

# Queensland / ADMA-NCC (BCA) Flexible Duct, Thermal & Fire Rating Requirements from May 1 2011

## Domestic Applications

BCA 2011 is mandatory for all Class 1 + 10 buildings in QLD issued with a building permit from May 1 2011:

### BCA 2011 specifies;

- "Material R Values" ( $R_m$ ) (R Value of insulation only) must be used on flexible duct and fittings, tested to AS/NZS 4859.1. "Total R Values" ( $R_t$ ) are not acceptable nor is quoting insulation thickness and or weight instead of a Material R-value ( $R_m$ ).
- All duct in a heating system that is ignited by a flame must be fire rated to AS 4254.
- $R_m$  0.4 for all fittings in all installation.
- $R_m$  1.0 for all duct in all heating only, refrigerated cooling only and evap cooler only systems.
- $R_m$  1.5 for all duct in reverse cycle and add on cooling systems, except zone 2 and 5 where  $R_m$  1.0 is required (see note).
- $R_m$  0.6 insulation can only be used on duct within "the insulated building envelope" e.g. In riser shafts and in between floors.

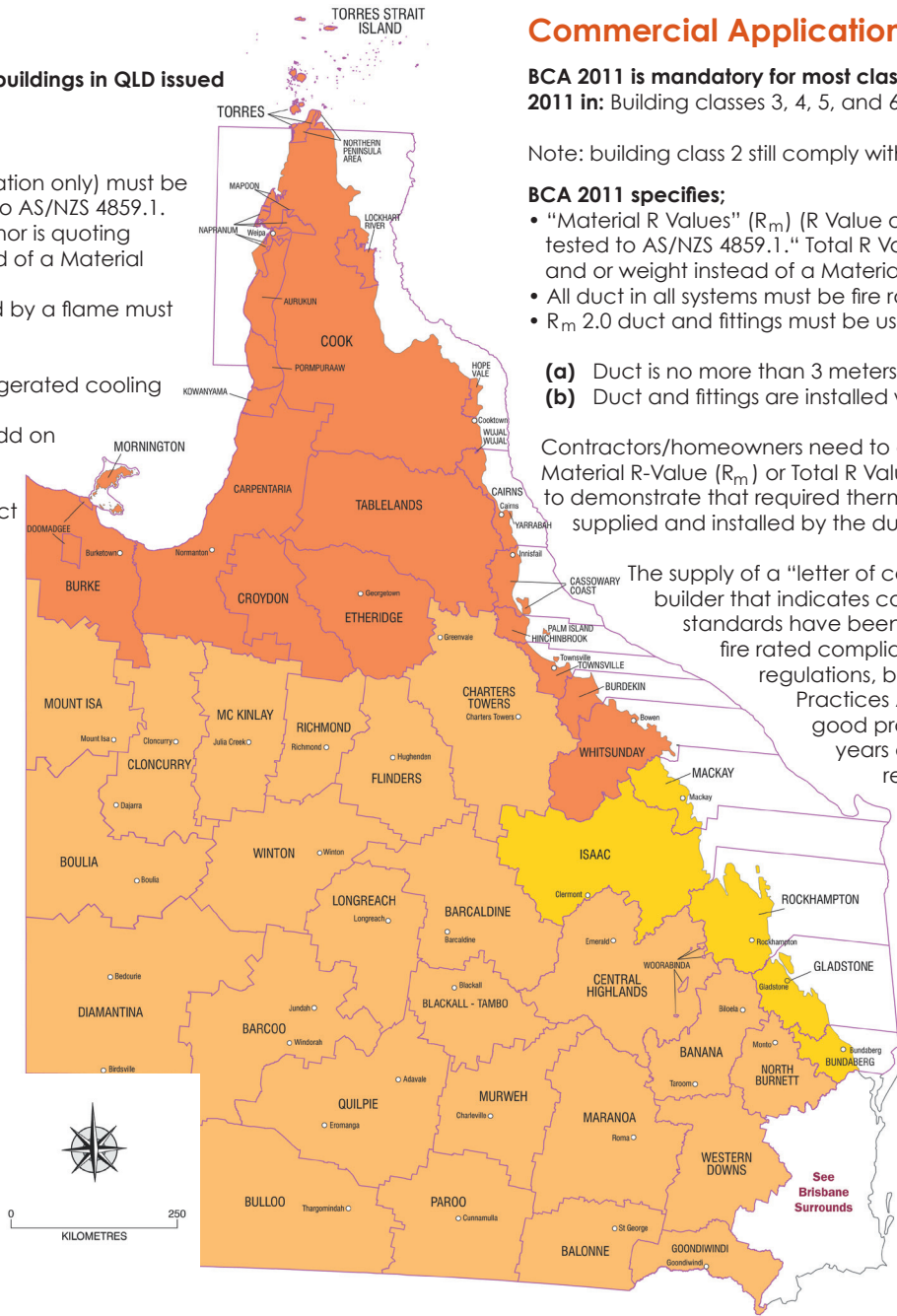
**Note:  $R_m$  1.0 may be used in reverse cycle and add on cooling systems in climate zones 1 and 3 if the ducts are;**

- Under a suspended floor within an enclosed perimeter or
- In a roof space that has downward facing reflective foil insulation fitted to the underside of the roofing i.e. above the duct

## Climate Zones



Developed from a map produced by the Bureau of Meteorology



## Commercial Applications

BCA 2011 is mandatory for most classes of buildings in QLD issued with a building permit from May 1 2011 in: Building classes 3, 4, 5, and 6,7,8,9.

Note: building class 2 still comply with the requirements of BCA 2009.

### BCA 2011 specifies;

- "Material R Values" ( $R_m$ ) (R Value of insulation only) must be used on flexible duct and fittings, tested to AS/NZS 4859.1. "Total R Values" ( $R_t$ ) are not acceptable nor is quoting insulation thickness and or weight instead of a Material R-value ( $R_m$ ).
- All duct in all systems must be fire rated to AS 4254.
- $R_m$  2.0 duct and fittings must be used on all in heating, cooling and evaporative installations unless;

- Duct is no more than 3 meters in length to an outlet or from an inlet then  $R_m$  1.0 is acceptable.
- Duct and fittings are installed within a "conditioned space" which require  $R_m$  1.2.

Contractors/homeowners need to ensure that only duct with a designated and appropriate Material R-Value ( $R_m$ ) or Total R Value ( $R_t$ ) is installed and that documentary evidence is available to demonstrate that required thermally rated duct has been ordered, supplied and installed by the duct supplier.

The supply of a "letter of certification", "letter of compliance", or equivalent, by a builder that indicates compliance, demonstrates that regulatory standards have been followed. The failure to install thermally and fire rated compliant product may breach state or local regulations, builders' guarantees, or the Trade Practices Act, possibly triggering make-good provisions, and may extend for some years depending on local regulations and building contracts.

