



# INFORMATION SHEET

## BUILDING SERVICES

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### 'GLANCING LIGHT' EFFECT ON PLASTERBOARD

It is important to understand how the overall appearance of plasterboard can be affected by 'glancing light' and the choice of decoration (lighting/painting) in a home. It is important to understand that the selection and position of light fittings can play a major role in minimising the effects of glancing light on plasterboard surfaces.

#### What is glancing light?

'Glancing Light' is the light that shines obliquely across the surface of the wall or ceiling. Generally glancing light occurs with single unshaded light bulbs fixed directly to the ceilings or walls or in rooms with windows up to ceiling level or windows adjacent to walls.

This phenomenon is basically due to the angle of the light, illumination of one side of the minutest undulation creates a shadow on the other side. This highlights perceived imperfections or the different light reflection characteristics of surface texture variations (joints, patches) which under more diffused light would not be visible.

#### Surface finish

Section 3 in AS/NZS 2589:2007 '*Gypsum linings – Application and Finishing*' sets out a series of levels for the surface finish of plasterboard lining. The levels range from 3 to 5, with 5 being the highest.

A Level 5 finish is generally required for use where gloss / semi-gloss or dark paint colours are chosen, especially where critical lighting conditions occur on flat, satin or low sheen paints. Compared to a Level 4 finish, a Level 5 finish requires greater tolerances of substrate straightness, this will require additional costs in time and materials, so as to minimise the risk of any effects from 'glancing light' on the painted surface. More information is available from the CSIRO Division of Building, Research Report TR 90/1 Illumination and Decoration of Flat Surfaces and Glancing Light leaflet.

This ultimately means that any expectations of a Level 5 finish providing a perfect flat surface are unrealistic!

#### Lighting Implications on plasterboard

Finished joints in plasterboard can vary in appearance depending on the lighting conditions (natural and artificial). The characteristics of the surface texture tend to show variations (joints, patches etc), which are generally minimised in diffused lighting.

Ceiling and wall joints should run in the direction of the light source e.g. at right angles to windows or large openings. Butt joints should be avoided wherever possible.

#### Fixing or reducing the problem of glancing light

The situation can be improved by installing appropriate soft furnishings, pelmets, curtaining, blinds or redecorating with light matt finishes.

Ceiling mounted light fittings provide the worst characteristic for producing the glancing light effect, because the light source is close to the ceiling surface. Therefore, the angle of incidence onto the ceiling is very shallow. A centrally located light fitting in a room allows for a shallow angle of light to occur in all directions,

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reducing apparent defects. The ideal lighting technique is to use a series of fittings hung as low as possible below the ceiling. Multiple light sources cancel out each other's shadows.

The same effect applies to wall fittings. Wall mounted lights however, tend to accentuate minor imperfections not normally seen in the walls. Also, high output light sources are more severe in their effect because they create deeper shadows. Soft low wattage diffused lighting provides the best result.

### **Guide to Standards and Tolerances**

The HIA Guide to Materials and Workmanship for Residential Building Work sets out information on glancing light and plaster finishes that may assist members in managing any disputes with clients. Members can obtain a copy through the HIA Store or by contacting the HIA office nearest you.

**HIA members can contact HIA's Building Services staff for further information  
on 1300 650 620 or [hia\\_technical@hia.com.au](mailto:hia_technical@hia.com.au).**