FIRE HAZARD REQUIREMENTS FOR VENEERS

The Building Code of Australia regulates materials used in construction and for covering of Class 2 to 9 buildings, not single family homes. The term that is used is Fire Hazard Properties and the reference Clause is C1.10 Fire Hazard Properties

The following attempts to demystify some of the use as well as provide a summary of data available or where it can be located. It is important to note that the available data in this area is an ongoing activity and that regular checking for the latest results is recommended.

The BCA is quite clear on what it requires; it calls for any material or assembly use in Class 2 to 9 buildings, being all buildings except the single family home or auxiliary structure (sheds, carports etc) to comply. Materials used for flooring, floor covering and wall and ceiling lining materials must comply with Specification C1.10a. For all other materials i.e. what holds up the floor covering or lining, are required to comply with Specification C1.10.

In BCA terms “Clauses” are the requirements and “Specifications” are how to achieve it.

For walls and ceilings a lining such as timber linings or panels would be required to meet Specification C1.10a. The studs that are used to support the linings are required to meet Specification C1.10.

The BCA exempts certain items such as timber framed windows, timber hand rails or skirting, door skins, joinery, cupboards, shelving or similar. The BCA also exempts paint, varnish or lacquer and adhesives used.

Wall and Ceiling Lining/Coverings (Covers Wood Veneer Facings)

Generally speaking Group 3 materials refer to timber and veneered board products, Group 2 materials are predominately fire retardant timber and Group 1 are non-combustible or near non-combustible. With this said they are all required to be assessed.

Wall and ceiling linings are required to meet different prerequisites for different building types, location within the building and whether it is sprinklered or not. Material used for wall and ceiling linings is required to have a Group Number 1, 2 or 3 and buildings not fitted with sprinklers are to have a smoke growth rate not more than 100, or an average extinction area less than 250m^2/kg.

For veneered panels which have a timber density greater than 500 kg/m3 and are either on a MDF or particleboard of minimum 12 mm thick then Warrington Fire Research Report RIR 45982.1 has assessed that these panels have a Group no 3 and an average Extinction Area of less than 250 m^2/kg.

This covers most timber veneers except for timber species density under 500kg/m3 which must be individually assessed. Individual tests have been done on Douglas Fir, Poplar, Kalantas and New Guinea Walnut glued to MDF substrates and all were found to have Material Group no 3 and an average Extinction Area of less than 250 m^2/kg. (Refer to Warrington Fire research Reports 21164000A, B, C and D.) Warrington website is www.wfra.com.au

To determine whether a species is over 500kg/m3 density refer to 'Wood in Australia' (Bootle) and' World Woods In Colour' (Lincoln) or any other authoritative timber manual, such as 'AS1720.2 – Timber Properties.' (Density is based on the dry category which are calculated as 12% MC)

The final point is that the work in this area is ongoing and that new results will become available from time to time. For copies of these and future reports refer to www.timber.net.au

List of species which qualify for Group 3 as above

Alder, Euro	530 kg/m³	Maple, Rock	730 kg/m³
Anegre	510/570 kg/m³	Meranti, Red	550/640 kg/m³
Ash, Euro/White	700 kg/m³	Myrtle, Southern	560 kg/m³
Ash, Silver	620 kg/m³	Myrtle, Tas	580 kg/m³
Ash, Vic	680 kg/m³	Nyatoh	600/700 kg/m³
Beech, Euro	700 kg/m³	Oak, Silky	550 kg/m³
Birch, American	670 kg/m³	Oak, White	700/750 kg/m³
Birch, European	670 kg/m³	Oregon (D.Fir)	530 kg/m³
Blackbean	770 kg/m³	Padauk	650/800 kg/m³
Blackbutt	900 kg/m³	Palisander, Santos	860 kg/m³
Blackbutt, WA	850 kg/m³	Pearwood	700 kg/m³
Blackwood, Tasmanian	640 kg/m³	Pine, Baltic	510 kg/m³
Brushbox	900 kg/m³	Pine, Celery Top	650 kg/m³
Bubinga	800/960 kg/m³	Pine, Hoop	530 kg/m³
Cherry, American	580 kg/m³	Pine, Radiata	500 kg/m³
Cherry, Queensland	600 kg/m³	Pine. Kauri	550 kg/m³
Ebony	900/1100 kg/m³	Poplar	450 kg/m³
Elm	560 kg/m³	Rimu	600 kg/m³
Gum, Forest Red	1050 kg/m³	Rosewood, Indian	850 kg/m³
Gum, Rose	620 kg/m³	Rosewood, New Guinea	650 kg/m³
Gum, Southern Blue	900 kg/m³	Sapele	650 kg/m³
Gum, Spotted	950 kg/m³	Sassafras,Golden	630 kg/m³
Gum, Sydney Blue	850 kg/m³	Sen	560 kg/m³
Hickory	800 kg/m³	Stringybark	900 kg/m³
Ironbark, Grey	1120 kg/m³	Sycamore	600 kg/m³
Jarrah	820 kg/m³	Tawa	720 kg/m³
Karri	900 kg/m³	Teak	550/670 kg/m³
Khaya	570 kg/m³	Turpentine	930 kg/m³
Koto	600 kg/m³	Walnut, American	600 kg/m³
Kwila	850 kg/m³	Walnut, N.G.	540 kg/m³
Larch	590 kg/m³	Walnut, Queensland	690 kg/m³
Mahogany, Brazil	550 kg/m³	Wattle, Silver	680 kg/m³
Makore	650 kg/m³	Wenge	880 kg/m³
Maple, Qld	580 kg/m³	Zebrano	650/800 kg/m³

Group 1 and 2 Materials

Group 1 and 2 materials are more highly fire resistant than Group 3. Group 1 and 2 materials are required in certain parts of commercial buildings, as specified in the Building Code of Australia. For example, linings in Lift Cars are required to be Group 2.

Fire retardant treated MDF is available in the Australian market and meets BCA requirements for Group 1 and 2.

However, the product is yet to be tested with a veneer face applied. When test data becomes available it will be posted on our website.