

WA Polystyrene - XPS Technical Data



Product: WA Polystyrene XPS

Colour: Blue

End Use: Insulation

Nominal Composition: Extruded Polystyrene

Nominal Mass per Unit/Density: 32 -35 kg/m³

Board Dimensions: 2500 x 600mm

Board Thicknesses: 25mm, 30mm, 50mm, 75mm and 100mm

Testing Facility: AWTA Product Testing Australia

Test Date: November 2015

Steady State Thermal Transmission Properties Testing Method: ASTM C518-2010 (NATA Accredited)

Product Thickness: 50 mm

Thermal Conductivity: .0288 W/m.K @ 23°C

Thermal Resistance (R Value): 1.74 m²K/W

Compressive Resistance Properties Testing Method: ASTM C165-07 Procedure A

Deformation Load at 1%

Result: Average Mean 108kPa

Deformation Load at 10%

Result: Average Mean 359kPa

Water Vapour Transmission Properties Testing Method: ASTM E96-2012 (NATA Accredited)

Temperature: 24.8°C

Humidity: 53.7 %

Permeance: 2.39 10⁻⁷ g/Pa.m².S

Water Absorption of Core Materials for Structural Sandwich Conditions Testing Method: ASTM C272-2007

Increase in Weight: 7.1%

Fire Tests on Building Materials, Components and Structures Testing Method: AS/NZS 1530.3-1999 (NATA Accredited)

Nominal Thickness: 50 mm
Ignition Time: 11.48 min
Flame Propagation time: Nil sec
Heat Release integral: 71.2 KJ/m²
Smoke Release, log d: -0.4524
Optical Density, d: 0.3617 / metre

Regulatory Indices:

Ignitability Index: 9 (Range 0-20)
Spread of Flame Index: 0 (Range 0-10)
Heat Evolved Index: 2 (Range 0-10)
Smoke Developed Index: 6 (Range 0-10)

Heat and Smoke Release Rates for Materials and Products using an Oxygen Consumption

Calorimeter Testing Method: AS/NZS 3837-1998 (NATA Accredited)

Nominal Thickness: 50 mm
Average Heat Release: 130.5 kW/m²
Average Specific extinction area: 1076.2 m²/kg
Irradiance: 50kW/m²
Exhaust flow rate: 24 L/sec
Time to sustained flaming: 22 sec
Test Duration: 314 sec
Peak heat release after ignition: 332.1 kW/m²
Average heat at 60s: 258.9 kW/m²
Average heat at 180s: 199.1 kW/m²
Average heat at 300s: 130.5 kW/m²
Total heat release: 37.9 MJ/m²
Average effective heat of combustion: 28.6 MJ/kg
Initial thickness: 38.0 mm
Initial mass: 12.5g
Mass remaining: 0.1 g Mass percentage pyrolysed: 99.2 %
Mass loss: 12.4 g Average rate of mass loss: 4.6 g/m².s