



## Guide to Door Regulations in NZ Commercial & Industrial Roller Doors NZBC Section B - Stability

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### Introduction

This Guide is part of a series designed to assist in the understanding of the New Zealand Building Code regulations as they apply to Commercial and Industrial Roller Doors in New Zealand. This bulletin specifically applies to,

Clause B1 – Structure, and  
Clause B2 – Durability.

#### **Disclaimer**

*This bulletin has been prepared as a Guide only, to the requirements of the New Zealand Building Code as they may apply to the products discussed. The information provided has been assembled to assist with a general understanding of the subject and should be considered as such. Please ensure you are fully aware of the requirements of the NZ Building Code before proceeding further.*

### Building Code Clauses

Whilst the focus of this bulletin is Section B - Stability, other Sections of the NZBC may also apply to the door and/or situation in which its being used and must be considered in conjunction with this bulletin. Those Sections might be, but are not limited to,

Section C - Protection from fire  
- C3, Fire affecting areas beyond the source  
- C4, Movement to a place of safety

Section D - Access  
- D1, Access routes

Section E - Moisture  
- E2, External moisture

Section G - Services and facilities  
- G9, Electricity

Please ensure you check and understand all sections of the Code.



## B1, Structure

Clause B1 sets requirements around the combination of loads that buildings, building elements are likely to experience during construction, alteration and throughout their lives.

The performance requirements outline how buildings should be stable, not degrade and withstand physical conditions in order to protect lives and other property. It makes due allowance for the intended use of a building, the consequence of failure, and other limitations.

Whilst Clause B1 does not discuss the specific structural requirements for commercial and industrial roller doors, as a building element they are covered within the wording of paragraph B1.2 and thus the Clause must be considered. The primary load to be considered by the door manufacturer/supplier should be wind load.

### FUNCTIONAL REQUIREMENT

**B1.2 Buildings, building elements and sitework shall withstand the combination of loads that they are likely to experience during construction or alteration and throughout their lives.**

### Compliance Required

Wind load.

- Selected for Generic wind zone from NZS3604, or
- Project specific or SED, calculated in accordance with AS/NZS1170.2

### Methods of Compliance

- Whilst not cited within the Building Code, AS/NZS4505 - Garage doors and other large access doors, address minimum performance requirements for structural loads. Doors shall be classified as detailed in Table 5.1 and have an Ultimate wind pressure rating as described in Table 5.3, or
- Verification by a Structural Engineer, with appropriate experience, via engineering calculations e.g. to include the whole system as installed. Such verification will require a Certificate of Performance from the Engineer.

### Comment

*Building elements can have an impact on the building structure. In designing the structure, the Structural Engineer must consider the impact of the door e.g. dead loads, cantilevered loads or wind loads imposed by the door onto the structure via the fixings. It is **important** the door manufacturer/supplier is contacted regarding the specification and locations of the fixings, and door weights, in plane and out of plane loads, during the design/specification process.*



## B2, Durability

Clause B2 is always considered when demonstrating compliance, to ensure that a building will continue to satisfy the performance of the Building Code throughout its specified intended life.

### FUNCTIONAL REQUIREMENT

**B2.2** *Building materials, components and construction methods shall be sufficiently durable to ensure that the building, without reconstruction or major renovation, satisfies the other functional requirements of this code throughout the life of the building.*

Under this clause, building materials, components and construction methods are required to be sufficiently durable. They must ensure that the building, without reconstruction or major renovation, continues to satisfy the other functional requirements of the Building Code throughout its life. B2 specifies minimum durability periods building elements must meet with only normal maintenance, being not less than 50, 15 or 5 years.

Under the Building Act 2004, councils may consider a waiver or modification to the durability period of a building element.

The Clause uses an assessment flow chart, refer to Figure 1 - Assessment of Durability Requirement in B2/AS1, to establish the durability requirements of building elements at either 5, 15, or 50 years, depending on the function, access, and ability to inspect the element.

## Method of Compliance

From section B2/AS1, Table 1 nominates the durability requirements of the building elements and groups all doors together.

<b>Table 1: Durability Requirements of Nominated Building Elements</b>		Note: Clause B2.3.2 requires that all hidden elements have at least the same durability as that of the element that covers it (i.e. must have the same expected life) which may be more than the requirement in clause B2.3.1. For example, the reason that a brick tie has a requirement of not less than 50 years in this table, instead of the 15 year requirement for <i>cladding</i> , is that the brick veneer that hides it has an expected durability of 50 years or more.			
Building Element	Component	Situation/Function	Not less than 50 years	Not less than 15 years	Not less than 5 years
<b>Doors (including frame)</b>	Non fire rated doors	Internal			✓
		External		✓	
		Furniture and hardware			✓
	Fire rated doors	Internal		✓	
		External		✓	

However, Table 1 does not reference Commercial & Industrial Roller Shutter Doors.



The following Table, based on Table 1 above and Figure 1, from B2/AS1 has been assembled by industry and represents the industries expectation of the durability requirements of the components that typically make up a roller shutter door.

Table W1		Durability Requirements for “Roller Shutter Door Components”		
Component	Situation / Function	≥ 50 Years	≥ 15 Years	≥ 5 Years
Barrel	Surface mounted, moderately difficult to replace		Y	
Screen	Slats maintain their integrity		Y	
Guides	Maintain structural integrity		Y	
Operating mechanism				
- Hand operated	Door function maintained			Y
- Motorised	Door function maintained			Y
Wind locks	Maintain structural integrity			Y
Wall Fixings	Attachment to building		Y	

### Comment

*The Durability of a building element relates to the ability of the element to maintain compliance with other NZBC clauses. If there are no other NZBC clauses affected by the product, then Durability is not applicable.*

*For all door types requiring durability, if the building design restricts access to the door for maintenance or replacement, to such an extent that it impacts on its Durability requirement, this should be identified in the Door Schedule.*

*Building designers should consider environmental conditions and seek advice from the specified manufacturer/supplier regarding their products, during the design of the building.*

*Durability does not include decorative finishes.*

### Note:

*Section 2.0 of B2/AS1 requires the door specifier to determine what normal maintenance is required to achieve the expected durability. These may be based on the manufacturers’ recommendations, including the manufacturers’ recommendations for cleaning, inspections, servicing, and maintenance. These recommendations may be covered in the manufacturers’ Maintenance Schedule. Relevant maintenance procedures may include total replacement.*