

December 2007

## Fire Resistant Properties of ShadowCLAD

Specification C1.10 of the BCA 2007, states that Materials used in the buildings of Class 2 – Class 9 must:

- ✓ Have a Spread of Flame Index of not more than 9; and
- ✓ Have a Smoke Developed Index of not more than 8 if the Spread of Flame Index is more than 5.

The requirements for wall and ceiling linings are based on a material's group number which is derived from testing it to AS/NZS 3837 using an oxygen consumption calorimeter. This is the "Cone Calorimeter test".

Materials must be a Group 1, 2 or 3 as specified in Table 2 of Specification C1.10 (a) where the material requirements are categorized into classifications, types of rooms or whether the building is sprinkler protected.

### ShadowCLAD AS/NZS 3837 Test Results

#### ShadowCLAD Texture LOSP Natural

	Sample 1	Sample 2	Sample 3	Mean
Average Heat Release kW/m <sup>2</sup>	81.8	81.2	78.5	80.5
Average Specific Extinction Area m <sup>2</sup> /kg	95.5	70.8	65.8	77.3
BCA Group	3	3	3	3

Refer Test Number 7-554558-CN 24/8/2007 AWTA Product Testing Test Report

#### ShadowCLAD Texture LOSP Primed Grey

	Sample 1	Sample 2	Sample 3	Mean
Average Heat Release kW/m <sup>2</sup>	82.7	79.0	79.0	80.2
Average Specific Extinction Area m <sup>2</sup> /kg	96.9	82.2	106.2	95.1
BCA Group	3	3	3	3

Refer Test Number 7-554563-CN 27/8/2007 AWTA Product Testing Test Report

## Fire Resistant Properties of ShadowCLAD cont.

Early Fire hazard tests such as AS 1530 Part 3 which have now been superseded by AS/NZS 3837 were performed to assess the surface burning characteristics of materials. The tests included:

- ✓ Ignitability Index which measures the tendency for the material to ignite. It could be zero if ignition does not occur or as high as twenty if ignition occurs within 30 seconds of radiation.
- ✓ Spread of Flame Index which measures the speed for which flame spreads up the wall. A value of 10 indicates floor to ceiling spread of 10 s from ignition. An index of zero indicates no spread of flame.
- ✓ Heat Evolved Index measures the risk of nearby combustibles igniting. The higher the index, the more likely nearby materials will combust.

Smoke Developed Index. The higher the index the greater the hazard of smoke.

### ShadowCLAD AS/NZS 1530.3 Test Results

	Shadowclad Texture Natural	Shadowclad Texture Primed
Test Number	7-554725-CN	7-554726-CN
Ignitability Index	15	15
Spread of Flame Index	8	8
Heat Evolved Index	7	7
Smoke Developed Index	2	3

AWTA Product Testing Test Report 04/09/2007

## Construction of Buildings in Bush Fire Prone Areas

Refer to AS 3959 for an outline of the construction standards applicable to residential developments in bush fire prone areas.

For the purpose of this Standard, fire retardant –treated timber as tested to AS 3837, must meet the following criteria under ASTM D 2898 Method B.

1. Ignition does not occur when the material is exposed to an irradiance level of 10kW/m<sup>2</sup>
2. The maximum head release is not greater than 100kW/2 and the average head release rate for 10 min following ignition is not greater than 60kW/m<sup>2</sup> when the material is exposed to an irradiance level of 25kW/m<sup>2</sup>.
3. For areas where the cladding is exposed to the weather, weathering tests under ASTM 2898 Method B may be required.

ShadowCLAD has yet to be tested to an irradiance level of 10kW/m<sup>2</sup> and ASTM 2898 Method B.

Refer to [www.rfs.nsw.gov.au](http://www.rfs.nsw.gov.au) for further information on construction requirements for bush fire prone areas.