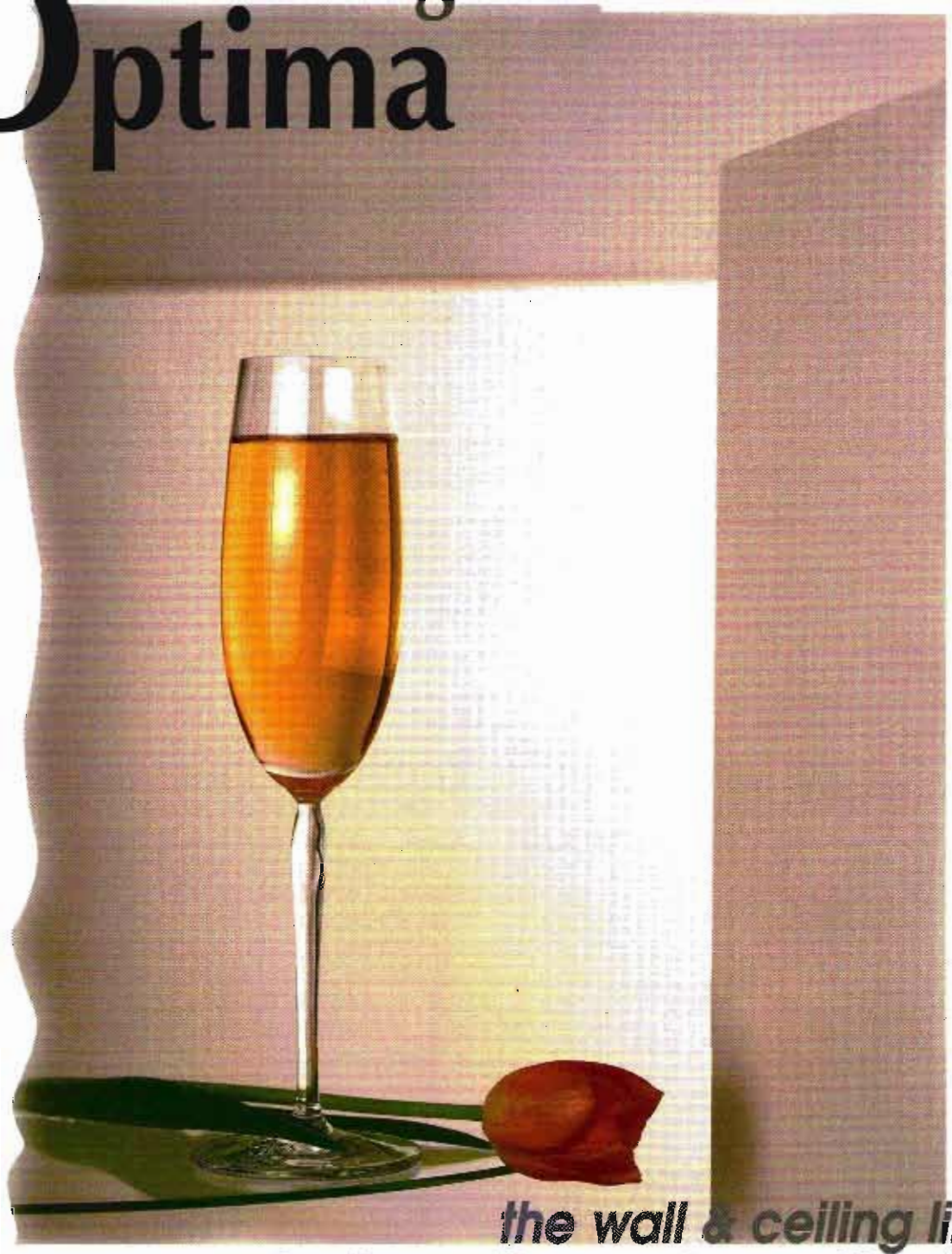
Plasterglass®
Optima



the wall & ceiling lining
for the optimum decorative finish

- Flawless surface finish
- Spans 600 mm centres
- Curved or plain sheets
- 50 year guarantee

Introduction

Plasterglass® Optima is the interior lining system designed to provide the optimum decorative finish for ceilings and walls. Nothing matches its flawlessly smooth appearance and durability yet, surprisingly, it costs little more than ordinary linings.

Plasterglass® Optima sheets come in a variety of sizes to suit any project, or your registered New Zealand Fibrous Plaster Association Supplier can custom-make moulded sheets to individual specifications. Plasterglass® Optima is designed to span 600mm centres, meaning fewer ceiling battens are required - saving labour and material costs at installation - with the option of either steel or timber battens.

"The optimum decorative finish"

Inner strength

Created from the finest gypsum plaster reinforced with chopped fibreglass rovings, Plasterglass® Optima is the "Gold Standard" by which all other internal linings are judged.
The combination of plaster and fibreglass produces sheets which are exceptionally rigid, resistant to bowing and sagging, and able to withstand harsh treatment.

The strength of Plasterglass® Optima means it doesn't normally require back-blocking or end butt joints, making it less time consuming to install than ordinary linings. All Plasterglass® products conform to building purposes AS2592 and are backed by a unique 50 year guarantee on material quality.

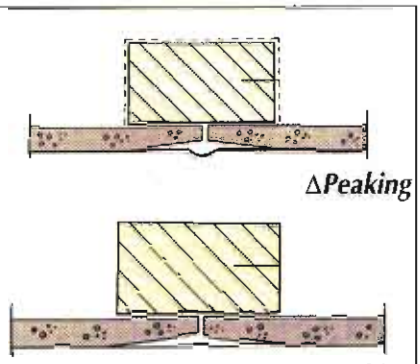
"Sheets are reinforced and exceptionally rigid"

Superior finish

Plaster has been admired for thousands of years for its superior appearance and was first used by the Ancient Egyptian in the construction of their pyramids. Today, Plasterglass® Optima combines the best properties of gypsum plaster with modern manufacturing techniques to produce the best quality surface finish available.

Fibreglass roving reinforcement not only strengthens Plasterglass® sheets but also virtually eliminates peaking and surface cracks, giving a Level 6 finish with every application - recognised as the building's industry's highest standard.

"No peaking"



Peaking occurs in ordinary linings during wet, humid conditions (typically Spring) through joint compression, excess moisture or timber movement. The rigidity of Plasterglass® Optima virtually eliminates peaking.

Levels of Finish

Level 0 Softboard/ordinary linings with no stopping, taping or finishing.
Level 1 Softboard/ordinary linings with taped joints and angles. Surface free of excess joint compound but tool marks and ridges acceptable.
Level 2 As above with separate coat of joint compound over joints, angles, fastener heads and accessories. Surface free of excess joint compound and minimal tool marks.
Level 3 As above with all joint compounds finished smooth and coated with sealer.
Level 4 As above with all joint compounds finished smooth, free of tool marks and coated with sealer.
Level 5 As above with thin skim coat applied over entire surface. Surface should be smooth and free of tool marks and ridges. Success of finishdepends on materials used and skill of operator.
Level 6 Plasterglass® Optima. Paint with oil based sealer and two top coats. The highest quality surface finish available.

Performance Comparison of board linings using 600mm batten spacings

Plasterglass® Optima	Ordinary Linings
■ The optimum surface finish - level 6	■ Variable quality surface finish, depending on workmanship
■ Exceptional strength, stiffness and durability	■ Susceptible to bowing and sagging
■ Custom made sheets can be moulded to any shape, including curves and angles	■ Available as standard board only
■ Numerous different sheet sizes available	
■ Stable over wide range of atmospheric conditions	■ Cannot be installed with moisture content exceeding 16% or humidity 90%
■ High impact resistance	■ Easily damaged in handling
■ Proven 50 year guarantee on material quality	■ Guarantee unproven

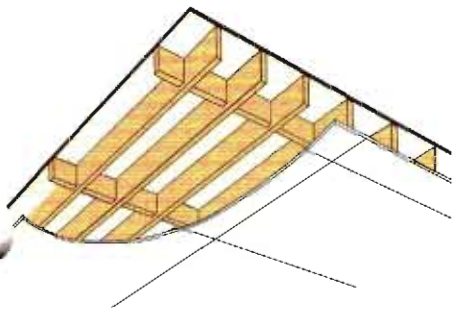
Custom-made sheets

Your New Zealand Fibrous Plaster Association supplier can produce sheets which are custom-made to individual specification - ideal for curved ceilings and walls or areas where a high level of decoration is required. Plasterglass® Optima is uniquely suited to this application and can be moulded to almost any shape.

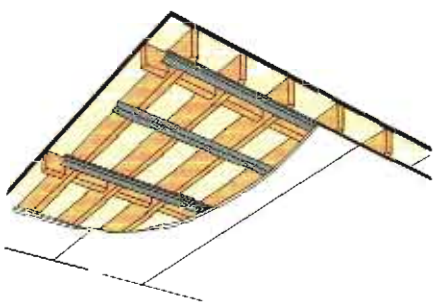
Ease of installation

Plasterglass® sheets are easy to install because they will not buckle or warp as is possible with ordinary ceiling and wall linings. Installation can begin prior to the building being closed in as gypsum plaster is stable over a wide range of atmospheric conditions.

Sheets can be fitted to either steel or timber ceiling battens; with jointing on- or off-battens as applicable. Battens should be set at a maximum of 600mm apart. All sheet joints should be rebated to accommodate caulking and bandage for a flush finish.



Timber Battens



Steel Battens

Maintenance

The fibreglass rovings in Plasterglass® Optima minimise surface cracking and produce a stronger, long-lasting board which requires less maintenance. Should damage occur it is easily repaired using stopping plaster.

"Requires less maintenance"

Painting

Plasterglass® Optima is the only internal lining that produces a Level 6 finish every time. Sheets come in a natural white finish. To achieve the optimum finish a good quality oil based pigmented sealer shall be applied as a first coat. This first coat must be roller applied. ***(Spray application is not recommended.)*** After the sealer coat has been applied it is the responsibility of the main contractor and the painter to notify the contractor of any defect or irregularity in the fibrous plaster work. ***Re: Seal patched areas:*** Lightly sand when dry, then apply two top coats as per manufacturers specifications.

Fire resistance

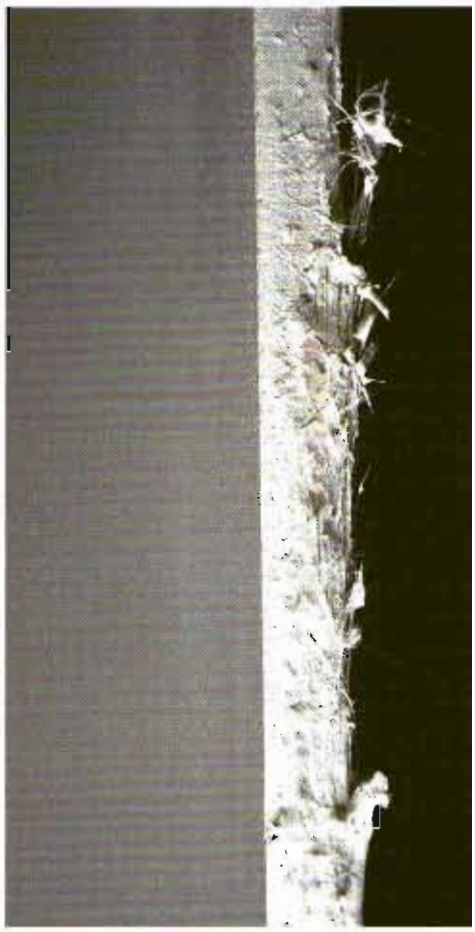
Plasterglass® Optima sheets are manufactured from non combustible materials and carry the highest fire ratings in Australasia.

"The highest fire ratings in Australasia"

Ignitability Index	0
Heat Evolved	0
Spread of Flame Index	0
Smoke Development Index	0

Acoustic properties

Where a high degree of noise insulation is required, Plasterglass® Optima Sheets can be treated with fibreglass batts or sealed during manufacture to prevent soundwave transmission. For unique sound environments special lead-equivalent sheets are available (designed to individual specification).



The finest gypsum plaster reinforced with chopped fibreglass rovings Δ

Ceiling Diaphrams

Plasterglass® Optima sheets can be used as a ceiling diaphram as described in NZS 3604 for the limited case of 7.5m long and being not steeper than 25°.

Building Technology Limited Test Report STR 316 12 March 1996.

Seismic requirements

Plasterglass® Optima complies with the requirements of the NZ Building Code.

Dimensions

Sheets are manufactured to span ceiling battens spaced at 600mm centres for maximum cost effectiveness.
They are available in thicknesses of 8mm, 9.5mm, 12.5mm, 16mm, and 19mm. Numerous sheet sizes range from 2400mm x 1200mm to 3000mm x 1980mm. Providing maximum cost effectiveness by ease of installation and lack of wastage as the wider sheets reduces the number of joints. Joints can be either on or off the framing members. Different sheet lengths are available to minimise wastage.

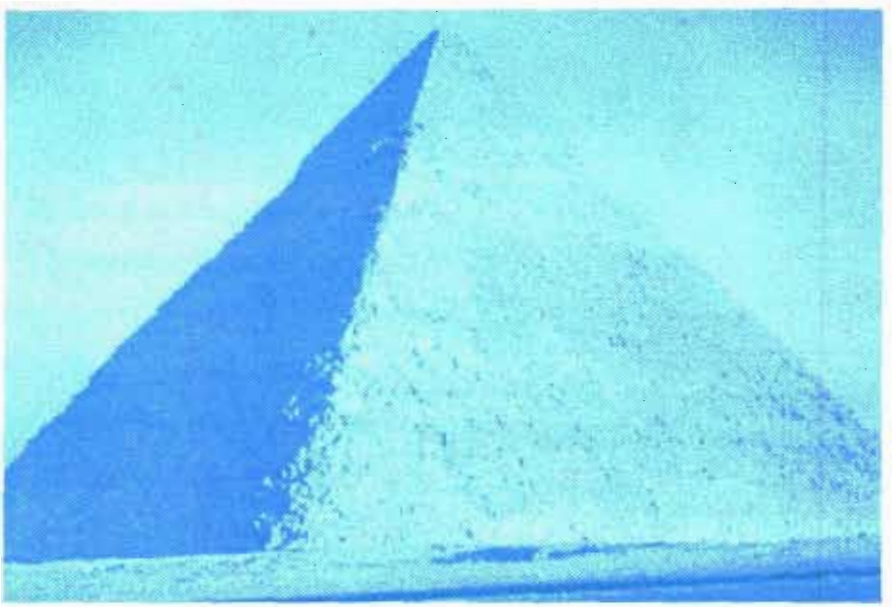
"Maximum cost effectiveness"

Approx Weights

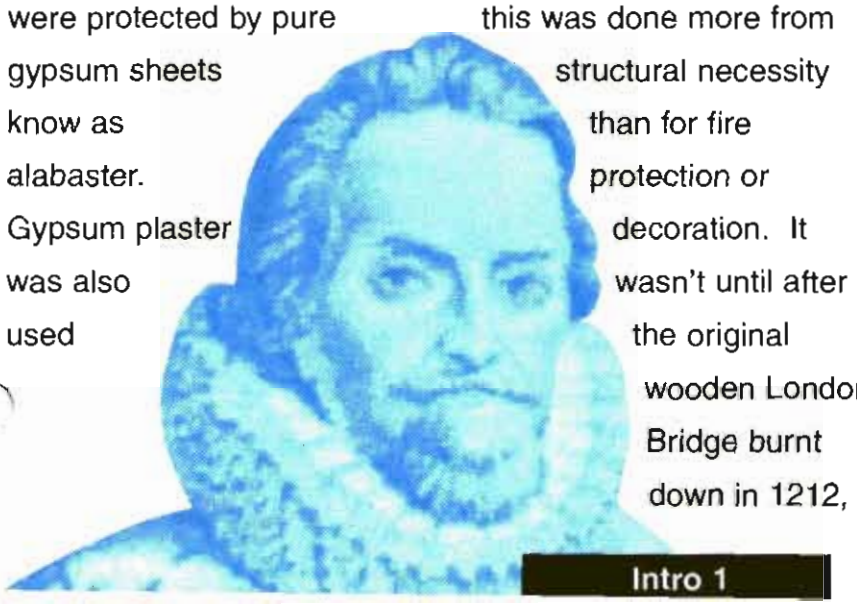
Stock Sheet Sizes

8mm sheet*	9.5mm	12.5mm sheet	16mm Fyrwall	19mm Fyrwall
Weight per M2 7kg	8.5kg	10.5kg	13.5kg	16kg

AN INTRODUCTION TO FIBROUS PLASTER



Fibrous plaster has been manufactured in New Zealand for over a hundred years. However the use of fibrous plaster's main component gypsum, is as old as the pyramids. Gypsum plaster is formed by chemically combining natural gypsum (calcium sulphate) with water. The mixture is baked and then crushed to form a dry powder, technically known as "hemi-hydrate gypsum plaster." When water is once again added to the dry plaster it takes back the missing water content, allowing the formation of sheets and moulded shapes, which cure into their final solid form. The first building use of gypsum was during the construction of the pyramids in 2500BC, when the stone exteriors were protected by pure gypsum sheets know as alabaster. Gypsum plaster was also used extensively by the Greeks and the Romans; the word gypsum being derived from the Greek word "gypros" meaning chalk. During the Middle Ages both Anglo-Saxons and Normans plastered many of their buildings. Using lime plaster, this was done more from structural necessity than for fire protection or decoration. It wasn't until after the original wooden London Bridge burnt down in 1212, that King John decreed that all shops on the Thames be plastered inside and out as a protection against fire. The term "plaster of Paris" is sometimes used to describe gypsum plaster. This dated from King James 1, who during a trip to France, shortly after the great Fire of London, noted the material's fire resistant properties. The re-discovered form of plastering then played a major role in Christopher Wren's rebuilding of a safer city.



NEW ZEALAND FIBROUS PLASTER ASSOCIATION

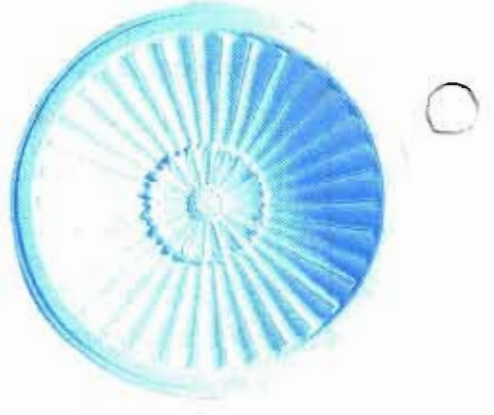
AN INTRODUCTION TO FIBROUS PLASTER (CONT)

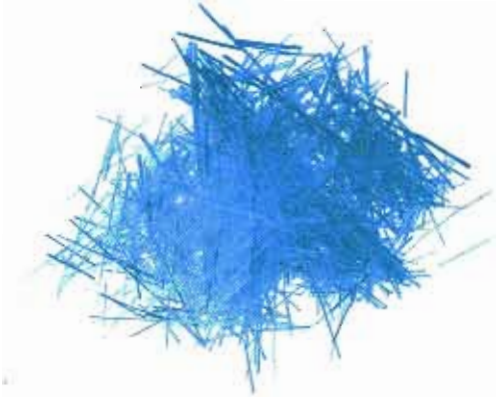
Natural gypsum and gypsum plaster are non-toxic to humans, while their Gextraction, manufacture and later disposal, imposes no

undue strain on the environment.

Fibrous plaster products can be safely used in all types of building work. Fibrous plaster products still offer the strength, beauty and versatility of this timeless material. Nevertheless advances in technology and an increased understanding of the product help make it the material of the future. Fibreglass rovings are now employed in preference to the original sisal or hemp reinforcement. This minimises surface cracking and produces a stronger board with increased fire resistance.

Fibrous plaster products are built to last, beautifully. This manual has been produced by and for members of the New Zealand Fibrous Plaster Association. The following sections include comprehensive information on the many fine materials and products produced and installed by members of the association. As well as full descriptions of individual fibrous plaster products and building systems, detailed data is provided on product installation, fixing and finishing systems, fire and sound rated systems, bracing characteristics and full project specifications. For further information on particular fibrous plaster products and applications, contact a member of the New Zealand Fibrous Plaster Association. A current list of members is to be found at the rear of the manual.





NEW ZEALAND FIBROUS PLASTER ASSOCIATION

CEILINGS

Fibrous plaster has been used in buildings for centuries, but remains as modern as tomorrow. Gypsum plaster, the basis of all fibrous plaster products, played an essential role in rebuilding the city of London following the Great Fire. The current comprehensive range of fibrous plaster ceiling products continue to offer the strength, beauty and versatility of the original material. Today, improvements in technology and a better understanding of the product's characteristics have combined to create a material of the future. Fibreglass rovings are used in preference to the original sisal or hemp reinforcement. This change has minimised surface cracking and produces a stronger board with even greater fire resistance.

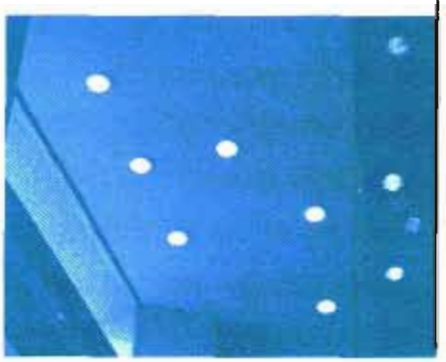
Fibrous plaster products promise to keep their good looks.

FIBROUS PLASTER FLUSH CEILINGS

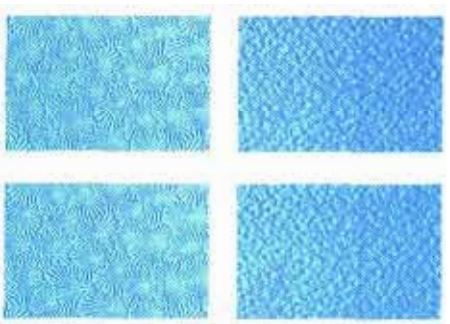
Fibrous plaster flat sheet is made from first quality gypsum plaster, conforming to the requirements of AS 2592 and reinforced throughout with chopped fibreglass rovings. Fibrous plaster sheet thicknesses range from 8 mm to 19 mm, with sheet sizes from up to 3.000 metres high and 1.830 metres wide. Flat sheets all have one glass-smooth face and the colour is natural gypsum white.

Flat fibrous plaster sheet may be fixed to either a timber or metal substrate. Fixings and joints are flush stopped and smoothed to provide an extremely high quality of surface finish. Fibrous plaster provides the perfect surface for all paint finishes, offering an unmatched evenness of material and texture.

Natural gypsum plaster compounds are used for all jointing work providing a finished ceiling surface that is both robust and beautiful.



In addition to standard flat sheets, a range of purpose-made specialty ceiling lining products are available. These include curved sheets, special surface textures and cast or moulded products.



NEW ZEALAND FIBROUS PLASTER ASSOCIATION

CEILINGS (CONT)

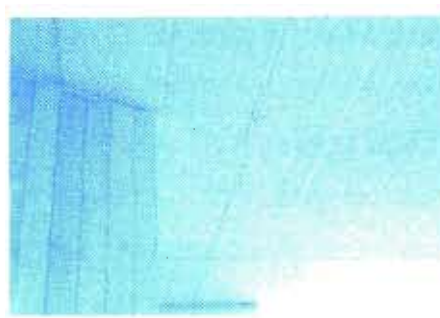
All are manufactured to the same high standards of durability and finish as standard flat sheet. Fixing and finishing Fibrous plaster is a quality product, providing the very highest standard of surface finish. Fixing and finishing work is of necessity a specialised task, requiring the very best substrate preparation, fixing and surface finishing. Only members of the New Zealand Fibrous Plaster Association are qualified to provide this high standard of workmanship. The real value of fibrous plaster lies in its ability to provide a durable, long-lasting ceiling lining and a first class surface for final decoration. Fibrous plaster may not always appear the cheapest option, but it is

unsurpassed in providing true quality and real value for money.

SPECIAL REQUIREMENTS

Fibrous plaster provides building specifiers with a range of design solutions to the various requirements of the Building Code, including fire- and sound-rated systems and thermal insulation.

All materials used to create fibrous plaster ceiling lining systems are non-combustable. Fibrous plaster sheets can be used for providing of fire-rated ceilings, backed by fire tests. Fibrous plaster sheets can also produce a range of sound-rated ceilings, with rated levels of sound insulation (the prevention of transmission) and sound absorption (the prevention of reflection).



NEW ZEALAND FIBROUS PLASTER ASSOCIATION

FIBROUS PLASTER SUSPENDED CEILINGS

Fibrous plaster acoustic tiles, decorative panels and special panels are made from first quality gypsum plaster,

conforming to the requirements of AS 2592. Being reinforced throughout with chopped fibreglass rovings they are rigid and cannot bow or sag. All visible surfaces are smooth or have a sandblasted finish. Gypsum plaster provides a natural white finish, with some variations from batch to batch. In use fibrous plaster tiles and panels may be left in their natural state or painted to the desired colour using a sealer coat and two top coats of PVA or alkyd flat enamel paint. Ceiling tiles are manufactured to suit a standard suspension grid of 600 mm x 600 mm and have an overall thickness of 35 mm. Decorative panels are manufactured to fit either a suspension grid of 1200 mm

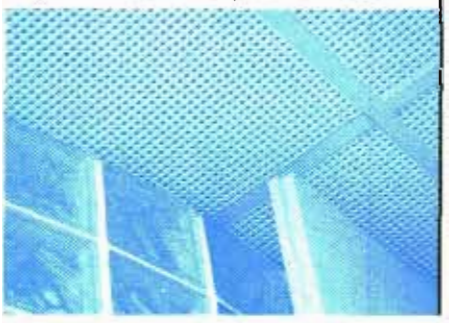
x 600 mm or 600 mm x 600 mm. Panels have a nominal thickness of 12.5 mm and are rebated on all four edges.

ACOUSTIC PROPERTIES

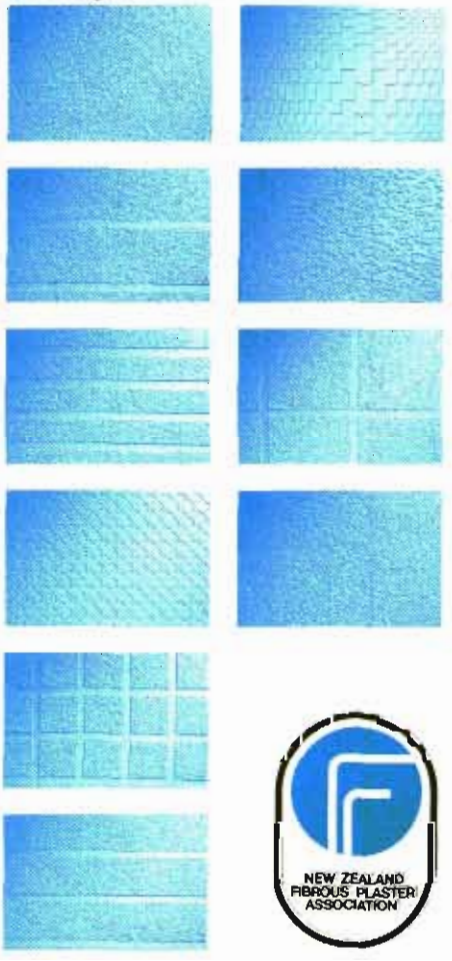
Two treatments are available which provide fibrous plaster tiles with acoustic properties to comply with or exceed building design requirements: Tiles can be backed with fibreglass acoustic batts and sealed with kraft paper glued to the tile

margins.

The tiles are sealed with a layer of fibrous plaster cast



over the tile during manufacture to increase the sound transmission coefficient rating through the tile.



NEW ZEALAND FIBROUS PLASTER ASSOCIATION

CEILINGS (CONT)

THERMAL PROPERTIES

Extra thermal insulation can be achieved with fibrous plaster acoustic tiles which incorporate a fibreglass batt. Depending on the density and thickness of the batt, thermal resistance will vary from R O.358 to R 0.633.

SEISMIC REQUIREMENTS

Fibrous plaster suspended ceiling systems have been designed to comply with the requirements of the NZ Building Code.

FIRE RESISTANCE

No combustable materials are used in the manufacture of fibrous plaster ceiling tiles and decorative panels, except where kraft paper is used to contain the fibreglass batts.

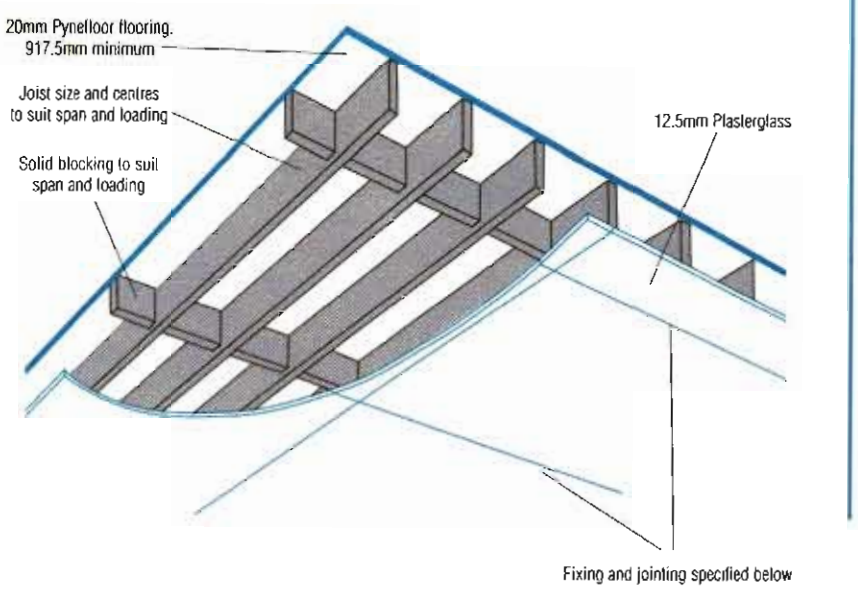
NEW ZEALAND FIBROUS PLASTER ASSOCIATION

1/2 HOUR FIRE RESISTANCE RATING

FLOOR CEILING SYSTEM PROTECTED BY ONE LAYER OF 12.5mm PLASTERGLASS

FRAMING:

Joist dimensions and centres, and solid blocking to suit span and loading: specific details are available from the 'Pynefloor' manufacturers, Fletcher Wood Panels Ltd. Flooring as detailed above.



LINING:

Plasterglass to be standard sheets 12.5mm thick.

FIXINGS:

Fix sheets to the underside of the joists with gypsum screws or galvanised clouts or full wadding method. Screw dimension 30 x 6, galvanised clouts dimension 40 x 2.5. The screws or clouts are to be placed at 400mm centres, on the joists, and if sheet perimeter fixing is available, the screws or clouts are to be placed at 150mm centres. Screw or clout heads are to finish below the face of the sheet to allow for flush surface stopping. Wadding: Wads shall be at not more than 500mm centres and must be completely looped over timber blocks nailed between the joists, or on the side of them. Wads of fibre, sisal, flax tow or fibreglass are to be immersed in a plaster mix before they are fixed in position.

JOINTING:

The joints of the sheets are to be wadded or taped with an open weave fibreglass tape, which is in width not less than 40mm. Flush jointing (stopping) then takes place over these wadded or taped areas. Sheet joints can be made on or off the joists.

EARLY FIRE HAZARD INDICES:

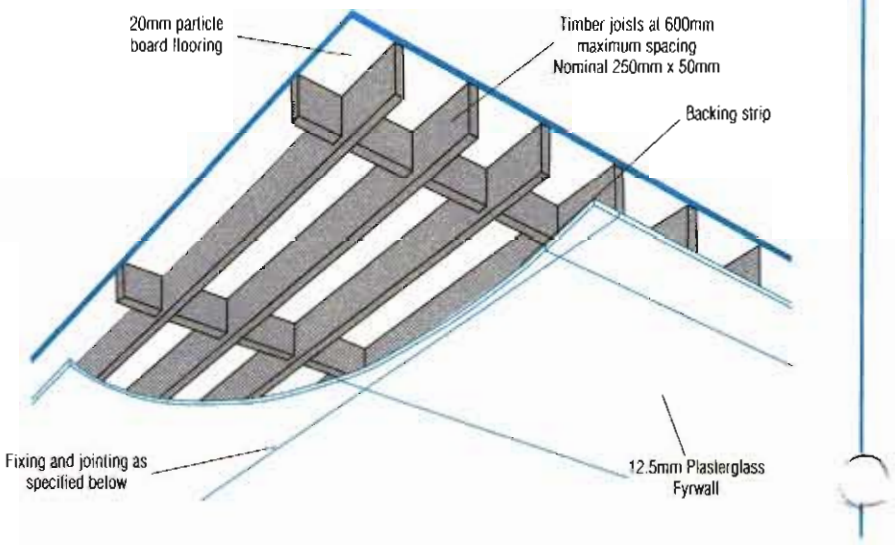
Plasterglass sheeting achieved the following indices when subjected to the Tests for Early Fire Hazard Properties of Materials

Ignitability Index	0
Heat Evolved	0
Spread of Flame Index	0
Smoke Development Index	0

NEW ZEALAND FIBROUS PLASTER ASSOCIATION

1 HOUR FIRE RESISTANCE RATING

FLOOR CEILING SYSTEM PROTECTED BY ONE LAYER OF 12.5mm PLASTERGLASS FYRWALL



FRAMING:

Timber joists and solid blocking, with dimensions and centres to suit span and loading. Maximum joist spacing 600mm. Flooring to be 20mm thick flooring grade particle board.

LINING:

One thickness of 12.5mm Plasterglass Fyrwall.

FIXING:

Fix sheets to the underside of each joist with the full wadding method. Wads shall consist of glass fibres dipped in a wet plaster mix, draped over 100mm galvanised nails partially driven into the side of the joist. Locate wads at 300mm centres along each joist. Nail edges of sheets at 100mm centres only where edges of sheets coincide with joists or blocking. Additional nails may be used at 300mm centres along each joist. All nails shall be 40 x 2.5mm galvanised flat head clouts, finished below the face of the sheet to allow for flush surface stopping.

JOINTING:

Sheet joints can be made on or off the joists. All joints which are not on joists or blocking shall have a backing strip of 12.5mm Plasterglass Fyrwall 100mm wide, attached to both sheets with cornice cement. Caulk each joint and cover with a 40mm wide open weave fibreglass tape. Finish with plaster to a smooth surface. Fix plasterglass cornice at junction of ceiling and wall.

TEST REPORT:

This specification is based on Test Number FR966 performed by the Building Research Association of New Zealand on 4 October 1984. The test specimen was 4.0m x 3.0m with nominal 250 x 50mm joists at 600mm centres spanning 4.0m, loaded to produce maximum permissible stresses allowed by NZS.3603: 1981.

EARLY FIRE HAZARD INDICES:

Plasterglass sheeting achieved the following indices when subjected to the Tests for Early Fire Hazard Properties of Materials

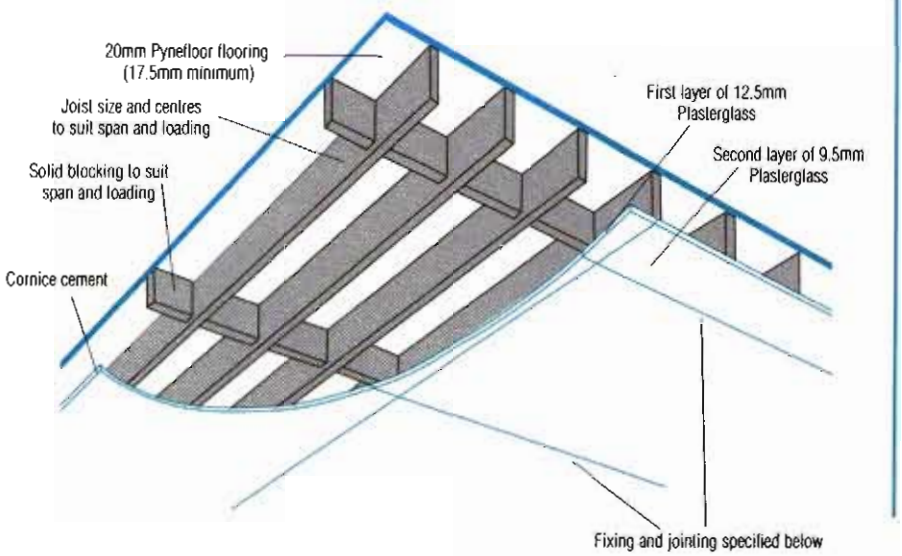
Ignitability Index	0
Heat Evolved	0
Spread of Flame Index	0
Smoke Development Index	0

NEW ZEALAND FIBROUS PLASTER ASSOCIATION

FLOOR CEILING SYSTEM PROTECTED BY TWO LAYERS OF PLASTERGLASS, FIRST LAYER 12.5mm AND SECOND LAYER 9.5mm

FRAMING:

Joist dimensions and centres, and solid blocking to suit span and loading: specific details are available from the 'Pynefloor' manufacturers, Fletcher Wood Panels Ltd. Flooring as detailed above.



LINING:

Plasterglass to be sheets 12.5mm and 9.5mm in thickness: standard sheets to form a sandwich 22mm in thickness.

FIXINGS:

The first and thicker layer to be fixed to the underside of the specified joists with screws or galvanised clouts. Screw dimension 30 x 6, galvanised clout dimension 40 x 2.5. These mechanical fixings to be at 300mm centres along the joists and at 150mm centres where the perimeter of a sheet is on a joist. Stagger joints of the second layer so they do not correspond with the underlay joints. Fix the second or outer layer with screws 40 x 6 or clouts (galv.) 50 x 2.5 at 400mm centres along the joists, and at 150mm centres where perimeter of sheets are on joists. Screw or clout heads to finish below the surface of the sheets to allow for flush surface stopping. In addition to the mechanical fixing, the second layer to be glued to first layer with strips of cornice cement approximately 25mm wide x 10mm thick, between joists and parallel to and mid-way between them. Cornice cement to also be placed along all edges of second layer of sheets.

Caulk joints of the second layer with stopping plaster. Cover with 40mm open weave fibreglass bandage, pressed hard against the joint surface. Fill and trowel to smooth even surface.

EARLY FIRE HAZARD INDICES:

Plasterglass sheeting achieved the following indices when subjected to the Tests for Early Fire Hazard Properties of Materials

Ignitability Index	0
Heat Evolved	0
Spread of Flame Index	0
Smoke Development Index	0

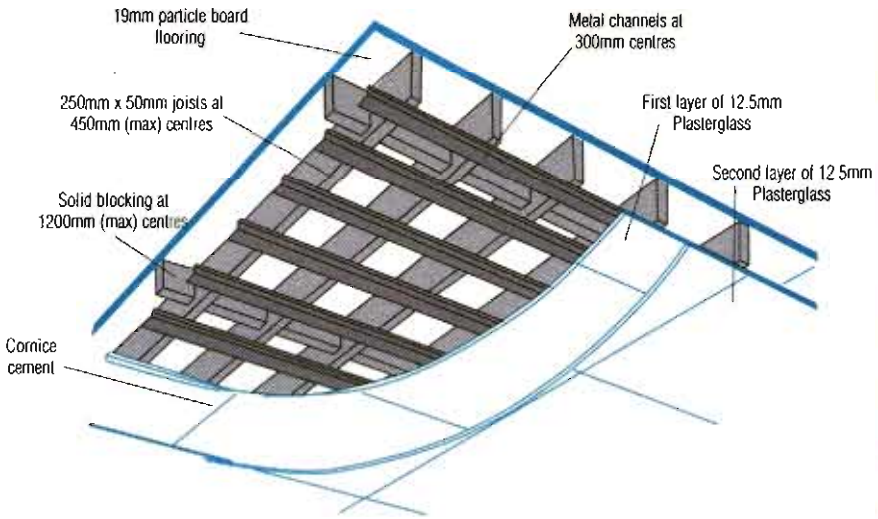
NEW ZEALAND FIBROUS PLASTER ASSOCIATION

1 1/2 HOUR FIRE RESISTANCE RATING

ALTERNATIVE FLOOR CEILING SYSTEM PROTECTED BY TWO LAYERS OF 12.5mm PLASTERGLASS

FRAMING:

250mm x 50mm (nominal) timber joists at 450mm (maximum) centres. Solid strutting or nogs as 1200mm centres. The joists can be nailed to a perimeter frame of the same dimensions, or supported on a 100mm x 50mm top plate. Flooring to be 19mm particle board nailed to the timber joists.



STEEL HANGER SUSPENSION

Nail steel furring channels at 300 centres to underside of floor joists. Channels to be rolled from 0.7mm thick galvanised mild steel sheet to make a top-hat channel section 30mm deep x 50mm wide with flanges 20mm wide for nailing. As an alternative, use U-shaped metal hangers to space the lining 25mm off the joists. Fold hangers from 70mm wide x 0.7mm thick galvanised mild steel strip to provide a 50mm base and legs up to 200mm long. Nail hangers to joists at 300mm centres.

LINING:

Two thicknesses of 12.5mm Plasterglass fixed to the underside of the steel channels or hangers. Locate joints on channels or hangers. Stagger joints between first and second layers.

FIXINGS:

Screw first layer to metal suspension system using 6g. x 30mm non-rusting screws with 14mm washers under the screw heads. Screw second layer to metal suspension system with 6g. x 45mm non-rusting screws. Spacing of screws for both layers to be 150mm at sheet edges, 450mm in the field of the sheets. In addition to screws, second layer to be glued to first layer with strips of cornice cement approximately 25mmx 10mm thick at 450mm centres, parallel to and mid-way between joists, and at edges of second layer of sheets.

JOINTING:

Caulk joints of the second layer with stopping plaster. Cover with 50mm open weave fibreglass bandage pressed hard against the fibre surface. Fill and trowel to smooth even surface.

APPROVAL:

The Standards Association of New Zealand has approved a 1 1/2 hour fire resistance rating for non-load bearing partitions complying with this Specification.

This approval is based on Test No. 1160 performed by the Experimental Building Station, N.S.W. on 24 November 1976. The test floor was 4.0m x 4.8m. The floor was subjected to a uniformly distributed load of 2.87kPa throughout the test.

EARLY FIRE HAZARD INDICES:

Plasterglass sheeting achieved the following indices when subjected to the Tests for Early Fire Hazard Properties of Materials

Ignitability Index	0
Heat Evolved	0
Spread of Flame Index	0
Smoke Development Index	0

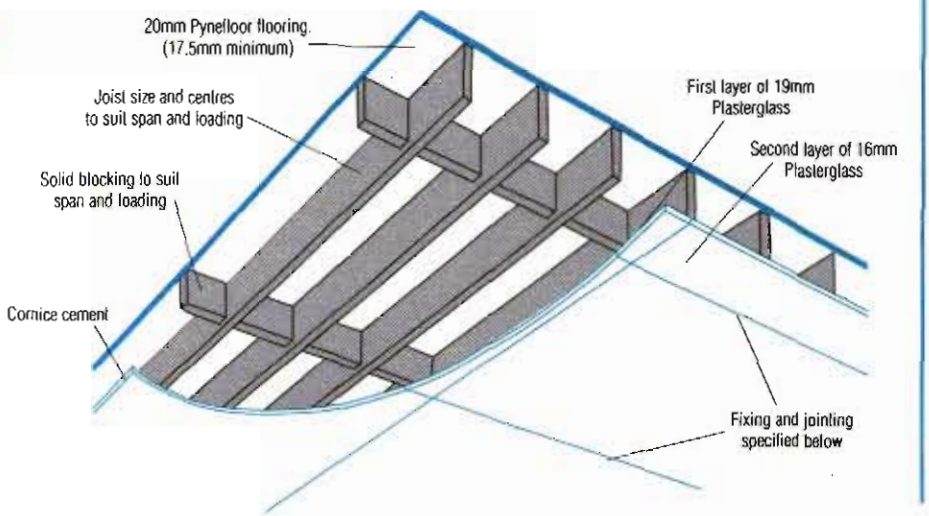
NEW ZEALAND FIBROUS PLASTER ASSOCIATION

1 1/2 HOUR FIRE RESISTANCE RATING

FLOOR CEILING SYSTEM PROTECTED BY TWO LAYERS OF PLASTERGLASS, FIRST LAYER 19mm AND SECOND LAYER 16mm

FRAMING:

Joist dimensions and centres, and solid blocking to suit span and loading: specific details are available from the 'Pynefloor' manufacturers, Fletcher Wood Panels Ltd. Flooring as detailed above.



LINING:

Plasterglass to be standard sheets 19mm and 16mm in thickness. Sheets to form a sandwich 35mm in thickness.

FIXINGS:

The first layer to be fixed to the underside of the specified joists with gypsum screws, or galvanised nails. Screw dimension 40 x 6, galvanised nails 40 x 2.5. These mechanical fixings to be at 300mm centres along the joists and at 150mm centres where the perimeter of a sheet is on a joist. Stagger joints of the second layer so they do not correspond with the underlay joints. Fix the second or outer layer with screws 60 x 6 at 400mm centres along the joists, and at 150mm centres where the perimeter of sheets are on joists. Screw or clout heads to finish below the surface of the sheets to allow for flush surface stopping. In addition to the mechanical fixing, the second layer to be glued to first layer with strips of cornice cement approximately 25mm wide x 10mm thick, between joists and parallel to and mix-way between them. Cornice cement to also be placed along all edges of second layers of sheets.

JOINTING:

Caulk joints of the second layer with stopping plaster. Cover with 40mm open weave fibreglass bandage, pressed hard against the joint surface. Fill and trowel to smooth even surface.

EARLY FIRE HAZARD INDICES:

Plasterglass sheeting achieved the following indices when subjected to the Tests for Early Fire Hazard Properties of Materials

Ignitability Index	0
Heat Evolved	0
Spread of Flame Index	0
Smoke Development Index	0

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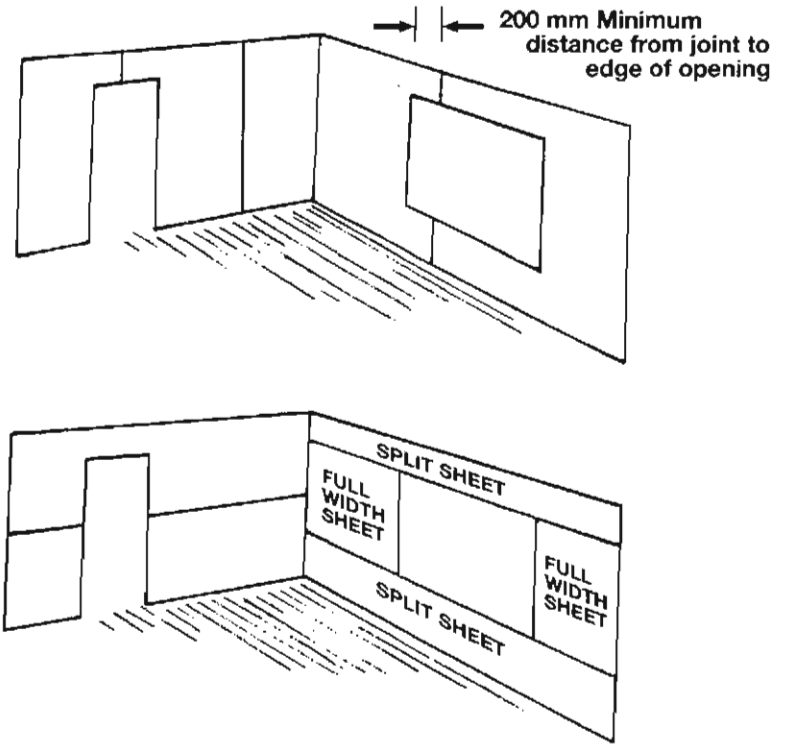
GENERAL FIXING AND FINISHING SPECIFICATIONS OF FIBROUS PLASTER

LAYOUT

Sheets should be laid out so as to minimise joints and waste. Joints on adjoining sheets shall be staggered. Joints on opposite sides of the same wall shall be staggered. Sheets may be fixed horizontally or vertically.

To avoid cracking of vertical joints at openings such as windows and doorways, vertical joints shall not coincide with the edge of openings. The sheet shall be laid so that the vertical joint falls a minimum of 200mm from the edge of the opening



LAYOUT DIAGRAM

CUTTING

Fibre reinforced gypsum products would normally be cut by a trimming knife or saw, working from the face side.

When fitting sheets they must be adequately supported to prevent cracking. All cut edges and ends of the fibre-reinforced gypsum shall be smoothed when necessary, in order to abut neatly and obtain neat joining when applied.

Cut-outs for pipes, fixtures, or other small openings shall be cut out with a saw or other suitable tool. Where fibre reinforced gypsum board meets a projecting element it shall be scribed and cut.

NOTE: The use of impact tools such as hammers is not recommended practice for producing cut-outs.

FIXING

Wherever possible, full length sheets should be used to minimise joints.Adhesive fixing shall be combined with supplementary permanent fasteners. The permanent fasteners shall not be closer than 200mm to the edge of the adhesive as this may result in fastener 'popping" ***.Adhesive used shall be Bostik and meet the requirements of AS 2753.***

Jointing of the linings may occur on or between the framing members. The preferred method is to join off the framing members. The lower edge of the sheets shall be kept 8mm above the floor. The sheets shall be fixed firmly to the framing member.

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Method of Jointing

The sheets shall not be forced into place. Where sheets joints occur between studs the methods for reinforcing the joints are as follows:

(a) Back blocking with (cont suitable sized pieces of fibre reinforced gypsum board bonded to the back of the sheets. The back block shall be a minimum of 200mm wide by the length of the joint.

(b) Where access to the back of the sheet is available wadding with sisal fibre or fibre glass rovings soaked in plaster applied to the back of the joints can be used.

(c) Trimmers or noggins are positioned at a maximum of 800mm centres across the joints. The sheets are fixed firmly to these framing members by gluing, screwing or nailing.

For methods (a), (b) and (c) prior to reinforcement of joints, the joints shall be evenly aligned to leave a flush surface ready for rebating, taping and stopping.

All joints are to be rebated to allow a joint reinforcing tape to be embedded into a suitable stopping plaster then the joint is trowelled evenly across the joint.

Alternative method for jointing (face wadding ceilings)

Sheet joints shall have a 10mm gap to allow sisal fibre or fibre glass rovings soaked in plaster to be pushed into this gap. Care shall be taken to allow a depression of 2mm upwards at the sheet joints.

plaster work shall be completed before the fixing of linings is commenced.

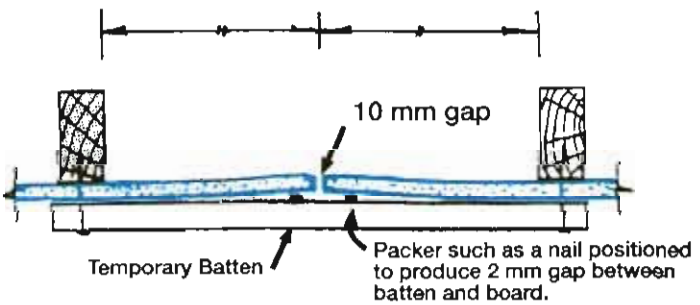
Batten spacing

Where ceiling battens are specified, they shall be packed to true lines with packing pieces, and shall be securely fixed to the underside of each ceiling joist at each intersection.

Fixing of external and internal corners

External corners subject to damage

External corners that are subject to damage shall be protected with a metal corner bead or other device giving equivalent corner protection.



RECESS FORMATION AND MINIMUM 10MM GAP

Fixing surfaces

All nogging, trimming, straightening and packing of studs and ceiling joists necessary for the fixing of

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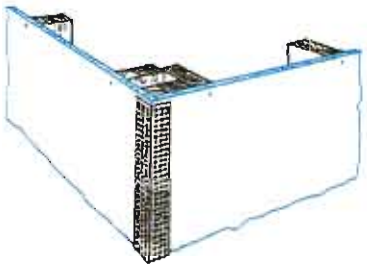
FIXING (CONT)



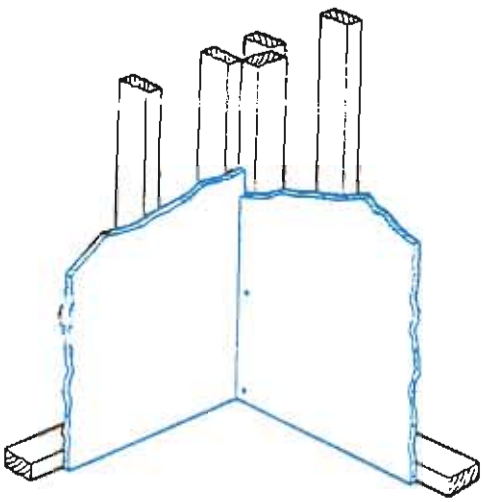
EXTERNAL CORNER

Internal corners

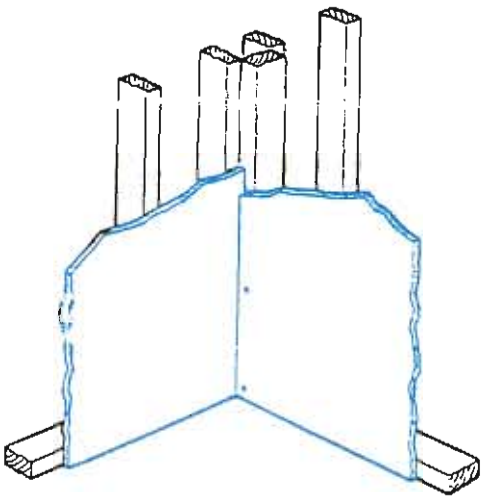
Internal corners should be fixed as shown iin general applications. For other applications (such as fire rated systems) refer manufacturer's installation instructions.

Taping of Angles

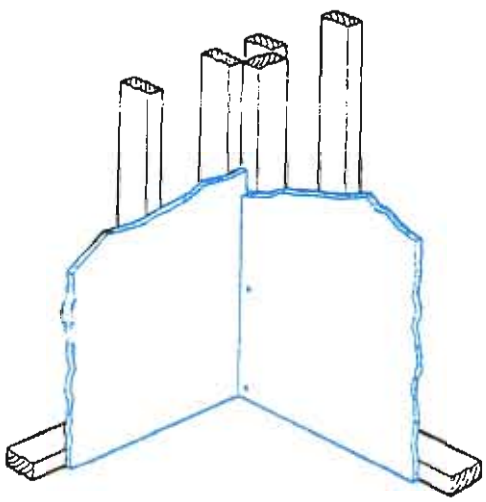
For all internal angles and external angles not subject to damage, which are not reinforced, joint reinforcing tape is to be embedded into a stopping plaster and the angle is to be trowelled evenly on both sides of the joint.



INTERNAL ANGLE-
FIXED BOTH SIDES



INTERNAL ANGLE-
FIXED ONE SIDE ONLY



INTERNAL ANGLE-
FLOATING ANGLE

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FIXING OF CEILING SHEETS TO TIMBER OR STEEL

Fixing of ceiling sheets by screws

Where sheets are fixed to ceilings by screws, the screws shall be in the body of the sheets. At all bearings on battens or joists, fixings shall be spaced at a maximum of 400mm centres in the body of the sheet and at a maximum of 150mm centres at the edge of the sheet.

The sheets shall be fixed firmly to the framing member.

Minimum screw lengths for fibre-reinforced gypsum are given in Table 1.

Fixing of ceiling sheets with a combination of mechanical fastener and adhesive

Where sheets are fixed to ceilings by bonding to joists, battens or other backgrounds with adhesive, the joists, battens, or other background shall be free from dust, dirt, oil and other matter liable to inhibit the bond.

Solid backgrounds shall be substantially even, smooth and free from any protrusions liable to adversely affect the fixing of the sheets.

Adhesives shall be applied in daubs or beads. Daubs shall be not less than 25mm in diameter and 12mm in thickness. Beads of adhesive from a cartridge shall be at least 10mm wide and 50mm long commencing 200mm from the sheet edge and spaced at a maximum of 250mm centres along ceiling joists or battens. Alternatively, a continuous bead of adhesive a minimum of 6mm in diameter can be applied. After application of the adhesive to the joists, battens or other backgrounds, the sheets shall be pressed against the adhesive and permanently fixed by nails or screws at a maximum of 500mm centres around the perimeter of the sheet. The body of the sheet shall be temporarily fixed in position by nails or screws at approximately 600mm centres. The temporary fixings shall be left in position for a minimum of 24 hours to allow the glue to cure.

TABLE 1
MINIMUM SCREW LENGTHS FOR FIXING PLASTERGLASS OPTIMA

Fibre reinforce gypsum thickness(mm)	Screw lengths (mm) and size (No.)					
	Hardwood		Softwood		Steel	
	Length (mm)	Size (No.)	Length (mm)	Size (No.)	Length (mm)	Size (No.)
9.5,10	25	6	25	6	25	6
12.5,13	25	6	30	6	25	6
16	30	6	50	6	30	6

NOTE: The above Table applies only to single layer systems. Refer to manufacturers recommendations for multiple layer systems.

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TABLE 2
MINIMUM NAIL LENGTHS FOR FIXING PLASTERGLASS OPTIMA

Gypsum plasterboard thickness (mm)	Nail length, mm x 2.5mm diameter	
	Hardwood	Softwood
8 - 10	30	30
12.5 - 13	30	40
16	40	50

Fixing ceiling sheets by wadding

The wadding plaster should be gauged to a suitable consistency.

Sheets are to be supported and held firmly against the timber ceiling framing by temporary fastening or propping at a maximum of 600mm centres forming a true ceiling plane.

The wads for strapping over joists are to be placed at a maximum of 500mm centres. It is essential that these wads adhere to the contour of the timber framing and out onto the back of the sheets at least 75mm from both sides of the timber framing. Temporary nailing battens or props shall be removed when wadding has set.

FINISHING

Alignment and preparation of joints

Cover battens, cornices, centres mouldings, flush joints, and the like, shall be carefully inspected and, where necessary, brought into alignment before wadding or stopping is commenced. All joints shall be reinforced in accordance with fixing section in Ceiling Section on pages 10, 11, 12.

Stopping

Fill all surface damaged areas, holes and joints with a suitable stopping plaster. The areas that are to be stopped must first be dampened with water. The stopping when partially set, shall be cut off flush to the surrounding surface and then allowed to set hard. Additional stopping shall then be applied and trowelled to leave a flush surface in true relationship to the adjacent surfaces.

DECORATION

■ To achieve the optimum finish a good quality oil based pigmented sealer shall be applied as a first coat. This first coat must be roller applied.

(Spray application is not recommended.)

■ After the sealer coat has been applied it is the responsibility of the main contractor and the painter to notify the contractor of any defect or irregularity in the fibrous plaster work.

Re: Seal patched areas:
Lightly sand when dry, then apply two top coats as per manufacturers specifications.

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