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FOR THE INDUSTRY

AGDA
Australian Garage Door Association

In This Issue:

Safe Building Design for Garage Doors

A garage door is the largest and heaviest moving item in a house and uses highly tensioned springs to store the potential energy required to make the door move smoothly with minimum effort.

Unfortunately there have been serious accidents where failure of a door has inflicted injury to persons or damage to fittings, vehicles or equipment.

Building design and materials choice can impose constraints on safe efficient installation and performance of a garage door.

1.Manufacturers, designers and builders have a shared responsibility to ensure compliance to standards to ensure safe construction, installation and operation of a garage door

2.Seek input from garage door manufacturers to assist in the design phase.

3.Ensure that the building structure is designed to accept the selected door type and the structural loads imposed by garage doors.

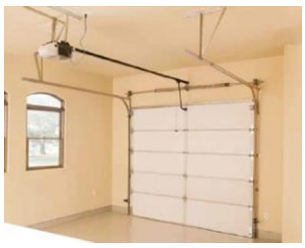
4.Avoid the use of light weight bricks where the door is to be fixed to prevent shattering and to ensure door loads are supported over time.

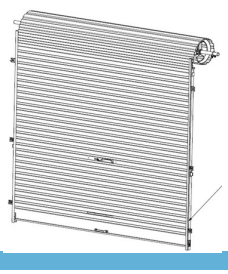
Door manufacturers have the data available for building designers and constructors.

- Detailed diagrams on drawings
- Maximum allowable spans specified for each door type
- Includes ultimate design wind capacity and catenary force charts
- Ultimate design forces along abutments specified for calculating supporting frame size
- Fixing details specified for various substrate types
- Available for download from websites

Summary- 3 critical factors are necessary to ensure safe building design, construction, installation and operation of garage doors

- Structural integrity performance issues arising from substrate choices, particularly lightweight materials
- Garage Door Opener compliance to regulations
- Regular inspection & maintenance is required





Corrosion Resistance of Door Materials

Location of site particularly on the coast and at worst proximity to breaking surf make it essential to comply with corrosion resistance regulations of materials for doors.

The operative standard for vehicular access doors covering residential (single and multiple residences) and commercial doors is AS/NZS 4505:2012 Garage doors and other large access doors and contains the following clause on corrosion resistance.

For Australia, metallic coated steel door products shall be in accordance with the corrosion requirements of Part 3.5.1 Volume Two of the NCC. Other metallic products shall achieve a similar service life.

NOTES:

1 All components used in the assembly of a door system should be compatible with respect to acceptability of contact between different materials (galvanic corrosion potential) in the building. Any known limitations in performance, such as proximity to a marine environment, or contact with normal building materials **should be identified in the design information if these are expected to compromise the reasonable design life of the product.**

2 For New Zealand doors there are regulatory requirements for durability (see New Zealand Building Code B2). Doors are required to have a minimum 15 year life with appropriate maintenance (eg washed down regularly with clean water).

To access the National Construction Code the following link is provided
https://law.resource.org/pub/au/ibr/au.ncc.2.2016.pdf

Inspection Guidelines

From time to time issues of door appearance arise and AGDA has a Guide to Visual Inspection to assist operatives in the garage door industry in dealing with enquiries / complaints by consumers / clients, regarding the finish of a garage door.

This Guide, which can be found on AGDA website http://www.agda.org.au/ is not a legal document and is not intended to replace the relevant provisions of the Building Code of Australia or Australian Standards. The Guide is intended to provide the reader with an understanding of the tolerances that a building professional will consider in determining whether a building element has been installed / constructed to an acceptable standard.

The Guide should be regarded as an advisory resource rather than a series of prescriptive definitions. It covers the following topics:

- PROCEDURE
- INSPECTING SURFACES FROM A NORMAL VIEWING POSITION
- MICRO-FRACTURING OF PAINT SURFACE
- PRE-PAINTED SURFACES (METALS)
- PAINTED OR STAINED SURFACES (METALS, TIMBER, COMPOSITE MATERIALS)
- RUBBING OF ROLLING DOOR CURTAINS
- OIL-CANNING
- GLAZING (GLASS AND SIMILAR TRANSPARENT MATERIALS)

Used correctly the Guide has assisted members and dealer members to resolve many complaints and is a useful first port of call to minimise the risk of a complaint 'escalating'.

Generally, variations in the surface colour, texture and finish of garage doors manufactured from prepainted metals, painted metals, painted or stained timber or composite material, and variations in glass and similar transparent materials are to be viewed where possible from a normal viewing position.

A normal viewing position is looking at the surface to be inspected at a distance of 2m or greater in normal daylight and "non-critical light" conditions. ("Noncritical light" is where light that strikes the surface is diffused, is not glancing nor parallel to that surface)

Slight variations in the colour and finish of materials do not generally constitute a defect.

AGDA guide to visual inspection of garage doors

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PROCEDURE

In performing a subjective visual inspection of internal and external garage door surfaces, the inspection shall be performed by representatives of the parties (or their agreed delegates) as nominated in the conditions of contract to perform this task.

INSPECTING SURFACES FROM A NORMAL VIEWING POSITION

Generally, variations in the surface colour, texture and finish of garage doors manufactured from prepainted metals, painted metals, painted or stained timber or composite material, and variations in glass and similar transparent materials are to be viewed where possible from a normal viewing position. A normal viewing position is looking at the surface to be inspected at a distance of 2m or greater in normal daylight and "non-critical light" conditions. ("Non-critical light" is where light that strikes the surface is diffused, is not glancing or parallel to that surface).

Slight variations in the colour and finish of materials do not generally constitute a defect.

MICRO-FRACTURING OF PAINT SURFACE

During pressing and bending processes the painted surface of a garage door is stretched and thinned. This sometimes results in micro-fracturing of the surface.

An acceptable level of micro fracturing is where the problem, or the results of the problem, cannot be seen in good daylight from a normal viewing position.

PRE-PAINTED SURFACES (METALS)

Differences of appearance or defects of a pre-painted metal surface are acceptable, if not clearly discernible from a normal viewing position. Minor scratches or other irregularities in paintwork will not affect the performance of the door and will not be deemed a defect.

Normal environmental conditions over time can affect the pigment colouration in a pre-painted surface and, in particular, differences in formulation of any touch up paint used may present a different colouration to that of the whole surface and will not be deemed a defect.

PAINTED OR STAINED SURFACES (METALS, TIMBER, COMPOSITE MATERIALS)

Appendix C of AS/NZS 2311 - 2000, says, amongst other things, that the finish is considered acceptable if differences of appearance are not clearly discernible from a normal viewing position.

RUBBING OF ROLLING DOOR CURTAINS

Rolling door curtains are wound into a spiral configuration where the individual layers in the spiral are in close proximity to each other. Manufacturers should avoid the layers coming into contact with each other where this results in rubbing of the paint surface.

An acceptable level of paint rubbing is where the problem, or the result of the problem, cannot be seen in good daylight from a normal viewing position.

OIL-CANNING

Oil-Canning is defined as variation in the surface of pre-painted or painted metal, which appears as a series of undulations or distortions.

During pressing and bending processes the metal surface of a garage door is stretched and thinned. This sometimes results in oil-canning of the surface.

An acceptable level of oil-canning is where the distortion over any 150mm distance is not greater than 1mm. This should be measured using a 1mm thick feeler gauge between the surface of the door and a 150mm long straight edge.

GLAZING (GLASS AND SIMILAR TRANSPARENT MATERIALS)

Scratched, fractured, chipped or blemished glazing that is visible from a normal viewing position may constitute a defect.

Minor scratches, fractures, chips or blemishes within 5mm of the glazing edge will not be deemed a defect. Minor is less than 10mm in length and not more than 3 per panel.

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