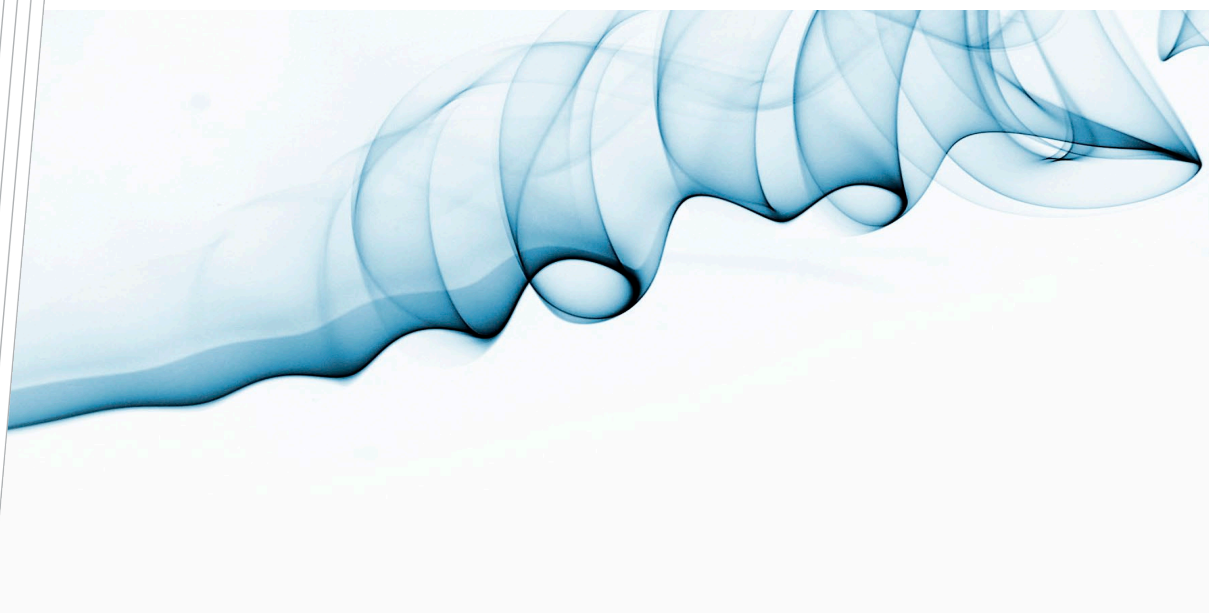




# Thermal Transmission Properties of Phenolic Foam Composite Panels

Alternative Thickness Calculations  
Status: Final for issue

Commercial-in-Confidence



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## Test Report XC4002/R3

Calculated declared thermal performance of Phenolic Foam Composite

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### Report Status and Revision History

VERSION	STATUS	DATE	DISTRIBUTION	COMMENT
Revision A	Final	24 June 2024	CSIRO	Draft Issue for internal review
Revision B	Final	28-August-2024	CSIRO, Delta Panels Pty Ltd	Final Issue

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## Client

Delta Panels P/L

Reports XC4002/R1 and XC4002/R2 have characterized the declared thermal resistance of Phenolic Foam Composite at the low and high ends of the thickness range with results that are summarized in Table 1.

**Table 1.** Declared thermal performance of Phenolic Foam Composite Panels at 23°C mean temperature

CSIRO Report Number	Product Nominal Thickness (mm)	Declared Thermal Resistance (m <sup>2</sup> .K/W)	Declared Thermal Conductivity (W/m.K)
XC4002/R1	50	1.32	0.039
XC4002/R2	200	5.15	0.039

AS/NZS 4859.1 allows for interpolation and limited extrapolation at other thickness values to arrive at declared thermal values for these thicknesses. Calculation is based on the highest declared value of thermal conductivity, the rounded value of which in this case is 0.039 W/m.K. The client has provided a list of alternative thickness values for which the following declared thermal resistance values have been calculated.

**Table 2.** Calculated declared thermal performance of Phenolic foam composite at 23°C mean temperature at intermediate thicknesses

Product Nominal Thickness (mm)	Calculated Declared Thermal Resistance (m <sup>2</sup> .K/W)	Product Nominal Thickness (mm)	Calculated Declared Thermal Resistance (m <sup>2</sup> .K/W)
60	1.55	100	2.55
70	1.80	110	2.85
75	1.90	125	3.20
80	2.07	150	2.85
90	2.30	175	4.50

The above calculations assume that all examples of the product meet or exceed the nominal thickness value and that the average density is also met or exceeded.