5113UB USG BORAL PLASTERBOARD LININGS

1.   GENERAL

This section relates to the supply, fixing and jointing of **USG BORAL** plasterboard linings and accessories to timber and steel framed walls and ceilings to form:
- standard systems
- superior finish quality systems
- bracing systems
- fire rated systems
- wet area systems

1.1   RELATED WORK
Refer to ~ for ~.

1.2   ABBREVIATIONS
The following abbreviations are used throughout this part of the specification:
AWCINZ   Association of Wall and Ceiling Industries New Zealand
FRR   Fire resistance rating
STC   Sound transmission class

Documents

1.3   DOCUMENTS
Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:
NZBC C/AS1-AS7 Protection from fire
NZBC E2/AS1   External moisture
AS 1397   Continuous hot-dip metallic coated steel sheet and strip - Coatings of zinc and zinc alloyed with aluminium and magnesium
AS 1530.4   Methods for fire test on building materials, components and structures - Methods of tests on building materials, components and structures - Fire-resistance test of elements of construction
AS/NZS 2588   Gypsum plasterboard
AS/NZS 2589   Gypsum linings - Application and finishing
NZS 3604   Timber-framed buildings
AS/NZS 4600   Cold-formed steel structures
ASTM C473-12   Standard test methods for physical testing of gypsum panel products
ISO 5660.1   Reaction-to-fire tests - Heat release, smoke production and mass loss rate - Part 1: Heat release rate (cone calorimeter method)
ISO 5660.2   Reaction-to-fire tests - Heat release, smoke production and mass loss rate - Part 2: Smoke production rate (dynamic measurement)
BRANZ Technical Paper P21   BRANZ Technical Paper P21: A wall bracing test and evaluation procedure (2010)
NASH   Residential and Low-Rise Steel Framing Part 1 2010 Design Criteria

1.4   MANUFACTURER'S DOCUMENTS
Manufacturer's and supplier's documents which refer to work in this section are:
- USG Boral Systems+ Plasterboard Systems
- USG Boral Plasterboard Installation Manual - NZ
- USG Boral Plasterboard Bracing Installation Manual - NZ
- USG Boral Sheetrock® Brand Standard Board 10mm
- USG Boral Sheetrock® Brand Standard Board 13mm
- USG Boral Wet Area Board™
- USG Boral Firestop® Board
- USG Boral Multistop™ 4 Board
- USG Boral Fiberock® Aqua-Tough™
- USG Boral Sheetrock® Paper Face Metal Bead and Trim
- USG Boral Sheetrock® Ceiling Batten System
- BRANZ Assessment No. FAR 2190 - BCA Classification of the Fire Performance of Firestop Boral Plasterboard (Firestop®)

- BRANZ Assessment No. FAR 4137 - Assessment Report on Fire Performance of Various Boral Plasterboard Wall and Ceiling Products

Manufacturer/supplier contact details

Company:	**USG Boral Building Products NZ**
Web:	www.usgboral.com
Email:	info.nz@usgboral.com
Telephone:	0800 USGBORAL, 0800 874 26725

Requirements

1.5   NO SUBSTITUTIONS
Substitutions are not permitted to any specified USG BORAL systems, system components, plasterboard, associated products or accessories.

1.6   INSTALLER WORK SKILLS AND QUALIFICATIONS
Plasterboard fixers and plasterers to be experienced competent workers, familiar with plasterboard lining systems installation and finishing techniques. Submit evidence of experience on request. For example:
- National Certificate of Interior Systems; or
- Certified Business member of AWCINZ, or
- Licensed Building Practitioner

Performance

1.7   INSPECTIONS AND ACCEPTANCE
Allow for inspection of the finished plasterboard surface:
- before applying sealer and
- before applying finish coatings or decorative papers,
so that after assessment of the type and/or angle of illumination and its effect on the completed decorative treatment, group approval and acceptance of the surface can be given.

1.8   SOUND INSULATION REQUIREMENTS
Select the USG Boral system from the Selector+ manual. Refer to SELECTIONS for system STC options.

1.9   FIRE RATING REQUIREMENTS
Select the USG Boral system from the Selector+ manual. Refer to SELECTIONS for system FRR options.

1.10   BRACING REQUIREMENTS
Select the USG Boral system from the Bracing manual. Refer to SELECTIONS for system to meet the requirements of NZS 3604. Refer to drawings for location and type.

1.11   SURFACE FIRE PROPERTIES - UNFINISHED BOARD
All USG BORAL unfinished plasterboard sheet materials achieve a Group Classification of, Group 1-S to NZBC C/AS2-AS6, Table 4.1, following testing in accordance with ISO 5660.1 and ISO 5660.2.

2.   PRODUCTS

Materials

2.1   USG BORAL PLASTERBOARD - STANDARD
USG BORAL Sheetrock® Brand Wall Board, a gypsum plaster core encased in a face and backing paper formed for standard use, manufactured to AS/NZS 2588. Refer to SELECTIONS for location, type, thickness and finish.

2.2   USG BORAL PLASTERBOARD - FIRE RATED
USG BORAL Firestop®, a gypsum plaster core encased in a pink paper linerboard achieving up to -/180/180 and 120/120/120/ minutes FRR to AS 1530.4 and

manufactured to AS/NZS 2588. Refer to SELECTIONS for location, type, thickness and finish.

2.3   USG BORAL PLASTERBOARD, WET AREA
        USG BORAL Wet Area Board, a paper bound modified water resistant gypsum plaster core sheet lining material manufactured to AS/NZS 2588. Refer to SELECTIONS for location, type, thickness and finish.

2.4   USG BORAL PLASTERBOARD - MULTIPLE USE
        USG BORAL Multistop™ 4 Board, a paper bound modified gypsum plaster core sheet lining material incorporating fire, impact, sound and water resistance. Tested to AS 1530.4 and manufactured to AS/NZS 2588. Refer to SELECTIONS for location, type, thickness and finish.

2.5   USG BORAL FIBEROCK - IMPACT RESISTANT
        USG BORAL Fiberock® Aqua-Tough™ gypsum fibreboard, a synthetic gypsum board with factory applied acrylic sealer finish. Tested to AS 1530.4 and manufactured to ASTM C473-12. Refer to SELECTIONS for location, type, thickness and finish.

2.6   CORNICE
        USG BORAL plasterboard cornice. Refer to SELECTIONS for profile and size.

        Components

2.7   CEILING BATTENS
        USG BORAL Sheetrock® metal ceiling battens, perimeter channel and angle.

2.8   NAILS, TIMBER FRAME
        10mm plasterboard, nail length(mm minimum):

Smooth shank gold passivated nails	40
Annular ring shank nails and uni-nails	30
Galvanized nails (2.8mm dia UNO)	40

        13mm plasterboard, nail length(mm minimum):

Smooth shank gold passivated nails	40
Annular ring shank nails and uni-nails	30
Galvanized nails (2.8mm dia UNO)	40

2.9   SCREWS, TIMBER FRAME
        10mm plasterboard, screw type/length:

Type W screws	6-9 x 25W wall
	6-9 x 32W ceiling

        13mm plasterboard, screw type/length:

Type W screws	6-9 x 32W

        16mm plasterboard, screw type/length:

Type W screws	6-9 x 40W

        10mm Fiberock®, screw type/length:

Type W screws	6-9 x 25W

        13mm Fiberock®, screw type/length:

Type W screws	6-9 x 32W

        16mm Fiberock®, screw type/length:

Type W screws	6-9 x 40W

        Screws for fire rated systems as required by USG BORAL Plasterboard specifications. Screws for perimeter fixing of bracing systems as required by USG BORAL Plasterboard bracing specifications, Type W screws, 6-9 x 32.

2.10   SCREWS, STEEL FRAME
10mm and 13mm plasterboard, screw type/length:

Type S and D screws	6-18 x 32D,S

16mm plasterboard, screw type/length:

Type S and D screws	6-18 x 32D,S

10mm and 13mm Fiberock, screw type/length:

Type S and D screws	6-18 x 25D,S

16mm Fiberock, screw type/length:

Type S and D screws	6-18 x 32D,S

Screws for fire rated systems as required by USG BORAL Plasterboard specifications.

2.11   TAPE ON TRIMS AND EDGES
USG BORAL Sheetrock® paper faced metal beads.

2.12   METAL ANGLE TRIMS
USG BORAL galvanized steel slim angle trims.

2.13   CONTROL JOINTS
USG BORAL Sheetrock® No.093 Zinc Control Joint.

Accessories

2.14   ADHESIVE
Timber frame and/or steel frame:
Ultra low VOC water based wallboard adhesive
Solvent based wallboard adhesive

2.15   JOINTING COMPOUNDS
System match bedding compound and finishing compound. Refer to USG BORAL
Plasterboard Installation Manual and follow the requirements on which compounds to use
with which accessory and in which location, to achieve the required level of finish.
Refer to SELECTIONS for options.

2.16   JOINTING TAPE - PAPER
Sheetrock® paper jointing tape.

2.17   JOINTING TAPE - FIBREGLASS
Sheetrock® fibreglass jointing tape.

2.18   ACOUSTIC SEALANT
Low VOC water based highly flexible acoustic sealant.

2.19   GAP FILLER
Ultra low VOC multi-purpose acrylic flexible filler.

Finishes

2.20   SKIM COAT PLASTER
Proprietary spray-on surface finish.

3.   EXECUTION

Conditions

3.1   STORAGE
Store USG BORAL plasterboard sheets and accessories in dry conditions stored indoors
out of direct sunlight in neat flat stacks on either an impervious plastic sheet or clear of

the floor with no sagging and avoiding damage to ends, edges and surfaces. Reject damaged material.

3.2   LEVELS OF PLASTERBOARD FINISH
Provide the selected plasterboard surfaces to the pre decorative levels of finish specified in AS/NZS 2589.

3.3   CONFIRM LEVELS OF PLASTERBOARD FINISH ACCEPTANCE
Before commencing work, agree in writing upon the surface finish assessment procedure towards ensuring that the quality of finish expectations are reasonable and are subsequently obtained and acceptable.

Do not apply decorative treatment until it is agreed in writing by the contractor, subcontractors and decorator that the specified plasterboard Level of Finish has been achieved.

"Levels of plasterboard finish" is a tool for specifying the required quality of finish when installing and flush stopping USG BORALplasterboard prior to the application of a range of decorative finishes under various lighting conditions. Refer to AS/NZS 2589.

3.4   SUBSTRATE
Do not commence work until the substrate is plumb, level and to the standard required by the sheet manufacturer's and AS/NZS 2589 requirements.

3.5   TIMBER FRAME MOISTURE CONTENT
Maximum allowable moisture content to AS/NZS 2589 for timber framing at lining: 18% or less for plasterboard linings. Refer to NZBC E2/AS1.

3.6   METAL FRAMING
USG BORAL ceiling or partition metal framing, to which gypsum lining is fixed, shall comply with AS 1397, AS/NZS 4600, or NASH Residential and Low-Rise Steel Framing Part 1 2010 Design Criteria, as applicable. Where adhesion of gypsum linings is required, surfaces shall be free of oil, grease, dust and other foreign materials.

3.7   PROTECTION
Protect surfaces; cabinetwork, fittings, equipment and finishes already in place from the possibility of water staining and stopping damage.

Application

3.8   INSTALL CEILING BATTENS
Install to USG BORAL Sheetrock® Ceiling Batten Systems.
Lining to be in accordance with USG BORAL Plasterboard Installation Manual.

3.9   LINING WALLS AND CEILINGS GENERALLY
Ensure bulk insulation thickness shall not exceed that of the wall framing.
Ensure the weight in ceilings meets span capabilities.

3.10   BOARD ORIENTATION
Minimise joints by careful sheet layout using the largest sheet sizes possible, and generally fixing horizontally. Where part sheets are required for various stud heights they should be positioned so the cut sheet is as low as possible to keep joints below eye level.

3.11   INSTALL WET AREA SYSTEMS
Install USG BORAL Wet Area linings to system specification and USG BORAL Plasterboard Installation Manual.

3.12   INSTALL SOUND CONTROL SYSTEMS
Install linings and frame types to system specification and USG BORAL Plasterboard Installation Manual.

3.13   INSTALL FIRE RATED SYSTEMS
Install USG Boral linings and frame types to fire rated system specification and USG BORAL Plasterboard Installation Manual.

3.14   INSTALL BRACING SYSTEMS
Install linings, frame types and bracing accessories to required bracing system specification and USG BORAL Plasterboard Bracing Installation Manual - NZ.

Finishing - general

3.15   FINISHING GENERALLY
To USG BORAL Plasterboard Installation Manual and AS/NZS 2589.

Finishing - sections and trim

3.16   FIX METAL ANGLE TRIMS
Fix full length to external corners with clouts or staples at 100mm centres each side staggered to USG BORAL Plasterboard details and requirements.

3.17   FIX INTERNAL REINFORCING ANGLE
Fix full length to internal corners with clouts at 100mm centres each side staggered to USG BORAL Plasterboard details and requirements.

3.18   FIX CASING BEAD
Fix between dissimilar materials and caulk with sound rated sealant to USG BORAL Plasterboard details and requirements.

3.19   FIX J MOULD
Fix between dissimilar materials and caulk with sound rated sealant to the drawings supplied.

3.20   FORM CONTROL JOINTS
Form control joints using USG BORAL Sheetrock® No.093 Zinc Control Joint in accordance with USG BORAL Plasterboard Installation Manual.
Provide at maximum 9 metre centres in long unbroken walls and 12 metre centres to ceilings to USG BORAL Plasterboard details and requirements. Control joints shall coincide with movement joints in the substrate and with a change in substrate material. Fix control joint section into joint by staples at 150mm both sides. Fill gap in voids with sound rated sealant. Remove plastic tape after stopping.

3.21   FIX COVER MOULDS
Fix to USG BORAL Plasterboard details and requirements and to the drawings supplied.

3.22   FIX CORNICE
Fix cornice using USG BORAL Cornice Adhesive, Sheetrock® Durabond™ or Sheetrock® EasySand™, in accordance with USG BORAL Plasterboard Installation Manual.

3.23   FORM SQUARE STOPPED CORNERS
Form taped reinforced square stopped ceiling-to-wall angles to USG BORAL Plasterboard Installation Manual.

3.24   INSTALL TAPE ON TRIMS AND EDGES
Install USG BORAL Sheetrock® paper faced metal beads in accordance with USG BORAL Plasterboard Installation Manual.

Finishing - stopping

3.25   FORM JOINTS
Using Sheetrock paper tape: Fill recess with bedding compound, centre the paper reinforcing tape, apply a second coat of bedding compound, allow to thoroughly dry, followed by a coat of finishing compound. Allow to dry and lightly sand off, to USG BORAL Plasterboard Installation Manual.

Using Sheetrock fibreglass tape: Apply fibreglass tape to joint, fill recess only with Sheetrock Easy Sand™ or Durabond™ bedding compound, allow to thoroughly dry, then followed by a coat of finishing compound. Allow to dry and lightly sand off, to USG BORAL Plasterboard Installation Manual.

3.26   STOPPING NAILS AND SCREWS
Apply two successive coats of bedding compound and a coat of finishing compound to USG BORAL Plasterboard Installation Manual.

3.27   SQUARE STOPPED CORNERS
Fill with bedding compound, centre reinforcing tape into internal angle and apply a coat of finishing compound and complete to USG BORAL Plasterboard Installation Manual.

3.28   EXTERNAL ANGLES
Apply two coats of bedding compound followed by a coat of finishing compound to USG BORAL Plasterboard Installation Manual.

3.29   END BUTT JOINTS
Fill, tape and coat as for tapered edge joints except that each stage is doubled in width.

3.30   APPLY SKIMCOAT PLASTER
Apply spray-on or skim coat surface finish in accordance with USG BORAL Plasterboard Installation Manual.

Completion

3.31   REPLACE
Replace damaged sheets or elements.

3.32   CLEAN DOWN
Clean down completed surfaces to remove irregularities and finally sand down with fine paper to the sheet manufacturer's requirements, to leave completely smooth and clean.

3.33   REMOVE
Remove debris, unused materials and elements from the site.

3.34   LEAVE
Leave work to the standard required by following procedures.

4.   SELECTIONS
For further details on selections go to www.usgboral.com
Substitutions are not permitted to the following, unless stated otherwise.

Plasterboard

4.1   USG BORAL STANDARD SYSTEMS - WALLS

Location	Plasterboard type / Lining requirements	Thickness	Finish Level
~	USB BORAL Sheetrock® plasterboard	10mm	~
~	USB BORAL Sheetrock® plasterboard	13mm	~
~	USB BORAL Fiberock® Aqua-Tough™ gypsum fibreboard	10mm	~

4.2   USG BORAL WET AREA SYSTEMS - WALLS

Location	Plasterboard type / Lining requirements	Thickness	Finish Level
~	USB BORAL Wet Area plasterboard	10mm	~
~	USB BORAL Multistop™ 4 plasterboard	13mm	~
~	USB BORAL Fiberock® Aqua-Tough™ gypsum fibreboard	10mm	~
~	USB BORAL Fiberock® Aqua-Tough™ gypsum fibreboard	13mm	~

4.3   USG BORAL IMPACT RESISTANT SYSTEM - WALLS

Location	Plasterboard type / Lining requirements	Thickness	Finish Level
~	USB BORAL Fiberock® Aqua-Tough™ gypsum fibreboard	13mm	~
~	USB BORAL Fiberock® Aqua-Tough™ gypsum fibreboard	16mm	~

4.4   USG BORAL STANDARD SYSTEMS - CEILINGS

Location	Plasterboard type / Lining requirements	Thickness	Finish Level
~	USB BORAL Sheetrock® Ceiling plasterboard	10mm	~
~	USB BORAL Sheetrock® Ceiling plasterboard	13mm	~

4.5   USG BORAL WET AREA SYSTEMS - CEILINGS

Location	Plasterboard type / Lining requirements	Thickness	Finish Level
~	USB BORAL Wet Area plasterboard	10mm	~
~	USB BORAL Multistop™ 4 plasterboard	13mm	~
~	USB BORAL Fiberock® Aqua-Tough gypsum fibreboard	10mm	~
~	USB BORAL Fiberock® Aqua-Tough gypsum fibreboard	13mm	~

4.6   USG BORAL SOUND CONTROL SYSTEMS

Location	Plasterboard type / Lining requirements	STC/ System specification	Finish Level
~	1 layer of 13mm Multistop™ 4 both sides of stud	46	~
~	1 layer of 13mm Multistop™ 4 on one side and two layers on other side of stud	50	~
~	2 layers of 13mm Multistop™ 4 both sides of stud	53	~
~	1 layer of 13mm Fiberock® Aqua-Tough both sides of stud	47	~
~	1 layer of 13mm Fiberock® Aqua-Tough both sides of double stud wall	58	~

Note: Multistop™ 4 Sound Control system based on 92mm steel studs with 0.55mm BMT at 600mm centres and 50mm glasswool insulation (nominal 11 kg/m³).
Fiberock® Aqua-Tough™ system based on 92mm steel studs with 0.55mm BMT at 600mm centres and 75mm glasswool insulation (nominal 10 kg/m³). Multiple other options available – contact USG Boral NZ for details.

4.7   USG BORAL FIRE RATED SYSTEMS

Location	Plasterboard type / Lining requirements	FRR / System specification	Finish Level
~	1 layer of 13mm Firestop® both sides of stud	-/60/60	~
~	1 layer of 13mm Firestop® on one side and two layers on other side of stud	-/90/90	~
~	2 layers of 13mm Firestop® both sides of stud	-/120/120	~
~	1 layer of 16mm Firestop® both sides of stud	-/90/90	~
~	2 layers of 16mm Firestop® both sides of stud	-/180/180	~

| ~ | 1 layer of 16mm Fiberock® Aqua-Tough™ both sides of stud | -/60/60 | ~ |
| ~ | 2 layers of 13mm Fiberock® Aqua-Tough™ both sides of stud | -/120/120 | ~ |

Notes: 13mm Firestop can be substituted with 13mm Multistop™ 4 or 13mm Wet Area Firestop®.
FRR system based on 92mm steel studs with 0.55mm BMT at 600mm centres.
Fiberock® Aqua-Tough™ FRR system based on 92mm steel studs with 0.55mm BMT at 600mm centres.
Other load bearing and non-load bearing timber options also available. Contact USG Boral for system specification

4.8   USG BORAL BRACING SYSTEMS

Location	Plasterboard type / Lining requirements	Bracing / System specification	Finish Level
~	Sheetrock® 10mm, one side	UB1S	~
~	Sheetrock® 10mm, both sides	UB2S	~
~	Fiberock® 10mm, one side with hold downs	UB1FR	~
~	Fiberock® 10mm, both sides with hold downs	UB2FR	~
~	Fiberock® 10mm, one side with 7mm DD Ecoply on the other side with hold downs	UB1FRP	~

Bracing / System specification	BU/m - Wind	BU/m - Earthquake
UB1S	~	~
UB2S	~	~
UB1FR	~	~
UB2FR	~	~
UB1FRP	~	~

For bracing element location refer to drawn documentation.

Plasterboard jointing systems

4.9   USG BORAL JOINTING COMPOUNDS
     USG BORAL jointing and bedding compounds. Select from the following:

Bedding compound:

Product	Application
USG Boral Sheetrock® EasySand™,	~
USG Boral Sheetrock®Durabond™	~
USG Boral Sheetrock® Taping	~
USG Boral BaseCote®	~

Finishing compound:

Product	Application
USG Boral Sheetrock® Total™	~
USG Boral Sheetrock® Total Lite™	~
USG Boral Sheetrock® Midweight	~
USG Boral Sheetrock® All Purpose Joint Compound	~
USG Boral Sheetrock® Plus 3™	~
USG Boral All Purpose Premix	~
USG Boral TopCote 550®	~

Cornice:

Product	Application
USG Boral Sheetrock® EasySand™,	~
USG Boral Sheetrock® Durabond™,	~
USG Boral Cornice Adhesive	~

Accessories

4.10   USG BORAL CORNICE
            Size//type: ~mm

4.11   USG BORAL CEILING BATTENS
            Brand/type: USG BORAL Sheetrock® Ceiling battens

4.12   USG BORAL TAPE ON EDGE OR CORNER TRIMS
            Brand/type: ~