



## **EPS Panel Manufacturers Outcomes of Fire Testing & Research Program As at September 2004**

- Tests conducted by the CSIRO-MIT fire science and technology laboratories in accord with the requirements of the amended BCA regulations on the *Fire Hazard Properties of Materials (AS 1530.3)* has led to the following conclusions:
  1. *EPS panel with standard 'As Is' construction is a **Group 2** material*
    - a. *Panel thickness < 100mm and steel facings > 0.6mm*
    - b. *Panel thickness > 100mm and steel facings < 0.6mm must be constructed as per specification for Group 1. (further testing pending to broaden scope of group 2 approval)*
  2. *EPS panel with special construction listed below is a **Group 1** material*
    - a. *steel angles and rivets*
    - b. *ceiling joints riveted at 1200mm centres**(Test certificates pending)*
- Predictive cone calorimetry performed by the CSIRO-MIT laboratories to investigate the effect of increased levels of flame retardant and explore the effect of different EPS densities and bead types conclude that no significant improvement in fire performance can be achieved via these means.<sup>3</sup>

Our extensive testing and research program into EPS insulated sandwich panel has confirmed, in accord with the international literature that:

- Installation methods are critical to the fire performance of insulated panel
- Joint details and design are critical to protecting EPS cores
- Structural support plays a significant role in the fire performance and so perimeter ceiling support is recommended in larger buildings where intermediate suspensions are also required

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<sup>1</sup> *Assessment of the Performance of Sandwich Panels with an Expanded Polystyrene (EPS) Core in the ISO 9705 Room Fire Test, CSIRO (Sept 2003) Confidential Doc - CMIT-(C)-2003-201*

<sup>2</sup> *Assessment of the Performance of Sandwich Panels with a 250mm Thick Expanded Polystyrene (EPS) Core in the ISO 9705 Room Fire Test, CSIRO (Mar 2004) Confidential Doc - CMIT- (C)-2004-089*

<sup>3</sup> *Prediction of Performance Of Expanded Polystyrene (EPS) In The Room Corner Test Using Cone Calorimeter Data, CSIRO (Sept 2003) Confidential Doc- CMIT-(C) -2003-042*