

# 5310A ACOUSTICAL USG BORAL/DONN® SUSPENDED CEILINGS

## 1. GENERAL

This section relates to the supply and installation of USG Boral suspended ceiling systems, including all elements offered to complete the system.

### 1.1 RELATED WORK

Refer to ~ for ~.

### 1.2 ABBREVIATIONS

The following abbreviations are used throughout this part of the specification:

|        |   |
|--------|---|
| NRC    | Noise reduction coefficient                                   |
| CAC    | Ceiling attenuation class                                     |
| STC    | Sound transmission class                                      |
| AWCINZ | Association of Wall and Ceiling Industries of New Zealand Inc |

### Documents

### 1.3 DOCUMENTS REFERRED TO

Refer to the general section 1233 REFERENCED DOCUMENTS. The following documents are specifically referred to in this section:

|                                |   |
|--------------------------------|---|
| <a href="#">NZBC C/AS1-AS7</a> | Protection from Fire  |
| <a href="#">NZBC C/VM2</a>     | Protection from Fire  |
| <a href="#">AS/NZS 1170.1</a>  | Structural design actions - Permanent, imposed and other actions  |
| <a href="#">NZS 1170.5</a>     | Structural design actions - Earthquake actions - New Zealand  |
| <a href="#">AS/NZS 1530.3</a>  | Methods for fire tests on building materials, components and structures- Simultaneous determination of ignitability, flame propagation, heat release and smoke release  |
| <a href="#">AS/NZS 1530.3</a>  | Methods for fire tests on building materials, components and structures - Simultaneous determination of ignitability, flame propagation, heat release and smoke release |
| AS 1530.4                      | Methods for fire tests on building materials, components and structures - Fire-resistance test of elements of construction  |
| <a href="#">AS/NZS 2589</a>    | Gypsum linings - Application and finishing  |
| <a href="#">AS/NZS 2785</a>    | Suspended ceilings - Design and installation  |
| <a href="#">AS/NZS 3837</a>    | Method of test for heat and smoke release rates for materials and products using an oxygen consumption calorimeter (cone test)  |
| <a href="#">NZS 4219</a>       | Specification for seismic performance of engineering systems in buildings   |
| ASTM C423                      | Test method for sound absorption and sound absorption coefficients by the reverberation room method   |
| ASTM C635                      | Standard specification for the manufacture, performance and testing of metal suspension systems for acoustical tile and lay-in panel ceilings                           |
| ASTM E1414                     | Standard test method for airborne sound attenuation between rooms sharing a common ceiling plenum (two room method)   |

### 1.4 MANUFACTURERS DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:

USG Boral Lifetime Warranty  
USG Boral Clean Room ClimaPlus  
USG Boral Eclipse ClimaPlus  
USG Boral Impressions ClimaPlus  
USG Boral Mars ClimaPlus  
USG Boral Mars Healthcare ClimaPlus  
USG Boral Mars Hi-NRC ClimaPlus  
USG Boral Olympia Micro ClimaPlus  
USG Boral Olympia II Micro ClimaPlus  
USG Boral Premier Hi-Lite ClimaPlus  
USG Boral Radar ClimaPlus  
USG Boral Radar ClimaPlus High CAC/High NRC

USG Boral Radar Illusion ClimaPlus  
 USG Boral Rock Face ClimaPlus  
 USG Boral Donn® Brand Grid Suspension Systems  
 USG Boral Fire Rated Exposed Grid Ceiling System  
 USG Boral Early Fire Reaction - [AS/NZS 3837](#) or [ISO 5660.1](#)  
 USG Boral Seismic Design Guide  
 USG Boral ScrewFix® Plasterboard Suspension System  
 USG Boral Sheetrock® Ceiling Batten System  
 USG Boral Drywall Grid Suspension System  
 USG Boral Maintenance Guidelines  
 USG Boral Geometrix™ Metal Pan

Copies of the above literature, information and technical support are available from USG Boral

Telephone: 0-9-270 2595 (upper North Island)  
 0-4-560 4528 (lower North Island)  
 0-3-365 4245 (South Island)  
 Web: [www.usgboral.com](http://www.usgboral.com)

Pricing and availability are available from:  
 Telephone: 0800 POTTER (0800 768 837)  
 0800 666 556, T&R Interiors

#### 1.5 WARRANTY

Supply a warranty as follows:

Type: USG Boral's System Lifetime Warranty  
 (maximum 30 years - exposed grid and acoustical panel)  
 Donn® suspension system (15 years)  
 USG Boral acoustical ceiling panels (15 years)  
 USG Boral Drywall Grid suspension system (15 years)  
 USG Boral ScrewFix suspension system (15 years)

#### 1.6 FIRE GROUP NUMBERS

The Group Number Classification to [NZBC C/AS2-C/AS7](#), table 4.1, has been determined in accordance with [NZBC C/VM2](#) Appendix A, following testing and data reduction to ISO 5660.1.

| TILE                              | GROUP NUMBER |
|-----------------------------------|--------------|
| Clean Room ClimaPlus              | 1-S          |
| Eclipse ClimaPlus                 | 1-S          |
| Impressions ClimaPlus             | 1-S          |
| Mars ClimaPlus                    | 1-S          |
| Olympia Micro ClimaPlus           | 1-S          |
| Olympia II Micro ClimaPlus        | 1-S          |
| Radar ClimaPlus                   | 1-S          |
| Radar ClimaPlus Firecode          | 1-S          |
| Radar ClimaPlus High NRC/High CAC | 1-S          |
| Radar Ceramic ClimaPlus           | 1-S          |
| Rock Face ClimaPlus               | 1-S          |

All other products tested to [AS/NZS 1530.3](#).

#### 1.7 NO SUBSTITUTIONS

Substitutions are not permitted to any specified USG system, or associated components and products.

#### 1.8 INSTALLATION

To [AS/NZS 2785](#). Installation by a manufacturer's approved installer, using the manufacturer's technical services. Installers must be members of the AWCI. Provide evidence of experience, listing completed projects of similar size and complexity.

Installation to comply with the loadings code [AS/NZS 1170](#) and [NZS 1170.5](#). Installation to comply with the requirements of [NZS 4219](#); with related building services installations complying specifically with clauses 5.13 and 5.14.

## 2. PRODUCTS

### Materials - exposed grid system

#### 2.1 SUSPENSION SYSTEM

Brand: USG Boral Donn®  
Grid finish/colour: Pacific White  
Materials: Hot-dip galvanized steel  
Compliance: [AS/NZS 2785](#), [AS/NZS 1170](#), [NZS 1170.5](#), ASTM C635  
AS 1530.4 for fire rated system

#### 2.2 PERIMETER TRIM

Brand/form: USG Boral Donn®  
Material: Hot-dip galvanized steel  
Finish/colour: Pacific White

#### 2.3 CEILING TILES

Brand: USG Boral  
Edge profile: To suit grid  
Performance: ASTM C423, ASTM E1414  
AS 1530.4 for fire rated system

### Materials - suspended flush ceilings

#### 2.4 SUSPENSION SYSTEM

System: USG Boral Drywall Grid suspension system or USG Boral ScrewFix™ plasterboard suspension system  
Finish: Hot-dip galvanized steel  
Compliance: [AS/NZS 2785](#), [AS/NZS 1170](#), [NZS 1170.5](#), ASTM C635  
AS 1530.4 for fire rated system

#### 2.5 PLASTERBOARD SHEET

Gypsum plaster core encased in a durable face and backing papers.

#### 2.6 FIBROUS PLASTER SHEET

Gypsum plaster, casting grade reinforced with fibreglass.

### Components

#### 2.7 SCREWS

Screws to suit the lining manufacturer.

## 3. EXECUTION

#### 3.1 CO-ORDINATE SERVICES

Co-ordinate and co-operate with electrical and mechanical work to avoid conflict between suspension members and luminaires, diffusers, pipework and ducting. Confirm the provision of extra hangers and fixings.

Ensure co-operation with work in and above the ceiling, including the marking of specific ceiling tiles below major access points to above-ceiling services. Colour coded markings to follow the standards laid down by mechanical and electrical services.

#### 3.2 SITE CONDITIONS

Do not begin installation until the building is closed in, fully glazed, the roof watertight, and mechanical and electrical duct work above the ceiling completed.

#### 3.3 INSTALL

Install the system to [AS/NZS 2785](#) minimum standards and the ceiling manufacturer's requirements.

- 3.4 **ACCESSIBILITY**  
Provide access to the ceiling system and the in-ceiling and above-ceiling services so that maintenance and removal of all parts can be carried out without damage to the ceiling system or panels.
- 3.5 **PENETRATIONS**  
Accommodate recessed light fittings, air conditioning outlets and other electrical and/or mechanical services that are fixed to or pass through the ceiling system. Provide independent support for these as necessary; ceiling tiles must not support their weight.
- 3.6 **FLUSH CEILING**  
Install the suspension system to [AS/NZS 2785](#) minimum standards. Screw-fix sheets to sections at the centres required by the ceiling lining manufacturer to [AS/NZS 2589](#). Stagger joints and fully support on sections, at centres to suit the load and the ceiling system manufacturer's requirements. Refer to 5113 PLASTERBOARD LININGS for fibrous plaster or plasterboard stopping.
- 3.7 **PROTECT EXISTING WORK**  
Protect adjacent existing work from damage during the installation.
- 3.8 **REPLACE AND CLEAN**  
Replace all damaged or marked elements. Clean all soiled or marked units.
- 3.9 **REMOVE**  
Remove all debris, unused elements and elements from the site.

#### **4. SELECTIONS**

Substitutions are not permitted to the following, unless stated otherwise.

- 4.1 **SCHEDULE**  
Area: ~  
Reference: ~  
Fire rating: ~  
Acoustical rating: NRC: ~  
CAC: ~  
STC: ~

##### **Materials - exposed grid system**

- 4.2 **SUSPENSION SYSTEM, ACOUSTICAL**  
Type: Donn® ~  
Module: ~mm x ~mm  
Rail face: ~mm
- 4.3 **SUSPENSION SYSTEM, FIRE RATED**  
Type: Donn® DXL Fire rated 24mm face  
Module: ~mm x ~mm
- 4.4 **PERIMETER TRIM**  
Type: ~
- 4.5 **CEILING TILES**  
Type/pattern: ~  
Thickness: ~mm  
Size: ~mm x ~mm
- 4.6 **CEILING TILES, FIRE RATED**  
Type/pattern: ~  
Thickness: ~mm  
Size: ~mm x ~mm

##### **Materials - suspended flush ceilings**

- 4.7        **SUSPENSION SYSTEM**  
Ceiling lining:        ~
- 4.8        **CEILING LINING**  
Brand:                ~  
Thickness:            ~mm  
Type:                 ~
- 4.9        **ACCESS HATCHES**  
Brand/type:         ~  
Location:             ~  
Edge detail:         ~  
Finish/colour:       ~  
Size:                 ~mm x ~