

Health Care



Introduction

As part of the reform of the Australian Health Care system, substantial funds are being injected into the upgrading of hospital infrastructure.

The hospitals of tomorrow will be quite different from the hospitals of today.

As well as utilising new medical and information technologies, these hospitals will be more welcoming in comparison to the institutional feel of hospitals of the past.

Modern hospital projects are becoming increasingly influenced by sustainability considerations, with many required to achieve a Green Star rating.

Infection control has become even more critical due to the proliferation of drug resistant bacteria.

Whole of life costs are also assuming an even greater importance, especially on projects constructed under the Public Private Partnership (PPP) model.

These developments affect all aspects of hospital design and construction, including the choice of building materials and finishes.

Lightweight building solutions are increasingly being utilised in construction of hospital buildings due to their flexibility, environmental benefits and cost effectiveness.

This brochure provides an outline of Boral Lightweight Building Solutions for the following interior applications commonly found within hospitals and other health care buildings:

- Acoustics
- Fire Protection
- Impact Resistance
- Wet Areas
- Radiation Protection
- Attachment Support

Also outlined are the benefits of Boral Lightweight Building Solutions in the areas of Infection Control, Maintenance and Sustainability.

Detailed information on the lightweight building solutions outlined in this brochure can be found at www.boral.com.au/healthcare



Acoustics

Acoustic considerations play an important role in creating quiet hospital environments conducive to patients' recovery and privacy. Such considerations include *sound isolation* between spaces and *sound absorption* within spaces.

Sound Isolation between Spaces

Boral offers an extensive range of lightweight wall and ceiling systems providing various levels of sound isolation. The use of GECA certified ENVIRO Soundstop® plasterboard can also contribute additional points to a project's Green Star rating.

For recommended acoustic ratings and acoustic wall systems for hospital buildings go to **www.boral.com.au/healthcare**

Sound Absorption within Spaces

Effective reverberation (echo) control requires treatment of the room surfaces with sound absorbing materials. Boral offers a number of lightweight lining solutions for sound absorption.

Boral Echostop® plasterboard is a decorative perforated plasterboard with excellent sound absorption properties. Echostop® plasterboard is available in three attractive patterns with Noise Reduction Coefficients up to NRC 0.8.

Boral also distributes the full range of Armstrong acoustic ceiling tiles for the Health Care sector.

Boral Premierwood® perforated plywood provides an alternative sound absorbing lining solution with an attractive timber finish.

Fire Protection

Boral offers a wide range of lightweight fire rated solutions that satisfy Building Code of Australia (BCA) requirements for fire protection within Hospitals and other Class 9a buildings.

These plasterboard based solutions include fire rated walls for compartmentation, fire rated ceilings for fire separation between the floors, column and beam protection systems, fire rated escape exits and services enclosures.

Recommended systems for fire rated compartmentation walls and other fire rated applications can be found at **www.boral.com.au/healthcare**



Impact Resistance

Impact damage to wall surfaces can add significant maintenance costs over the lifetime of a hospital. Hospital corridors are particularly susceptible to knocks by trolleys and general traffic and therefore require the use of impact resistant lining materials.

Boral Impactstop® plasterboard has been specifically designed for use in high traffic areas such as hospital corridors. High density plasterboard with continuous fibreglass mesh embedded within its core, Impactstop® is particularly effective in resisting soft body impact.

USG Powerscape Fiberock® is an alternative impact resistant lining for high traffic areas. Fiberock is a paperless gypsum board with cellulose fibre reinforcement, and is particularly effective against hard body and glancing impact.

Wet Areas

In accordance with the Building Code of Australia, bathrooms, shower rooms, laundries and other Wet Areas within hospital buildings must comply with AS 3740 *Waterproofing of wet areas within residential buildings*.

Boral's Wet Area Plasterboard and associated Wet Area System provide a cost effective solution which complies with the requirements of AS 3740. For details of the Boral Wet Area System please refer to the Boral Plasterboard Installation Manual.

USG Powerscape Fiberock® is also suitable for Wet Area applications and provides additional benefits of mold and impact resistance.



Radiation Protection

Modern hospitals utilise various types of diagnostic equipment and radiation therapies which require shielding of hospital personnel and the general public from radiation exposure. Radiation intensity depends on the application and the minimum shielding requirements are set out by the relevant Government Authorities.

Boral lead lined plasterboard is commonly used for shielding of radiation imaging and radiation therapy rooms, providing effective protection against unwanted radiation exposure.

Lead lined plasterboard is manufactured to order, with lead thickness as specified to achieve the required level of radiation protection.



Attachment Support

Hospital walls are often required to support various types of attachments such as medical equipment, shelves, cabinets, etc. It is important that such load-bearing walls perform within permissible levels of safety and serviceability.

Permissible loadings for typical steel stud walls and shelf load configurations can be found at www.boral.com.au/healthcare. Walls supporting higher loadings and other attachment configurations must be designed by a structural engineer.

Boral plywood backing is recommended to be used behind plasterboard lining for attachment support between studs.



Infection Control

The emergence of new strains of drug resistant bacteria has necessitated strengthening of infection control measures in hospitals. According to the Australasian Health Facility Guidelines, internal surfaces and finishes are integral to the overall management of infection control risks in Health Care buildings.

Boral plasterboard walls and ceilings offer a smooth and seamless surface finish which is critical to an effective infection control.

Boral also distributes the Bioguard range of Armstrong mineral fibre ceiling tiles, which are designed to actively combat harmful fungi, mould, yeasts and bacteria.

Maintenance

Ease of repair and maintenance is an important consideration when selecting hospital wall and ceiling linings.

Hospital walls are often subject to impact from stretchers and general traffic. The use of appropriate Boral lightweight wall and ceiling solutions outlined in this publication can reduce the risk of damage and thus the maintenance costs over the lifetime of a hospital.

Boral's exposed grid ceilings and access panels provide an effective solution where equipment and services need to be accessible for maintenance purposes.



Sustainability

Current hospital designs and projects are becoming increasingly influenced by sustainability considerations, with many required to achieve a Green Star rating.

Boral Lightweight Building Solutions can contribute to Green Star rating of hospital buildings in the following areas:

Waste Management

(Green Star Hospital Rating Tool, Ref No Man-7)

Up to two credit points can be awarded to recognise management practices that reduce the amount of construction waste going to disposal. Contact your local Boral Plasterboard office in regard to waste pick up services available in your area.

Ceilings, Walls and Partitions

(Green Star Hospital Rating Tool, Ref No Mat-14)

The use of Boral ENVIRO® plasterboard, certified by Good Environmental Choice Australia (GECA), may contribute towards achieving two Green Star credit points.



BOR-2009
GECA 04-2007
Panel Boards

Internal Noise Levels

(Green Star Hospital Rating Tool, Ref No IEQ-7)

The use of Boral Plasterboard acoustic wall systems, Echostop® plasterboard or acoustic ceiling tiles can contribute one Green Star credit point.

Volatile Organic Compounds

(Green Star Hospital Rating Tool, Ref No IEQ-8)

Boral Plasterboard lining products have been certified as having Volatile Organic Compound levels within the limits required to contribute to one Green Star credit point.



Technical Enquiries

TecASSIST®
add a valuable member to your team
1800 811 222

TecASSIST® provides technical advice to builders, architects, contractors, distributors, engineers, regulators and home owners throughout Australia. Our friendly team can offer both practical and design input at all levels of the plasterboard industry.

Get your next project off on the right track by giving TecASSIST® a call weekdays 8.30am - 4.30pm AEST.

Sustainability

Boral Plasterboard aims to minimise the environmental impact of its operations and to make a positive difference to the environment and communities in which it operates. Its products are manufactured from sustainable gypsum resources and 100% recycled paper liner.

Lightweight plasterboard construction offers the benefits of low embodied energy, enhanced indoor air quality, ease

of thermal and acoustic upgrading and ease of modifications and repair.

Plasterboard waste can be recycled back into new plasterboard or used as a soil conditioner. Please contact Boral Plasterboard regarding waste collection services available in your region.

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Guarantee

Products manufactured and supplied by Boral Australian Gypsum Limited (BAGL) A.C.N. 004 231 976 (trading as Boral Plasterboard) are guaranteed to be of consistent quality and free from any defects.

Boral Plasterboard may limit its liability under this guarantee to, at its option, the replacement or payment of the cost of replacing OR supplying equivalent or payment of the cost of supplying equivalent OR the repair or payment of the cost of repairing products found to be defective.

Health and Safety

For information regarding the safe use of Boral Plasterboard products and accessories please refer to instructions on the product packaging or contact your local Boral Plasterboard Sales Office or TecASSIST® for a current copy of the Material Safety Data Sheet.

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The technical information contained in this manual was correct at the time of printing. Building systems and details are, however, subject to change. To ensure the information you are using is current, Boral recommends you review the latest building information available on the Boral website. For further information contact TecASSIST® or your nearest Boral Plasterboard Sales Office.

