

## Technical Bulletin – Internal

November 2021 Updated

### **Purpose:**

To outline upcoming technical changes to the NZ Building Code, Industry Codes etc. & information that may/will have impact on the products that Soudal sell here in New Zealand.

Announced this week were a raft of changes to the NZBC in relation to warmer and healthy home construction.

This is a follow up based on the Technical Bulletin sent last week.

### **Changes to Insulation Requirements in NZ**

MBIE has just announced this week changes to the Insulation requirements for buildings in NZ, effective 3<sup>rd</sup> Nov 2022 (consents lodged).

This is only the first stage (of 3) for improving healthy homes over the coming 10-20 years.

While there is some complexity to this the main issue will not be in what we provide but rather how designers and builders implement the product selection choice in achieving these requirements.

I am expecting that there will be an uptake in high-density insulation board to be placed between framing and rigid air barriers and possibly over time there may be a slight reduction in the use of some 'wraps', especially those without an insulative value.

Below you will find a simplified summary of what these changes are and how they are affected across New Zealand.

Please note that Windows have until 1<sup>st</sup> Nov 2023 to meet the new requirements. For the window industry this is likely to mean the following:

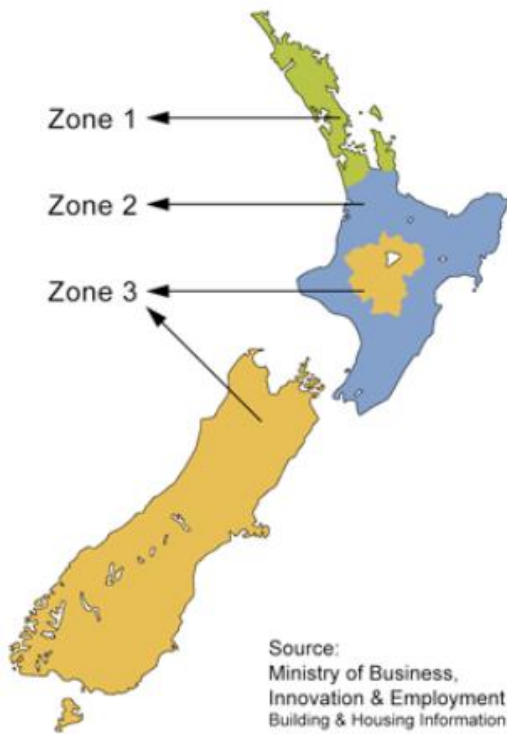
- All windows will need to have thermally broken or wooden frames.
- Double Glazing will need to incorporate Low-E coatings to glass
- Skylights are going to have to be completely redesigned to meet code

### **Previous R-Value Requirements for Residential & Small Buildings (<300m<sup>2</sup>)**

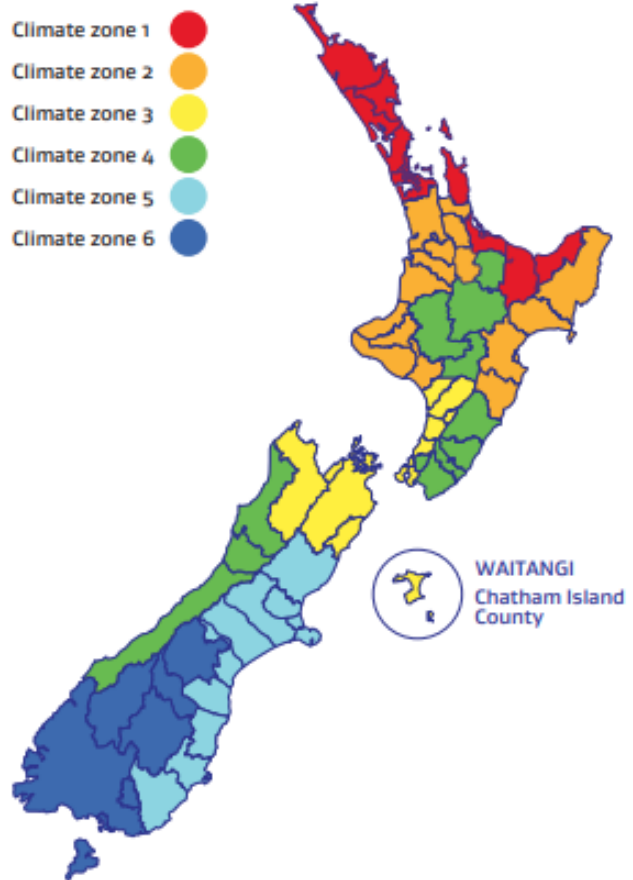
Region	Underfloor	Walls	Ceiling
1	1.3	1.9	2.9
2	1.3	1.9	2.9
3	1.3	2.0	3.3

Summserised changes are:

### 3 Regions



### 6 Regions



## Changes to requirements

TABLE 1.3: Increase in minimum R-values for residential and small buildings

Building element	Climate zone					
	1	2	3	4	5	6
Roof	R6.6↑					
Windows	R0.37↑		R0.46↑		R0.50↑	
Wall	R2.0↑			R2.0		
Slab-on-ground floors	R1.5↑			R1.5↑	R1.6↑	R1.7↑
Other floors	R2.5↑			R2.8↑		R3.0↑

## What this means to energy efficiency & cooling

TABLE 1.4: Increases in energy efficiency for heating and cooling over status quo for different climate zones

Building type	Climate zone					
	1	2	3	4	5	6
Single storey four bedroom home	39%	38%	42%	40%	42%	41%

Based on applications of Gorilla Expanding Foams up to 125 mm thickness

## Walls (across NZ)

Walls								
Product	mW/m.K (TDS)	Thickness mm						
		50	60	70	80	90	100	125
Gorilla PRO Expanding Foam Aerosol	29.7	1.68	2.02	2.36	2.69	3.03	3.37	4.21
Gorilla PRO Expanding Foam	32.0	1.56	1.88	2.19	2.50	2.81	3.13	3.91
Gorilla FLEXI Expanding Foam	35.0	1.43	1.71	2.00	2.29	2.57	2.86	3.57
Gorilla SMART Expanding Foam	37.0	1.35	1.62	1.89	2.16	2.43	2.70	3.38
Gorilla MS Foam	37.0	1.35	1.62	1.89	2.16	2.43	2.70	3.38
Gorilla FR Expanding Foam	30.2	1.66	1.99	2.32	2.65	2.98	3.31	4.14
Gorilla FR Expanding Foam Aerosol	34.0	1.47	1.76	2.06	2.35	2.65	2.94	3.68
Gorilla One Shot Foam	35.4	1.41	1.69	1.98	2.26	2.54	2.82	3.53

Increase in min R-values for Residential & Small Buildings

Building Element	Climate Zone					
	1	2	3	4	5	6
Walls	R2.0=<					

## Based on applications of Gorilla Expanding Foams up to 100 mm thickness “Slab on Ground” Floors (across NZ)

Floors - Slab On Ground								
Product	mW/m.K (TDS)	Thickness mm						
		50	60	70	80	90	100	
Gorilla PRO Expanding Foam Aerosol	29.7	1.68	2.02	2.36	2.69	3.03	3.37	4.21
Gorilla PRO Expanding Foam	32.0	1.56	1.88	2.19	2.50	2.81	3.13	3.91
Gorilla FLEXI Expanding Foam	35.0	1.43	1.71	2.00	2.29	2.57	2.86	3.57
Gorilla SMART Expanding Foam	37.0	1.35	1.62	1.89	2.16	2.43	2.70	3.38
Gorilla MS Foam	37.0	1.35	1.62	1.89	2.16	2.43	2.70	3.38
Gorilla FR Expanding Foam	30.2	1.66	1.99	2.32	2.65	2.98	3.31	4.14
Gorilla FR Expanding Foam Aerosol	34.0	1.47	1.76	2.06	2.35	2.65	2.94	3.68
Gorilla One Shot Foam	35.4	1.41	1.69	1.98	2.26	2.54	2.82	3.53

Increase in min R-values for Residential & Small Buildings

Building Element	Climate Zone					
	1	2	3	4	5	6
SLAB ON GROUND Floors	R1.5=<			R1.6=<		R1.7=<

## Based on applications of Gorilla Expanding Foams up to 100 mm thickness “Other” Floors (across NZ)

Other Floors							
Product	mW/m.K (TDS)	Thickness mm					
		50	60	70	80	90	100
Gorilla PRO Expanding Foam Aerosol	29.7	1.68	2.02	2.36	2.69	3.03	3.37
Gorilla PRO Expanding Foam	32.0	1.56	1.88	2.19	2.50	2.81	3.13
Gorilla FLEXI Expanding Foam	35.0	1.43	1.71	2.00	2.29	2.57	2.86
Gorilla SMART Expanding Foam	37.0	1.35	1.62	1.89	2.16	2.43	2.70
Gorilla MS Foam	37.0	1.35	1.62	1.89	2.16	2.43	2.70
Gorilla FR Expanding Foam	30.2	1.66	1.99	2.32	2.65	2.98	3.31
Gorilla FR Expanding Foam Aerosol	34.0	1.47	1.76	2.06	2.35	2.65	2.94
Increase in min R-values for Residential & Small Buildings							
Building Element	Climate Zone						
	1	2	3	4	5	6	
Other Floors							

It should be noted that to achieve the **required R-Value ratings for ceilings** you would need a thickness of min 220mm to achieve a R6.6 value.

Product	mW/m.K (TDS)	Thickness mm						
		50	60	70	80	90	100	220
Gorilla PRO Expanding Foam Aerosol	29.7	1.68	2.02	2.36	2.69	3.03	3.37	7.41
Gorilla PRO Expanding Foam	32.0	1.56	1.88	2.19	2.50	2.81	3.13	6.88
Gorilla FLEXI Expanding Foam	35.0	1.43	1.71	2.00	2.29	2.57	2.86	6.29
Gorilla SMART Expanding Foam	37.0	1.35	1.62	1.89	2.16	2.43	2.70	5.95
Gorilla MS Foam	37.0	1.35	1.62	1.89	2.16	2.43	2.70	5.95
Gorilla FR Expanding Foam	30.2	1.66	1.99	2.32	2.65	2.98	3.31	7.28
Gorilla FR Expanding Foam Aerosol	34.0	1.47	1.76	2.06	2.35	2.65	2.94	6.47