

New South Wales / ADMA-NCC (BCA) Flexible Duct, Thermal & Fire Rating Requirements from May 1 2013

Domestic Applications

BCA 2013 is mandatory for all Class 1 + 10 domestic buildings in NSW issued with a building permit from May 1 2013:

BCA 2013 specifies:

- Material R Values (R Value of insulation only) must be used on flexible duct and fittings tested to AS/NZS 4859.1. It is not acceptable to quote an insulation thickness and/or weight instead of a total R Value (R_m).
- All duct in a heating systems that is ignited by a flame must be fire rated to AS 4254.1:2012
- R_m 0.4 for fittings in all installations
- 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
- R_m 1.0 for duct in all heating only refrigerated cooling only and evaporative cooler only systems (except zone 8, R_m 1.5 is required)
- R_m 1.5 for duct in all reverse cycle and add on cooling systems, except in climate zones 2 and 5 where R_m 1.0 is acceptable.(see note).

Note: R_m 1.0 may be used in reverse cycle and add on cooling systems only in climate zones 4, 6 and 7 if the ducts are:

- Under a suspended floor within an enclosed perimeter or
- In a roof space that has insulation of not less than R 0.5 directly beneath the roofing i.e. above the duct. NB Sarking / reflective foils can usually achieve R0.5.

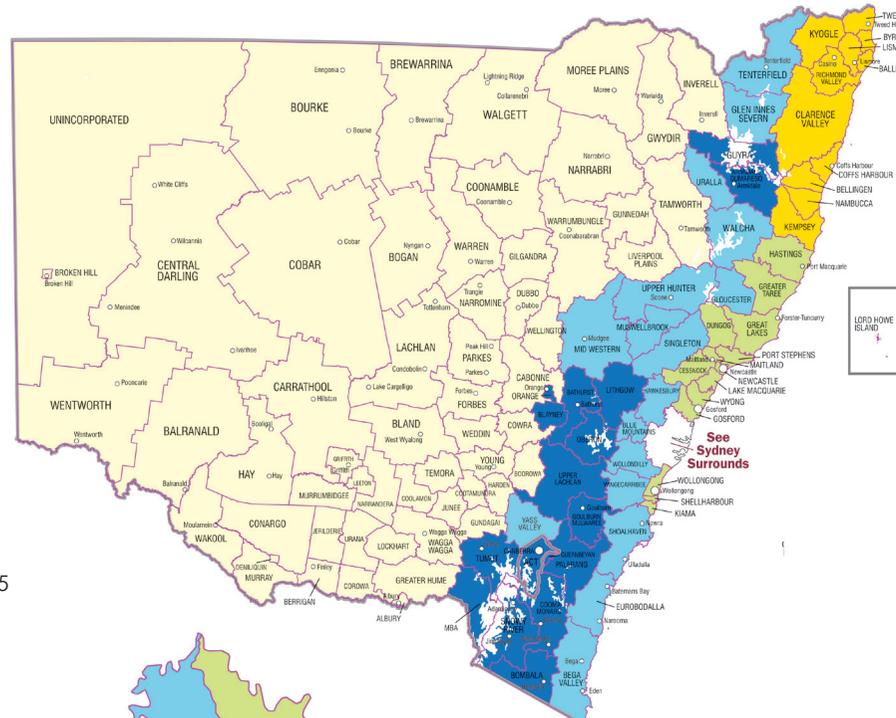
Note: Class 1 & 10 buildings are subject to BASIX but still use section 3.12.5.3 for flexible duct.

Climate Zones

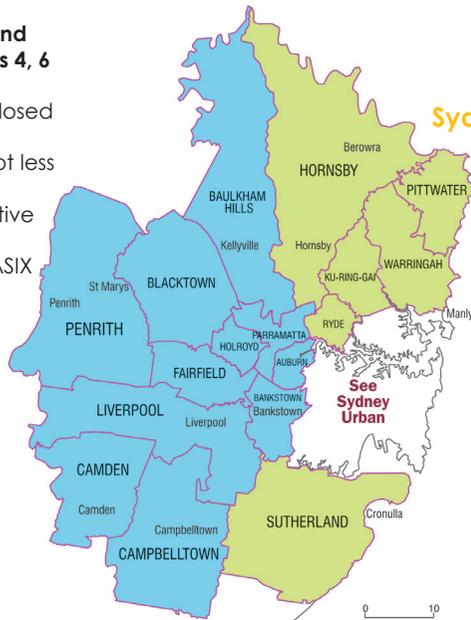
- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5
- Zone 6
- Zone 7
- Zone 8



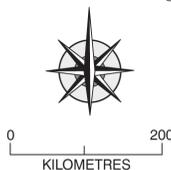
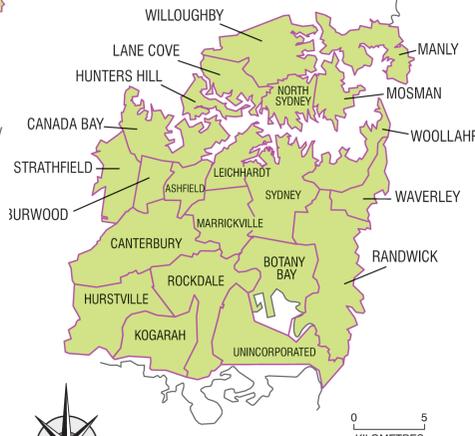
Local Government Area boundary



Sydney Surrounds



Sydney Urban



Commercial Applications

BCA 2013 is mandatory for most classes of commercial buildings in NSW issued with a building permit from May 1 2013 including:
Building classes 3, 5, 6,7,8,9.

Note: Class 2 and a class 4 are subject to Basix but still use section J for flexible duct.

BCA 2013 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 4254.1:2012
- R_m 2.0 duct and fittings must be used on all in heating, cooling and evaporative installations unless;
 - (a) Duct is no more than 3 meters in length to an outlet or from an inlet then R_m 1.0 is acceptable.
 - (b) Duct and fittings are installed within a "conditioned space" which require, Zones 2 and 5 - R_m 1.2, Zones 4,6 and 7- R_m 1.2 and zone 8 - R_m 1.6.
 - (c) Duct and fittings are installed in Zone 8 which requires R_m R 2.4.
- Dependant on building class and sub class BASIX requirements may also apply.

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.