

What to expect from the BCA 2010

New provisions for greenhouse pollution reduction are included in the national Building Code of Australia (BCA) for 2010. So what's in store for the HVAC&R industry?

In January of this year the Federal government announced that new energy efficiency provisions, that further enhance and expand those already existing, would be included in this year's edition of the Building Code of Australia (BCA).

It is integral that building industry practitioners, especially those in the HVAC&R industry are aware of the new provisions that come into effect in the BCA 2010.

At the time of writing, The Australian Building Codes Board, the body responsible for updating the BCA, released a summary of the 2010 edition's key changes.

As a whole, the 2010 edition of the BCA will include revised objective, functional statements and some performance requirements to recognise that the goal of the revision is greenhouse gas emission reduction, rather than energy efficiency alone. This objective will in turn give further credit for renewable energy sources.

Across the board, the new provisions include a general increase in energy efficiency stringency; including a restructuring of tables and clauses as needed for the increase, and with more detailed provisions in some cases.

HVAC&R Nation has compiled a list of some of the key changes to both Volume 1 and 2, with specific coverage on changes relevant to HVAC&R practitioners.

Both Volumes' have increased roof insulation performance, with recognition for light coloured roofs. Furthermore, insulation on duct and pipe services must be to AS/NZS 4859.1 *Materials for the thermal insulation of buildings – General criteria and technical provisions*, and are now specified in terms of material R-Value.

Volume One (Building classes two to nine)

Insulation

- A table for adjusting ceiling insulation if penetrations exceed 0.5 per cent is included.
- The insulating performance of internal envelope walls and envelope floors is now a function of climate zone, whether a floor has an in-slab conditioning system, suspended or on ground, enclosed or mechanically ventilated.

Glazing

- Glazing calculation methods have been revised.

Outside air

- The air conditioning of a Class 3 sole-occupancy unit must cease if an external door to a balcony, patio or courtyard is left open.
- The over-supply permitted of outside air has been reduced from 150 per cent to 120 per cent.



Heaters

- Requirements for a heating system other than a water based one have been included. E.g. Electricity is not permitted and oil is limited to locations without reticulated gas.
- Fixed space heating appliances installed outdoors must have automatic controls.

New provisions have been introduced for the heating and pumping plant of swimming pools and spa pools; in addition to new provisions for the metering of energy usage.

Fan and pump power

Definitions of fan power and pump power have been revised and the energy efficiency levels have been increased by up to 50 per cent. This means that careful duct and pipe sizing will be essential to minimise pressure losses in duct and piping systems.

Provisions for commissioning have not been included in the BCA 2010. Although the item was proposed in the public comment draft proposals, it was removed because of the application of building law.

Volume Two (Building classes one and ten)

Heaters

- A new performance requirement and deemed-to-satisfy provisions for supply water heaters are included, favouring heaters using an energy source that is renewable or of low greenhouse gas intensity.
- Limitations have been set on the use of electric resistance space heating.
- New provisions for supply water heaters that specify the performance of the heaters are included; which also severely limit the use of electric resistance heaters.

Insulation

- A new requirement for at least half the required insulation to be laid on the ceiling.

Glazing

- The glazing formulae and allowances have been modified to allow for the benefit of passive winter solar heating (this means an additional table for winter exposure factors).
- Habitable rooms in climate zone 5 are now to be sealed irrespective of whether the space is conditioned.
- Where an external door is to be sealed, a draft protection device is now required.
- Air movement opening sizes have been moderated as reduced glazing allowances may result in designers choosing smaller windows.

The proposal to remove a concession permitting open fronted shops to be conditioned has also been removed, with the ABCB deciding to permit this concession for another year in order for industry to adjust practices and develop technologies.

The enhanced provisions of the BCA will be undertaken by all jurisdictions in 2011, however, because of the policies of states and territories and the different transitional arrangements in state and territory law, not all jurisdictions will adopt the new provisions on May 1, 2010.

The ABCB is currently in the process of updating all of its energy efficiency calculators, handbooks and its two energy efficiency education modules. The Board is also producing a handbook for electricians and plumbers to make them aware of important matters in the BCA. For more information, visit www.abcb.gov.au ■

Learn more

The best way to stay informed about changes to the Building Code of Australia is to attend the 2010 ABCB information seminars. For seminar dates and locations, visit www.abcb.gov.au

In conjunction, AIRAH will be running afternoon workshops on Section J (Volume One) of the BCA 2010. Visit www.airah.org.au for more information. Please note, participants will need to register separately for the AIRAH and the ABCB sessions.