method will help you use Main Tees several times).
3. Slide both Main Tees away from each other.

Formulae to calculate materials for suspended ceilings:

Installation of grid shall be in accordance with the manufacturer’s specification.

a) 1200X600mm Grid:
   1. Main tees 3600mm long at 1200mm centres.
      Multiply total ceiling area X 0.232 = number of main tees.
   2. Cross tees 1200mm long at 600mm centres.
      Multiply total ceiling area X1.383 = number of cross tees.
   3. Wall angle = total length of wall divided by 3.6 = number of wall angles.
   4. Suspension hangers at maximum 1200mm centres.
      Total ceiling area divided by 1.6 = number of hangers.
   5. Siniat Ceiling Tiles 1195X595mm – Total ceiling area divided by 0.7 = number of tiles.

b) 600X600mm Grid:
   1 – 4 as above
   5. The number of 1200mm cross tees is the same as the number of 600mm cross tees required.
   6. Siniat Ceiling Tiles 595X595mm – Total ceiling area divided by 0.36 = number of tiles.

c) 1500X500mm Grid:
   1. Main tees 3500mm long at 1500mm centres.
      Multiply total ceiling area X 0.191 = number of main tees.
   2. Cross tees 1500mm long at 500mm centres.
      Multiply total ceiling area X 1.334 = number of cross tees.
   3. Wall angle and suspension hangers as per items 3 & 4 of 1200X600mm grid calculations.
   4. Siniat Ceiling Tiles 1495X495mm – Total ceiling area divided by 0.73 = number of tiles.

NB: These calculations provide approximate quantities only and do not allow for any wastage.
**Recommendations for the Suspension of Tee Systems**

- Subject to loading detail suspension should not normally exceed 1200mm centres.
- The maximum length of a ceiling without either a supporting partition, movement joint or break shall not be more than 15m.
- The suspension must not be out of plumb (vertical) more than 25mm for each 150mm of plenum depth.
- Whenever above is exceeded and/or when the hanger suspension is more than 3000mm long then a sub grid is recommended.
- Sub grid, when used, should be formed using Burgess Channel. Alternatively please contact the Siniat Technical Services Department to discuss suspension options.
- In no case should suspension be from other services in the ceiling void.
- A hanger suspension point within 300mm of the main tee joint must be installed when using grid that has fire punch outs.
- A hanger suspension point within 400mm from the wall angle or shadowline angle must be installed on main tees. Where cut cross tees exceed 600mm and rest on the cornice additional suspension should be installed.
- If pop rivets are used, they should be steel and not aluminium. They should have a shear strength 3 times that of the maximum allowed ceiling load.
- When securing wire to tee it should be wound tightly around itself at least 3 times.
- Should the ceiling mass exceed 20kg/m2 and a sub grid is required. A consulting engineer should recommend suitable suspension.

**Installation of the Exposed Grid System:**

**Step 1 (setting out the grid):**

- Strike a level chalk line around the perimeter of the room at the height at which the ceiling is to be fixed. (Water levels and laser levels are the most popular methods).
- Fix the wall angle on this line using screws and plugs, or fluted nails, at maximum 400mm centres (for a tidy finish). The wall angles should not rest on top of each other at the corners. Mitre and butt-join for a tidy finish.

**Steel Sections**

- Establish the centre of the room and mark on the opposite walls of the room.
After determining the direction in which the tiles will be installed, start from the centre of one wall and mark at 1200mm intervals, finishing with equal spacings at the adjoining walls. Repeat the procedure on the opposite wall.

To mark the room in the other direction, start on the centre line previously marked and mark the wall at 600mm centres, finishing with equal spacing at opposite ends of the room. Mark the opposite wall in the same manner.

Once the tile direction has been determined the first main tees should be trimmed to accommodate the first row of tiles and last row of tiles so that the spacing is equal on both sides of the room.

**Step 2 (installing the grid):**

- Fix hangers to the structure spaced at maximum 1.2m centres. To fix hangers to a concrete soffit, use 25X25 angle cleats made from 1.6mm material.
- The hangers can either be 25X25mm angle, 19mm galvanised hanger strapping or the recommended 2.5mm diameter pre-strained suspension wire. Cut hanger wires to a length that allows them to hang approximately 200mm below the ceiling plane. This allows enough wire to tie to the main tees. (25X25mm galvanised angle is used to brace ceiling grid from upward air pressure where required).
- Span fish lines at various positions across the width of the room in line with the bottom surface of the wall angle.
- Attach the Siniat main Tees to the hangers which are at 1200mm centres. Adjust the hangers so that the face of the tee section touches the fish lines.
- Insert ends of cross tees into relevant main tee slots.
- Fit ceiling tiles to grid.
- Should hold down clips be required, use 2 hold down clips per board sharing.
- All perimeter and cut boards must be secured with hold down clips.

**Step 3 (Checking the grid):**

- Check the hangers for the grid are correctly spaced and adequately secured to the main structure.
- Check that the underside of the grid is perfectly level. If not, adjust accordingly.
- Check that the grid is adequately reinforced where light fittings are to be suspended from the ceiling and install additional hangers where necessary.
Tips for installing a ceiling:

- If the area of the concealed ceiling is more than 225m², expansion joints must be used at 15m intervals in order to prevent cracking (this expansion joints is usually specified by the professional team).
- For the room requiring plasterboard for both ceiling and partition, install the ceiling first. However, if specific sound insulation is required, install the partition first.
- For any ceiling system, leave enough ventilation above the ceiling. This helps to prevent sagging.
- To check the level of an installed ceiling space, place a 2m straight bar on a checking point. The gap between the ceiling surface and the end of the straight bar should not exceed 5mm.
Siniat Ceiling Systems

Siniat Lay-in Ceiling Grid System

<table>
<thead>
<tr>
<th>Description</th>
<th>Web Height</th>
<th>Code</th>
<th>Code</th>
<th>Exposed Face mm</th>
<th>Length</th>
<th>Units per box</th>
<th>Mass per box</th>
</tr>
</thead>
<tbody>
<tr>
<td>24mm Faced 1200/600 Ceiling System Components</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Tee</td>
<td>G 38</td>
<td>White LMG SMT</td>
<td>Black GL4 SMT</td>
<td>24</td>
<td>3600</td>
<td>20</td>
<td>26.35</td>
</tr>
<tr>
<td>Cross Tee</td>
<td>G 35</td>
<td>White LMG SCT</td>
<td>Black GL4 SCT</td>
<td>24</td>
<td>1200</td>
<td>60</td>
<td>22.82</td>
</tr>
<tr>
<td>Cross Tee</td>
<td>G 35</td>
<td>White LMG SCT</td>
<td>Black GL4 SCT</td>
<td>24</td>
<td>600</td>
<td>60</td>
<td>11.41</td>
</tr>
<tr>
<td>24mm Faced 1500/500 Ceiling System Components</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Tee</td>
<td>G 38</td>
<td>White LMG SMT</td>
<td>Black GL4 SMT</td>
<td>24</td>
<td>3500</td>
<td>20</td>
<td>25.62</td>
</tr>
<tr>
<td>Cross Tee</td>
<td>G 35</td>
<td>White LMG SCT</td>
<td>Black GL4 SCT</td>
<td>24</td>
<td>1500</td>
<td>60</td>
<td>22.82</td>
</tr>
<tr>
<td>Cross Tee</td>
<td>G 35</td>
<td>White LMG SCT</td>
<td>Black GL4 SCT</td>
<td>24</td>
<td>500</td>
<td>60</td>
<td>9.51</td>
</tr>
<tr>
<td>35mm Faced 1200/600 Ceiling System Components</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Tee</td>
<td>G 38</td>
<td>White LMG WMT</td>
<td>Black GL4 WMT</td>
<td>35</td>
<td>3600</td>
<td>20</td>
<td>27.00</td>
</tr>
<tr>
<td>Cross Tee</td>
<td>G 35</td>
<td>White LMG WCT</td>
<td>Black GL4 WCT</td>
<td>35</td>
<td>1200</td>
<td>60</td>
<td>27.00</td>
</tr>
<tr>
<td>Cross Tee</td>
<td>G 35</td>
<td>White LMG WCT</td>
<td>Black GL4 WCT</td>
<td>35</td>
<td>600</td>
<td>60</td>
<td>13.50</td>
</tr>
</tbody>
</table>

Note On All Suspended Ceilings:

- Light fittings, apart from small LED lights, require additional supports and should be suspended independently of the ceiling grid.
- Air ducting etc. should be suspended / supported on its own sub-frame and should be in place before commencement of ceiling grid installation. Insulation materials can be laid over the ceiling grid system in the ceiling void. It is advisable, that when required, the insulation material be installed before the Sub-Grid.

Ceiling Trim Details

- Shadowline Wall Angle: Std Wall Angle (19mm x 25mm)
- Shadowline Plaster Trim: 6mm Board, 9mm Board, 12mm Board
- Typical Wall Angle fixed to brick wall
- Typical Wall Angle fixed to brick wall

NOTE: When fixing to brick wall: Use Steel Nails /Plugs & Screw Concrete: Plug & Screws/Plasterboard: Toggle bolts (found to be the best fixing)

PLEASE NOTE: Fixings Spacing to be 400mm cts.
Siniat Ceiling Systems

Siniat Gypsum Ceiling Tiles

Siniat Ceiling Tiles are a range of ready to use ceiling tiles available in various patterns and textures. They are made from 12mm or 9mm thick plasterboard and are available in square edge. The tough and washable vinyl finish is bonded to the board and the tiles are used in a “lay-in” exposed tee suspended ceiling system. These tiles are tested for spread of flame - SABS 0177 Part 5. (National Building Regulations – for building material). Siniat ceiling tiles are SABS Approved under specification SANS 266.

Care should be taken to ensure that the Siniat Ceiling Tiles are not dropped or subjected to rough handling. These tiles should be stored in a dry area and the stacks must be packed on suitable timer supports, maximum 400mm apart and off the ground. A level, clean, dry storage area must be made available for this purpose.

Special care should be taken to ensure that the tile finish is not soiled or damaged during handling. Use of plastic gloves will assist in keeping tiles clean during installation. Vinyl tiles can be cleaned with a mild detergent if necessary.

**Technical Data:**

| Dimensional Tolerance: | +0-5mm |
| Fire Index: Base Plasterboard | Class 1 |
| Fire Index: Vinyl Tile | Class 4 |
| Thermal Conductivity: | (k) 0.104 W/mC |
| Packaging: | 6 per bundle |
| Weight: | 9.5kg/m² for 12mm |
| | 7kg/m² for 9mm |

**Sag under high humidity conditions**

Siniat Ceiling Tiles shows very little sagging under conditions of high humidity. Tests in accordance to the method given in ASTM 367 showed the following sag in conditions with a relative humidity of 90% at 320°C after 24 hours of exposure:

- 600mm x 600mm x 9mm tiles: 0.75mm
- 600mm x 1200mm x 9mm vinyl tiles: 3.95mm
- 600mm x 1200mm x 12mm vinyl tiles: 2.92mm
Siniat Mastergrid Ceiling Tiles
**Specification:** Siniat Ceiling Grid exposed face 24mm grid system lay-in vinyl ceiling tiles (9mm)

Siniat Vinyl Ceiling Tiles
Supply and install Siniat Ceiling Tiles to Siniat Ceiling Grid exposed face 24mm grid system lay-in vinyl ceiling tiles (9mm). Shell White, Fissured, Reef, to manufacturer’s specification. Installation to be in accordance with manufacturer’s specifications including SABISA (South African Building Interior Systems Association) installation guidelines

**Specification:** Siniat Ceiling Grid exposed face 35mm grid system lay-in vinyl ceiling tiles (9mm)

Siniat Vinyl Ceiling Tiles
Supply and install Siniat Ceiling Tiles to Siniat Ceiling Grid exposed face 35mm grid system lay-in vinyl ceiling tiles (9mm). Shell White, Fissured, Reef, to manufacturer’s specification. Installation to be in accordance with manufacturer’s specifications including SABISA (South African Building Interior Systems Association) installation guidelines

**Specification:** Siniat Ceiling Grid exposed face 24mm grid system lay-in vinyl ceiling tiles (12mm)

Siniat Vinyl Ceiling Tiles
Supply and install Siniat Ceiling Tiles to Siniat Ceiling Grid exposed face 24mm grid system lay-in vinyl ceiling tiles (12mm). Shell White, Fissured, Reef, to manufacturer’s specification. Installation to be in accordance with manufacturer’s specifications including SABISA (South African Building Interior Systems Association) installation guidelines

**Specification:** Siniat Ceiling Grid exposed face 35mm grid system lay-in vinyl ceiling tiles (12mm)

Siniat Vinyl Ceiling Tiles
Supply and install Siniat Ceiling Tiles to Siniat Ceiling Grid exposed face 35mm grid system lay-in vinyl ceiling tiles (12mm). Shell White, Fissured, Reef, to manufacturer’s specification. Installation to be in accordance with manufacturer’s specifications including SABISA (South African Building Interior Systems Association) installation guidelines

**Specification:**

**Siniat Thermal Ceiling Tiles with Vinyl Face 15mm Styrene backing:**
Supply and install Siniat Thermal Ceiling Tiles to Siniat Ceiling Grid exposed face 24mm grid system lay-in vinyl ceiling tiles (9mm). Shell White, Fissured, to manufacturer’s specifications including SABISA (South African Building Interior Systems Association) installation guidelines
Siniat Ceiling Systems

*Fissured tiles have directional patterns

Vapour barriers can be laminated to the back of ceiling tiles as an optional extra for humid areas

**Features**
A Siniat plasterboard ceiling tile with vinyl design covered on the surface, allowing for immediate use without additional painting.

**Advantages**
- Lightweight
- Durable
- Well decorated surface
- Easy to use and quick to install
- 91% light reflection (perforated tiles)
- Non combustable, fire retardant core

**Applications**
- Offices
- Schools
- Conference centres
- Department stores
- Factories
- Hospitals
- Painted tile:
  - Restaurants

---

<table>
<thead>
<tr>
<th>Vinyl Tile</th>
<th>Code</th>
<th>Nominal Dimension</th>
<th>Thickness</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reef</td>
<td>JVT LR JVT LR</td>
<td>1200mm x 600mm 600mm x 600mm</td>
<td>9mm</td>
<td>6.6kg/m²</td>
</tr>
<tr>
<td>Fissured*</td>
<td>JVT LF JVT LF</td>
<td>1200mm x 600mm 600mm x 600mm</td>
<td>9mm</td>
<td>6.6kg/m²</td>
</tr>
<tr>
<td>Shell White</td>
<td>JVT SWH JVT SWH</td>
<td>1200mm x 600mm 600mm x 600mm</td>
<td>9mm</td>
<td>6.6kg/m²</td>
</tr>
<tr>
<td></td>
<td>JVT SWH JVT SWH</td>
<td>1200mm x 600mm 600mm x 600mm</td>
<td>12mm</td>
<td>8.78kg/m²</td>
</tr>
<tr>
<td></td>
<td>JVT SWH JVT SWH</td>
<td>1500mm x 500mm</td>
<td>12mm</td>
<td>8.78kg/m²</td>
</tr>
</tbody>
</table>

Painted and Perforated Ceiling Tiles
Timber Brandering

Please note that Saligna brandering should be used while the moisture content is still high and close to 19%. Once dried, the moisture content of this brandering can decrease to below 12% where it becomes very hard and brittle and can result in splitting when ceiling boards are nailed to it.

6.4mm Siniat Standard Plasterboard is suitable for brandering ceilings, and may be used for plasterboard ceiling applications to SABISA specifications at a max. of 300mm centers and plastering not exceeding 6mm.

c) “SABS approved Pine or Saligna brandering should be used in Siniat brandered ceilings. Alternatively proof of compliance to the relevant SABS specifications should be provided by timber suppliers. Brandering should be fixed to the underside of trusses or joists at a spacing not exceeding 400mm.

Plasterboards should be secured to at right angles to the brandering using 32mm galvanized semi-clout nails or screws, spaced at no more than 150mm centres. The brown paper side of the Siniat Plasterboards should faced upwards.

1. The Beam
2. Timber Brandering *38 x 38”mm @ 400mm c/c
3. Wall Plate
4. Siniat Plasterboard
5. H-profile joining strip
6. Wall

d) 6.4mm Siniat plasterboard ceiling consisting of Siniat Steel brandering fixed at 400mm centres in one direction onto which Siniat Plasterboard is fixed, brown paper side up, at right angles to the brandering, using 25mm drywall screws spaced at 150mm centres. Joints between boards to consist of H-Strip fitted over board edges with the narrow flange facing down and boards fixed onto brandering to within 25mm from H-Strip. All nail or screws heads to be stopped and sanded level when dry.
Steel Brandering should be installed as follows:

a) Steel brandering sections must be fixed at 90° to the roof trusses.
b) The suspension bracket is to be fixed to the Tie-beam by either nail or screw at a maximum of 1200mm centres and located into the Siniat Steel Brandering.
c) Siniat Steel Brandering is typically installed at 400mm centres.
d) The Siniat Plasterboard should be fixed at 90° to the Siniat Steel Brandering i.e. parallel to the roof trusses, with screws or nails spaced at a maximum of 150mm centres.
e) The Siniat Steel Brandering system is not suitable for plastered ceilings or for 9mm and 12mm board ceilings.
f) To join two steel brandering lengths, a joiner section must be used.
g) It is advisable to fix a 20X20mm steel angle to the perimeter walls as a support for the Siniat Steel Brandering and Siniat Plasterboard fixing, this will ensure a solid base for cornice fixing.
h) Light fittings must be fixed to the brandering or conduit not installed directly onto the board.
i) Under no circumstances should brandering be cut to make room for a light fitting.
Siniat Cove Cornice consists of a gypsum plaster core encased in paper. It is primarily designed for use as a cornice at the angle between wall and ceiling. It is easy to cut and fix and is suitable for decoration. The Siniat Cove Cornice is available in lengths of 2.7m, 3m, 3.6m or 4.2m and has a width of 75mm. The mass per linear meter is 0.72kg.

**Performance:**

- **Fire Protection:** When exposed to fire, Siniat Cove Cornice behaves in the same way as Siniat Plasterboard.

- **Durability:** Siniat Cove Cornice has the same life expectancy as a house / building under normal conditions. If excess movement of the roof structure is expected, fix cornice to wall only.

- **Acoustic Properties:** Siniat Cove Cornice can be used for sealing any air paths around ceiling perimeters thus helping to maintain sound insulation performance from room to room.
Plasterboard joints to have support behind with plasterboard fixed at 150mm centres. All joints to be covered with Fibatape (double over butt joints) and the ceiling then plastered with a 2-3mm plaster coat of Siniat Skim-Lite or Skim-Stone plaster applied as per manufacturer’s instructions. Alternatively Siniat Finishing Compound can be used to plaster.

1. The Beam
2. Steel Brandering “38 x 38mm” @ 300mm c/c
3. Wall Plate
4. Siniat Plasterboard
5. Plastered Ceiling
6. Wall
7. Suspension bracket
General.

- Siniat Plasterboard must always be fixed with the length of the board at right angles to the brandering. Siniat Plasterboard is fixed with the brown paper side up (ivory paper side down) for direct decoration or for plastering. Always nail or screw from the centre of the board outwards. The gap between boards should not exceed 2mm.

- Fix the first board up to 150mm from long edge. Slip the H-Strip over the edge of the board with the narrow flange facing down. Slip the second board into the H-Strip and fix both boards to within 25mm from the H-Strip. The H-Strip is not fixed at all. In the case of end joints fix parallel branders with the ends of both boards overlapping the respective branders by maximum 35mm.

Decoration:

- For H-Strip ceilings fill all nail and screw heads and sand down when dry. Apply universal undercoat over metal H strips and apply the 1st coat, a good quality PVA emulsion based paint and a final coat as specified.

- For plaster ceilings check the entire surface carefully to see that the plaster has set hard and is dry and free from powder/dust before decorating. If painted with water based paints “PVA” no sealer coat necessary – recommended that first coated be watered down 10% and final coat applied. If painted with oil based “solvent” paints, surface requires a sealer coat – bonding liquid.

- 9mm and 12mm Flush Jointed ceilings should have a first coat of good quality PVA emulsion based paint, followed with the final coat of household paint as specified.
f) 9mm / 12mm Siniat Flush Jointed or Flush plastered ceiling consisting of galvanised plaster grid screw-up 3600mm main tees spaced at 1200mm centres and 1200mm cross tees spaced at 400mm centres, forming a galvanised grid, suspended to manufactures specification, onto which 9mm / 12mm taper-edge Siniat Plasterboard is fixed with brown paper side up using 25mm drywall screws, spaced at 150mm centres. All plasterboard joints to have a support behind. All joints and or plaster to be finished as per manufacturers instructions.

Grid Layout for Plastered Ceilings using 1200mm Cross T-Section

1. Cross T-Section 1200mm @ 400 c/c
2. Main T-Section 3600mm @ 1200 c/c
3. Suspension 20 x 20/25 x 25 Galv Angle @ max 1200mm c/c
4. Concrete Slab
5. Siniat 9mm/12mm Taper Edge Plaster board
**Siniat Mastergrid Suspended Plaster Grid**

Siniat Mastergrid is a suspended concealed ceiling grid system consisting of 3.6m main tees and 1.2m cross tees. Cross tees are inserted at 400mm centres in the main tees. The tees are galvanised steel with a knurled 35mm face. This grid is suspended using galvanised angle ensuring rigidity and stability. 9mm or 12mm boards are screwed to the grid using 25mm drywall screws and the joints are taped and jointed.

**Installing the Cross Tee into the Main Tee**

1. The Cross Tee is in position, showing ratchet position.
2. Ensure that the clip fits into one side of the intermediate hole, one intermediate can slot two clips.
3. Ensure that there is a clicking sound when the Cross Tee clips into the Main Tee.
4. Now clip in the Cross Tee into the opposite side of the Main Tee.

**Installing the Main Tee into another Main Tee**

1. Ensure that there is a clip sound when the Main Tee clips into each other.
2. When installing the Main Tees, the Fires Punch Out should face the same direction. Ensure that they are not next to each other.

**How to dismantle the Main Tees**

To dismantle the Cross Tee from Main Tee, you need to:
- Use a small screwdriver to push the clip back in.
- Slowly pull out the Cross Tee horizontally on the one side.
- By using a screwdriver, re-align the clip from the inside before re-installing the Cross Tee to the Main Tee.
**Siniat Plaster Grid System (Siniat Mastergrid)**

<table>
<thead>
<tr>
<th>Description</th>
<th>Web Height</th>
<th>Code</th>
<th>Exposed Face mm</th>
<th>Finish</th>
<th>Length</th>
<th>Units per box</th>
<th>Mass kg per box</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Tee</td>
<td>G 38</td>
<td>LMG PMT 35</td>
<td>Galvanised</td>
<td>3600</td>
<td>20</td>
<td>27.00</td>
<td></td>
</tr>
<tr>
<td>Cross Tee</td>
<td>G 38</td>
<td>LMG PCT 35</td>
<td>Galvanised</td>
<td>1200</td>
<td>60</td>
<td>27.00</td>
<td></td>
</tr>
</tbody>
</table>

**Specification:**

Supply and install Siniat Plaster Grid, stitched and galvanised 35mm face system. Main tees 3600mm with slots at 400mm centres. 1200mm Cross Tees with steel galvanised knurled cap face to main and cross tees.

**Material calculations for Siniat Plaster Grid:**

1. Main tees 3600mm long at 1200mm centres. Multiply total ceiling area X 0.232 = number of main tees.
2. Cross tees 1200mm long at 400mm centres. Multiply total ceiling area X 2.08 = number of cross tees.
3. Shadow line Plaster trim = Total length of wall divided by 3.6 = number of shadow line plaster trim.

**Aluminium Sections**

4. Suspension hangers at maximum 1200mm centres. Total ceiling area divided by 1.6 = number of hangers.
5. Siniat Plasterboard m2 of board divided into total ceiling area = number of boards.

Other items such as screws, Fibatape and jointing or finishing compound should also be included, please contact Marley Building Systems Technical Services Department for assistance.
For plastered ceilings where the suspension height is more than 3000mm, sub-grid required. Typical detail attached

Grid Layout for Ceilings subgrid detail

1. Cross T-Section 1200mm @ 400 c/c
2. Main T-Section 1200mm
3. Siniat Plaster board
4. Galv Angle 20 x 20/25 x 25 @ 1200 c/c
5. Sub Grid Channel
6. Wafer Tek Fixing
7. Galv Angle lateral supports @ 1200 c/c

Sub-Grid Detail

Siniat Main suspension Methods for Ceiling Grid
9mm & 12mm Flush Plastered Ceiling

9 & 12mm Siniat Gypsum Fire Check flush plastered ceiling consisting of galvanised plaster grid screw up 3600mm main tees spaced at 1200mm centres, fixed to support structure with 0.8mm galvanised angles spaced at 400mm centres, support structure spaced at maximum 1200mm and braced to prevent lateral movement, 1200mm cross tees spaced at 400mm centres, forming a galvanised grid, suspended to manufactures specification. Plaster board to be fixed at 150mm centres, with brown paper side up. Stagger fix to plaster board joints, first layer fixed with 25mm drywall screws. All plaster board joints to have support behind. Insulation layer over ceiling. Surface to be flush plastered.

Curved Ceilings

Siniat 6.4mm Standard Plasterboard is recommended for the construction of curved ceilings. The minimum radius recommended is 1000mm. Brandering spacing will vary depending on the curvature from 150mm to 400mm, but it should not exceed 400mm. Siniat 6.4mm Standard Plasterboards must be installed perpendicular to the Siniat steel brandering. Siniat 6.4mm Standard Plasterboard need to be secured to each brander with Siniat dry wall screws not more than 150mm apart.

All joints between boards need to be taped with Fiba Tape and finished with Siniat Jointing Plaster. It is recommended that the complete surface be skimmed with Siniat Skim-Lite to obtain a smooth curvature.

Fire Rated Ceiling Systems

Fire Rated Suspended Ceiling Systems

1. Burgess channel 1200mm @ 400mm cts
2. Top Hat sections at 400mm cts with minimum thickness of 0.5mm
3. Suspension 25 x 25 x 0.8mm Galv Angle @ max 400mm cts
4. Plaster to Ceilings
5. Siniat 15mm Fire Check Taper Edge Plaster board
6. 4.2 x 13 Water Tek Screws 2 per junction
7. 14kg/m² 100mm Insulation.
8. Beam Lateral Support

- Beam size and specifications by others.
- Maximum Suspension 3m.
- Beam lateral support @ 1200 cts.
Only side fixing is recommended and it is not recommended that fixings that rely on pull force is used. The following minimum anchors are recommended for side fixing:

<table>
<thead>
<tr>
<th>Type of roof truss or floor joists</th>
<th>Steel including light weight steel</th>
<th>Timber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems with up to two layers of board</td>
<td>One 5mm x 20mm Tek screw</td>
<td>One 6mm x 30mm chipboard screw</td>
</tr>
<tr>
<td>Systems with three layers of board</td>
<td>Two 5mm x 20mm Tek screws</td>
<td>Two 6mm x 50mm chipboard screws</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Board description</th>
<th>Number of layers</th>
<th>Fire Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>15mm Fire Check</td>
<td>One layer</td>
<td>30 minutes</td>
</tr>
<tr>
<td>15mm Fire Check</td>
<td>Two Layers</td>
<td>60 minutes</td>
</tr>
<tr>
<td>15mm Fire Check</td>
<td>Three Layers</td>
<td>120 minutes</td>
</tr>
</tbody>
</table>

Suspended ceiling to fire resistant wall junction:

- Only side fixing is recommended and it is not recommended that fixings that rely on pull force is used.
- The following minimum anchors are recommended for side fixing:

<table>
<thead>
<tr>
<th>Type of roof truss or floor joists</th>
<th>Steel including light weight steel</th>
<th>Timber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems with up to two layers of board</td>
<td>One 5mm x 20mm Tek screw</td>
<td>One 6mm x 30mm chipboard screw</td>
</tr>
<tr>
<td>Systems with three layers of board</td>
<td>Two 5mm x 20mm Tek screws</td>
<td>Two 6mm x 50mm chipboard screws</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Board description</th>
<th>Number of layers</th>
<th>Fire Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>15mm Fire Check</td>
<td>One layer</td>
<td>30 minutes</td>
</tr>
<tr>
<td>15mm Fire Check</td>
<td>Two Layers</td>
<td>60 minutes</td>
</tr>
<tr>
<td>15mm Fire Check</td>
<td>Three Layers</td>
<td>120 minutes</td>
</tr>
</tbody>
</table>
Fixed Fire Rated Systems

Maximum centre-to-centre distance allowed between the timber supports is 600mm. The size of the timber supports need to be specified by a structural engineer.

Installation details of Plasterboards to the suspended grid or timber supports

1. Top Hat @ 450mm cts
2. Supporting beam
3. 15mm Fire Check Plasterboard
4. Cove Cornice
5. Fixings
6. Plaster to Ceilings
7. 25 x 25 x 0.8mm Galv Angle @ 400mm cts.
8. 4.2 x 13 Wafer Tek Screws.
9. 14kg/m³ 100mm Insulation

- Beam size and specifications by others.
- Maximum Suspension 3m.
- Beam lateral support @ 1200 cts.
Siniat XPS Decor Cornices

Siniat XPS Decor Cornices are made of high density moulded polystyrene; these mouldings are extremely durable and will not chip if dropped. Cuts and dents can be filled with utility adhesive, reducing waste significantly.

The Siniat range of mouldings is water and humidity resistant, making them an excellent choice for bathrooms and humid areas.

While direct heat placed too close to mouldings can damage them, the larger profiles can be used to conceal low voltage fluorescent lighting with a clearance of approximately 5cm. No solvent based paint or adhesive must be used with the XPS type of mouldings.

Product Information:
- High density moulded polystyrene
- Smooth white surface ready for painting
- Available in 2m lengths
- Melting temperature is 80°C
- Non-toxic
- Weight is approximately 8Kg / 100m
- Paint should be acrylic water based PVA paint. Enamel paint can be used but a primer of PVA paint is required.

Storage Information:
- The Siniat XPS Decor Cornices stored in cold or hot conditions should be allowed to stabilize to ambient temperature for about 24 hours in the room or site before installation.
- The mouldings should not be stored in shipping containers as the temperatures inside can exceed 60°C in summer.
- Siniat XPS Decor Cornices expand and contract with the temperature and must be installed tightly.

SINIAT CORNICE UTILITY ADHESIVE:
Application:
- Substrates must be clean, free of dust and grease.
- Apply a liberal bead of adhesive along top and bottom of cornice.
- Press firmly to hold in position.
- Wipe away excess adhesive with a damp sponge or cloth.
- Keep away from frost.

For fixing polystyrene and polyurethane:
- Excellent adhesive and filling properties.
- Good initial grab.
- Suitable for painting.
- No film formation.

Characteristics:
- Acrylic polymer.
- High initial tack and final bond strength.
- Excellent adhesion to paper and walls.
- Flow properties designed as a paste to be applied with a scraper or spatula.
Specifications:

• Consumption: 70-150gsm
• Glue Spread: 50g/m for small to medium mouldings on new or straight walls.
  100g/m for large mouldings on new or straight walls.
  100g/m for small to medium mouldings on damaged or uneven walls.
  200g/m for large mouldings on damaged or uneven walls.
• Siniat Cornice Utility Adhesive is available in 310ml tubes and 3kg and 7.5kg buckets.

Dilution of adhesive not recommended

Cleaning of equipment:

• Clean equipment with water before adhesive dries.
• Dried adhesive can be manually brushed or scraped using hot water.

Storage:

• Store between 15°C and 30°C under dry conditions.
• Unused containers should be tightly sealed.
• Shelf life is approximately 12 months when stored correctly.

Please contact Marley Building Systems for first aid measures if required.
Fixing Instructions for Cornices

**Siniat Cove Cornice:**

1. Measure distance down from the ceiling and mark it on several places on the wall. Shoot a chalk line along these marks on the wall. Insert temporary nails at 1 meter intervals just below the chalk line.
2. Fix a timber stop along the base of the mitre box distance from the vertical side. Place the Siniat Cove Cornice in the mitre box as per below diagram.
3. Using a fine tooth saw; cut and mitre the required lengths of Siniat Cove Cornice in a mitre box.
4. Guide the Siniat Cove Cornice over the temporary nails and press firmly into position against the wall and ceiling. Insert temporary nails into ceiling to hold cornice. Fix the cornice at 400mm into the wall and ceiling using steel nails or drill, plug and screw. On painted surfaces a water-based plaster bonding liquid should be applied. Patch imperfections and decorate as you would plasterboard. Alternatively fix the cornice with suitable cornice adhesive.

NB: Always carry cornice on edge.
Note: Cornices are purely decorative and do not contribute in any way to the structural performance of a building. If excess movement of the roof is expected, fix cornice to the wall only. Fill gaps with cornice adhesive suitable for painting.

Siniat XPS Decor Cornices:

1. Measure distance down from the ceiling and mark it on several places on the wall. Shoot a chalk line along these marks on the wall. Insert temporary nails at 1 meter intervals just below the chalk line.

2. Fix a timber stop along the base of the mitre box distance from the vertical side. Place the Siniat Decor Cornice upside down (i.e. the bottom facing upwards) in the mitre box. Please refer to the Siniat Decorative Mouldings section to ensure that you have the pattern the correct way up.

3. Siniat Decor Cornices should be cut with a fine toothed panel saw or fine hacksaw. This will give a clean edge without damaging the product. Do not cut with a knife or hot wire. Cut and mitre the required lengths of Siniat Decor Cornices in a mitre box. If using patterned cornice, extreme care must be taken to match the pattern where a joint occurs. See “Preparing joints and corner mitres of cornices” section for further details on how to cut and mitre. The Siniat Decor Cornices to be installed should normally be cut slightly longer than actual length required to be installed. This is to give a tight fit to the joints.

4. Spread cornice adhesive along edges and back of moulding and at each end. Use enough adhesive so that the entire surface of the cut edge at each end is covered. All joints must have adequate adhesive for a strong hold.

5. Guide the Siniat Decor Cornices over the temporary nails and press firmly into position against the wall and ceiling. The mouldings must be installed on level and firm surfaces. Once glued onto ceiling/ wall, fasten with nails / screws or panel pins especially close to the joints and edges of the moulding for tight and secure fit. Mouldings must be securely fixed at all joints. Should fixings be required, then fixings to be at 300mm centres. Large mouldings required additional support on either the vertical or horizontal surfaces for positive fixing.

Painting Siniat XPS Decor Cornices:

- Polystyrene mouldings can be painted directly with any acrylic water based paint.
- PVA paint would be required before applying any enamel or solvent based paint.
- The mouldings will turn yellow if left unpainted.
• It is advisable to apply a base coat to the mouldings before installation.
• Ensure that adhesive touch-ups are sanded level to the moulding profile.
• Paint techniques can be applied to mouldings by specialists.

Preparing Joints and Corner Mitres of Cornices

Types of corner mitres:
There are four different types of mitre cut:
External Angles – Left hand and Right hand
Internal Angles – Left hand and Right hand.

Mitred Joints:

To cut a left hand corner mitre, position the mitre block to the left of the length of cornice and line up the measured mark with the appropriate mitre block slot (depending on whether the angle is to be internal or external). Similarly, position the mitre block to the right of the length of cornice for the right hand corners.

BEFORE STARTING, NOTE WHICH WAY UP THE CORNICE SHOULD BE FITTED

Remember that all marks, measurements and cuts must be made from the back of the cornice’s wall edge. When measuring for mitres or butt joints, try to ensure a good pattern match at the meeting edges. This is especially important with external mitres, which are generally more visible. So, whenever a mitre is required, measure the distance between the end of the last fixed length and the corner of the room. Mark this measurement on the back wall edge of the next length of cornice – making sure the pattern matches at each point.

Cutting Cornice:

When using the mitre block, it is a good idea to keep the cornice supported and level using a piece of wood the same thickness as the base of the mitre block. Place the cornice upside-down in the mitre block with the wall edge uppermost, flat against the side, and the ceiling edge flat against the base.
Opening Solutions

Ceiling Access Panels
Maximising Ceiling Space Accessibility

Marley Building Systems innovative new Ceiling Access Panels offer a cost effective, aesthetically pleasing alternative to the conventional gypsum trap doors, ensuring that your trap doors look neat and clean all the time.

Modern and very functional, Ceiling Access Panels are available in three different configurations to cater for your specific requirements:

• Top Hung
• Bottom Hung
• Lay in
Benefits

Marley Building Systems quality Ceiling Access Panels guarantee a long lifespan. Time-saving and easy to install, the panels come complete with fully detailed fixing instructions for quick on site installation.

Due to the powder coated finish, ceiling access panels are easy to clean - making unsightly finger marks, that are prevalent on conventional gypsum trap doors, a thing of the past. Aesthetically superior to gypsum trap doors, they offer a neat, clean finish to ceilings.

T-Frames

“T” Section Centre Line Ceiling modular grids are commonly used for conventional trapdoor frames in plastered ceilings. They can also be used for light fittings.

These grids are available ex-stock in the following sizes and finishes:
- 600 x 600 Natural Anodised
- 600 x 600 White
- 1200 x 600 Natural Anodised
- 1200 x 600 White

Configurations

Modern and very functional, Marley Building Systems Ceiling Access Panels are available in three different configurations to cater for your specific needs.

Specifications

Allow extra over ceiling for Ceiling Access Panel comprising 635 x 635mm white epoxy coated aluminium T-frame with 580 x 580mm white epoxy coated steel pan in a [Top hinged / Bottom hinged / Lay-in] option as supplied by Marley Building Systems fitted flush to ceiling with and including screw fixing through stalk of T-frame into 38 x 38mm softwood/steel brandering/supporting sub-frame.
Flush Plaster Timber or Steel Branded Ceilings

Fix frame to brandering

TOP HINGED

Access Panel

Flush Ceiling

Brandering

Fix frame to brandering

TOP HINGED

Access Panel

Flush Ceiling

Brandering

Typical 3 Dimensional Steel Branding Construction Detail

Typical Joint Detall for 6,4mm Plasterboard

Flush Plaster Steel T-Suspension Ceilings

Galvanised 25 x 25mm Angle

Top HINGED

Access Panel

Flush Ceiling

Aluminium T-Profile

Outer Frame

Powder Coated White

Galvanised 25 x 25mm Angle

Pop Rivets

Siniat Screw up Cross Tee

25 x 25mm Aluminium Outer Frame

Powder Coated White

Bottom HINGED

Access Panel

Flush Ceiling

Cam Lock

25 x 25mm Aluminium Outer Frame

Powder Coated White

Bottom HINGED

Access Panel

Flush Ceiling

Cam Lock

Siniat Screw up Cross Tee

Pop Rivets

Aluminium T-Profile

Outer Frame

Powder Coated White

Galvanised 25 x 25mm Angle