

Appendix C



C. FIRE-RESISTANCE REQUIREMENTS

C.1 Open-deck or Sprinklered Carparks

According to the Building Code of Australia (2004), open-deck and sprinklered carparks can be constructed from bare steel construction provided that the columns and beams achieve certain requirements with respect to their surface-area-to-mass ratio.

The BCA defines an open-deck carpark as a carpark which is cross ventilated using two approximately opposite sides. The sides that provide ventilation must be at least 1/6 of the area of any other side and the opening must be at least 1/2 of the wall area (see Figure C1).

C2 Not Open-deck and Not Sprinklered Carparks

The designs in this publication are also applicable to carparks that are not open-deck or are not sprinklered, however some fire protection of structural elements may be required. The BCA carparks provisions including those for non-sprinklered, non-open deck carparks are described in detail in the OneSteel publication “Economical Carparks – A Guide to Fire Safety” (Bennetts, Poh & Thomas, 2001). This document should be consulted to determine the extent of protection required.

References

Australian Building Code Board 2004, *Building Code of Australia, Volume 1: Class 2 to Class 9 Buildings*, ABSB, Canberra

Bennetts, I. D., Poh, K. W. & Thomas, I. R. 2001, *Economical Carparks - A Guide to Fire Safety*, OneSteel Market Mills, Newcastle, Available: <http://www.onesteel.com/productspecs.asp?specID=54>

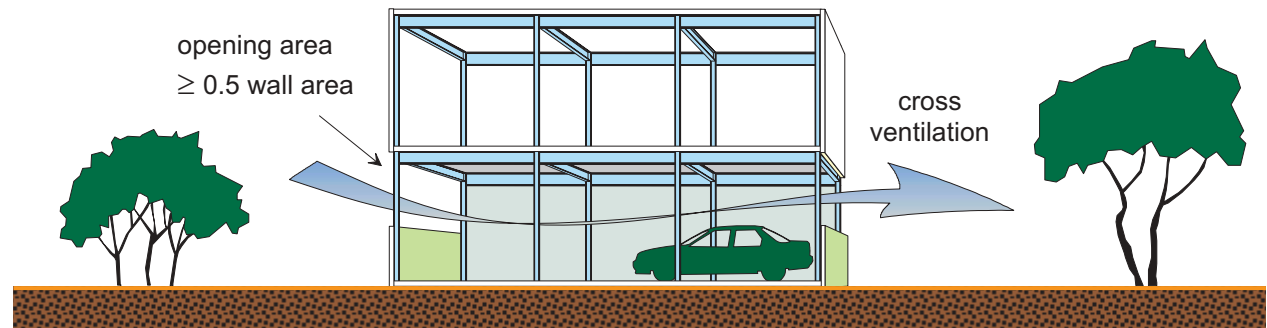
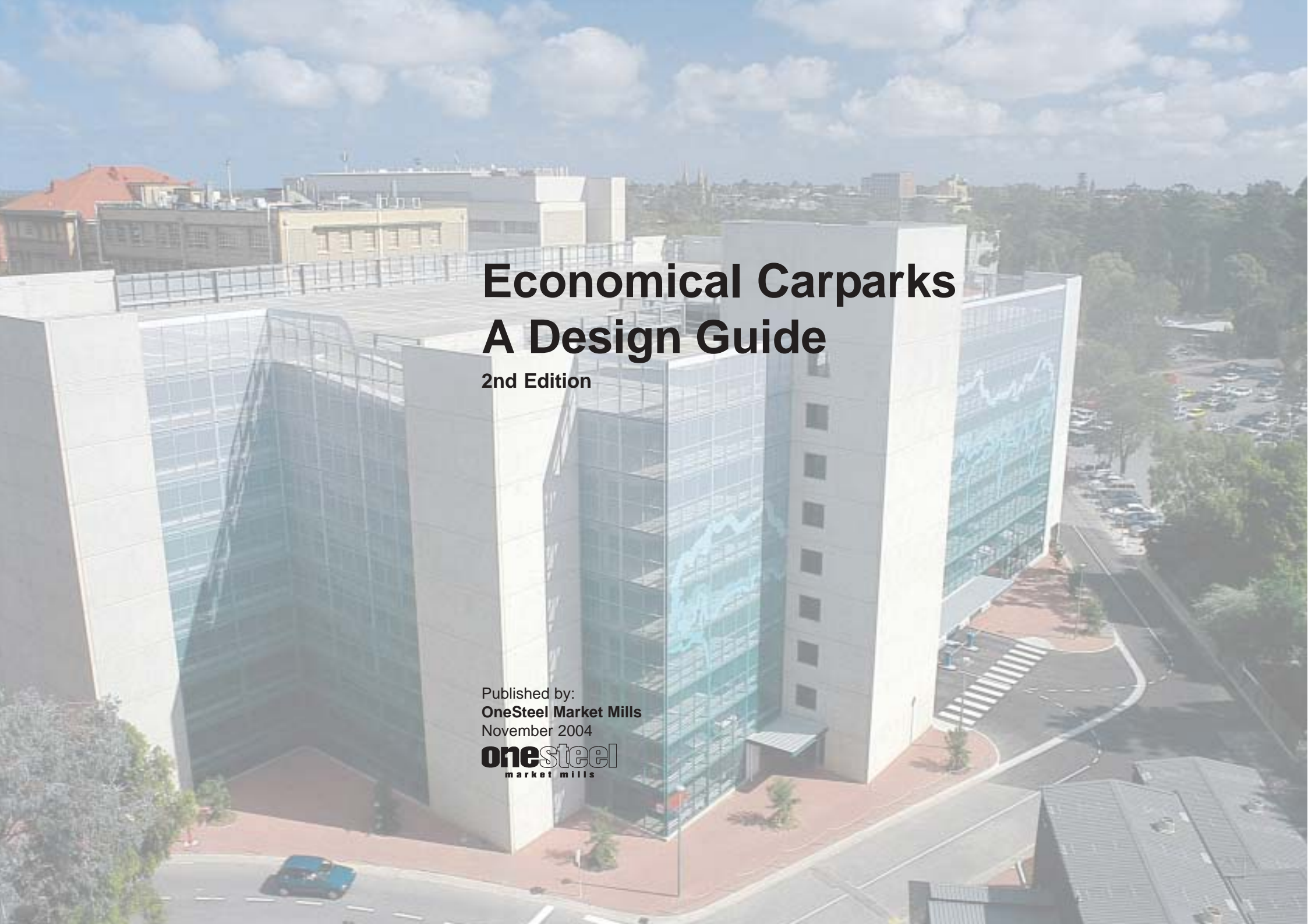


Figure C1 - Open-Deck Carpark (Source: Bennetts, Poh & Thomas, 2001)

An aerial photograph of a modern, multi-story office building with a prominent glass facade. The building is situated in an urban environment, with other buildings and a parking lot visible in the background. The sky is blue with scattered white clouds. The text 'Economical Carparks A Design Guide' is overlaid on the image in a large, bold, black font. Below the title, '2nd Edition' is written in a smaller font. In the bottom right corner, the publisher information and logo are displayed.

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