

HOW TO IDENTIFY SELECTION CRITERIA FOR WINDOWS AND GLAZED EXTERNAL DOORS AND NON-CONFORMING BUILDING PRODUCTS

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Building practitioners:

When designing a building, important information to be included on the documents for windows and external glazed doors, include the Ultimate Limit State (ULS), Serviceability Limit State (SLS) and water penetration requirements.

When designing buildings, it is important to consider and provide the correct window and door criteria –

- site wind speed assessment, in accordance with Australian Standard (AS) 4055 for Class 1 and 10 buildings from a professional engineer (or other suitably qualified person), which includes terrain category, topographic class and shielding. Where outside AS 4055 scope or for Class 2-9 buildings, determination of wind pressures by a Registered Professional Engineer Queensland (RPEQ) in accordance with AS/NZS 1170.2 to provide the ULS, SLS and water penetration requirements.
- plans including site, floor and elevation to show room uses and window positions, for example, if corner locations, wet area, or bedroom uses applicable.
- location information if applicable, such as:
 - » acoustic requirements or acoustic reports
 - » bushfire rating requirements
 - » energy efficiency requirements
 - » if required to act as a barrier (balustrade)
 - » if required to act as a pool fence barrier
 - » fall prevention requirements
 - » any fire-resistance level (FRL) requirements.

When ordering windows, it is important to provide the manufacturer with -

- site wind speed assessment in accordance with AS 4055 for Class 1 and 10 buildings from a professional engineer (or other suitably qualified person), which includes terrain category, topographic class and shielding. Where outside AS 4055 scope or for Class 2-9 buildings, determination of wind pressures by a RPEQ in accordance with AS/NZS 1170.2 to provide the ULS, SLS and water penetration requirements.
- plans including site, floor and elevation to show room uses and window positions, for example, if corner locations, wet area, or bedroom uses applicable.

- location information if applicable such as:
 - » acoustic requirements or acoustic reports
 - » bushfire rating requirements
 - » energy efficiency requirements
 - » if required to act as a barrier (balustrade)
 - » if required to act as a pool fence barrier
 - » fall prevention requirements
 - » any FRL requirements.

When supplying windows, it is important to provide installers -

- locations required for each window or door to suit criteria the window or door was supplied for
- markings/stickers on windows in conjunction with the AS 2047 and AS 1288 required labelling, that match the required location, for example, corner use or a particular room for acoustic requirements.
- information notices on windows/doors to provide required details on installation and include, where not separately provided, where to find installation requirements, details/sizes, and number of fixings to suit window/door size and wind speed, for example, referring to manufacturers' installation manual, and Australian Glass & Window Association (AGWA) Guidelines (possibly via web link or QR code).

You should also have available to provide to persons in the Chain of Responsibility and the building certifier, the supporting test reports, and documents for the National Construction Code (NCC) evidence of suitability, including, for example;

- » AS 2047 performance criteria
- » AS 1288 materials requirements
- » Bushfire requirements to AS 1530.8 series
- » Acoustic requirements for R_w or Sound Transmission Class (STC) ratings
- » AS/NZS 2208 safety glazing materials in buildings.

If you are an owner builder, licensed builder or contractor who is involved with the ordering, supply, or installation of residential or commercial windows and external glazed doors, be sure to check that the product meets all the regulated criteria before supply or installation.

Manufacturers, suppliers, and installers need to be mindful of the requirements for domestic (Class 1 and 10 building), residential and commercial (Class 2-9 buildings) windows and external glazed doors, if sold or installed in Queensland.

Unless designed and manufactured to meet relevant Australian Standards and installed correctly, non-compliance of these products for weatherproofing or structural reliability may allow weather into the building and cause substantial damage to other building elements and/or allow unhealthy conditions (such as mould) to develop.

Windows and external glazed doors are required to comply with:

- AS 2047 – Windows and external glazed doors in buildings;
- NCC barrier fall protection requirements; and
- provisions under Part 6AA of the *Queensland Building and Construction Commission Act 1991 (QBCC Act)*, including 'required information' for installers.

This is to ensure the association of the windows and external glazed doors with the building is compliant with the *Building Act 1975* and the QBCC Act.

AS 2047 requires window ratings that use the design wind speeds for Class 1 and 10 buildings to be determined in accordance with AS 4055 – Wind loads for housing.

The design wind pressures for ULS and SLS, for installations in Class 2-9 buildings and Class 1 and 10 buildings outside the limitations of AS 4055, are required to be determined in accordance with AS/NZS 1170.2.

Calculations in accordance with AS/NZS 1170.2 are a 'professional engineering service' and therefore required under the *Professional Engineers Act 2002*, to be undertaken by a Registered Professional Engineer of Queensland (RPEQ).

Under Queensland's non-conforming building products legislation, members of the construction industry supply chain (including, but not limited to manufacturers, distributors, and installers), must ensure the building products they manufacture, supply, or install, are compliant or otherwise risk incurring significant penalties.

Definitions

Professional engineering service¹ - means an engineering service that requires, or is based on, the application of engineering principles and data to a design, or to a construction, production, operation or maintenance activity, relating to engineering, and does not include an engineering service that is provided only in accordance with a prescriptive standard.

Prescriptive standard² - means a document that states procedures or criteria—

- (a) for carrying out a design, or a construction, production, operation or maintenance activity, relating to engineering; and

- (b) the application of which, to the carrying out of the design, or the construction, production, operation or maintenance activity, does not require advanced scientifically-based calculations.

Example— AS 1684—Timber framing code, published by Standards Australia.

Required information³ - for a building product, means information about the product that—

- (a) for each intended use of the product, states or otherwise communicates the following—
- (i) the suitability of the product for the intended use and, if the product is suitable for the intended use only in particular circumstances or subject to particular conditions, the particular circumstances or conditions;
 - (ii) instructions about how the product must be associated with a building to ensure it is not a non-conforming building product for the intended use;
 - (iii) instructions about how the product must be used to ensure it is not a non-conforming building product for the intended use; and
- (b) complies with the requirements for the information, if any, prescribed by regulation for this definition.

Disclaimer

The information provided in this fact sheet is for educational purposes only. Although the Queensland Building and Construction Commission (QBCC) endeavours to provide accurate and current information, it does not guarantee that the information communicated in this fact sheet will continue to be accurate and current in the future.

The QBCC is not liable for any claims arising from incorrect or out-of-date information or any decisions or actions made based on the information contained in this fact sheet.

The information conveyed in this fact sheet does not constitute legal or other specialist advice and should not be relied upon as such.

¹ As defined under the *Professional Engineers Act 2002*.

² As defined under the *Professional Engineers Act 2002*.

³ As defined under the QBCC Act.