

Fire resistance is such an important topic and one that we take seriously here at All Metal. It's important for everyone in our building industry, including product manufacturers, architects, builders, engineers, and installers. The *National Construction Code (NCC)* sets out technical provisions for the design, construction and performance of buildings throughout Australia, which include criteria for the assessment of building elements under fire conditions.

Part C1 of Volume One of the NCC 2019 states the provisions that need to be met for fire resistance and stability when proposing a Deemed to Satisfy solution. As stated in *Part C1.9*, building elements in certain types of fire resisting construction, for example external or common walls, load bearing internal walls etc, must have all components that are non-combustible. All Metal wall sheeting and flashings used in this type of construction must meet this requirement. *Part C1.9(e)* gives a list of materials that may be used where non-combustible components are required. One option is metal sheeting with a combustible surface finish less than 1mm in thickness, with a Spread of Flame Index not exceeding 0.

Similarly, in *Volume Two of the NCC 2019, Part 3.7* sets out the requirements for Fire Safety, and *Part 3.7.1* states the Fire properties for materials and construction. The *Acceptable Construction Practice* includes a section 3.7.1.1 on General concessions – non-combustible materials. One of the options mentioned here as non-combustible is metal sheeting with a combustible surface finish less than 1mm in thickness, with a Spread of Flame Index not exceeding 0.

All Metal roofing, cladding, flashings rainwater and structural building products are manufactured from steel produced by Bluescope® Steel. Independent tests on their materials carried out by CSIRO or AWTA. The testing was conducted in accordance with the *Australian Standard AS1530.3 'Simultaneous Determination of Ignitability, Flame Propagation, Heat Release and Smoke Release.'* All materials had a surface finish less than 1mm in thickness and a Spread of Flame Index of 0. More detail is given in the table below.

Steel Source	Base Metal Thickness (mm)	Finish	Certificate Number	Ignitability Index (0-20)	Spread of Flame Index (0-10)	Heat Evolved Index (0-10)	Smoke Developed Index (0-10)
Bluescope	0.35	Colorbond®	FNE11605	0	0	0	2
Bluescope	0.7	Colorbond® Metallic	FNE11604	0	0	0	2
Bluescope	0.42	Zincalume®	FNE11602	0	0	0	2
Bluescope	0.42	Truecore®	FNE11601	0	0	0	1
Bluescope	0.42	Galvanised	FNE11600	0	0	0	2
Bluescope	0.55	PVDF	FNE11606	0	0	0	1

Conclusion

All Metal products made from these steel sources and with the tested finishes would be considered non-combustible according to *NCC 2019 Volume One Part C1.9(e)* and *Volume Two Part 3.7.1.1*.

It is important to note that All Metal sheeting and flashings are only one component used in construction of these building elements, and other components must also meet the necessary requirements to satisfy the criteria.

For information on performance of residences in a bushfire situation, please refer to the bulletin based on the *NASH Bushfire Standard* on the Bluescope® website.