

# Datasheet: Premier 100% Polyester Acoustic Baffle Stack

Premier 100% Polyester is a range of thermal and acoustic insulating materials manufactured from thermally bonded polyester fibres. Premier 100% Polyester Insulation is available in blanket and segment form to suit a wide range of thermal & acoustic insulation requirements and framing set-outs in walls, mid-floors, ceilings and roofs of buildings.

Premier 100% Polyester Acoustic Baffle Stack is proudly manufactured in NZ, and contains minimum 45% recycled fibre from post-consumer PET plastic. Our acoustic ranges utilise specialist low denier, high-volume hollow-core polyester fibres for superior sound absorption.

Premier 100% Polyester Baffle Stack has been designed to be layer-stacked above acoustically rated partition walls to reduce and control sound transfer through the ceiling plenum space.

	Nominal Thickness	Material Weight & Density	Pack Configuration	LM per Pack	m2 per pack	
<b>PREMIER 100% POLYESTER BAFFLE STACK</b>						
Premier 100% Polyester Baffle Stack	120mm	1,000gsm 10kg/m <sup>3</sup> at 100mm	600mm x 11.11 LM x 3 Rolls per Pack	33.33Lm	20m <sup>2</sup>	✓

## KEY FEATURES

- Manufactured using 100% polyester fibres and contains a minimum 45% post-consumer recycled PET plastics.
- Moisture and vermin resistant.
- Cost effective, flexible, and easy to install.
- Non-toxic, non-allergenic, non-irritant, soft and safe to touch.
- Proudly Made in NZ.
- Eco Choice Aotearoa Certified.
- 50 Year Durability Warranty.

## NON-CORROSIVE & NON-HAZARDOUS

Polyester is considered non-corrosive and non-hazardous.

## APPLICATION CONSIDERATIONS

Building services, ducting, ceiling grid supports and fire control and detection devices must not be affected by the installation of Baffle Stack.

Where the ceiling plenum is used as the active air return for the HVAC system, ensure airflow is not affected by the installation of Baffle Stack. Consult the mechanical services engineer where necessary.

Premier 100% Polyester Baffle Stack must be installed with enough compression to ensure stack stability and a tight fit to all surfaces including slab, ceiling or the floor above. Baffle Stack can be installed to a height of 1m without specialist design considerations. Above this height, consideration should be given to the stack stability and weight loadings on the ceiling tiles and grid system.

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## ACOUSTIC PERFORMANCE

Premier 100% Polyester Baffle Stack has been tested by Marshall Day Acoustics (Ref: Lt 009 20221180). Material Density is expressed as Kg/m<sup>3</sup> which is a calculation of Product Weight (gsm) divided by nominal thickness. Premier Baffle Stack has a non-compressed thickness of 120mm and a nominal net weight of 1,000gsm.

Frequency (Hz)	Acoustic Performance (dB)		
	Installed Product Density: 11Kg/m <sup>3</sup> Stack Compression: 17%	Installed Product Density: 15Kg/m <sup>3</sup> Stack Compression: 38%	Installed Product Density: 19Kg/m <sup>3</sup> Stack Compression: 50%
125 Hz	5.1	6.8	7.7
250 Hz	9.3	11.5	12.8
500 Hz	11.4	14.8	17.7
1,000 Hz	13.4	17.5	21.3
2,000 Hz	16.0	21.5	25.5
4,000 Hz	16.2	23.0	26.2
8,000 Hz	20.0	29.3	29.6
Insertion Loss / STC	12 dB	19 dB	22 dB

## Definition of Insertion Loss

Insertion loss is a measure of the reduction in sound transmission through a gap in a partition when an additional component, such as a baffle stack is inserted into the gap. Insertion Loss is the difference in sound level on one side of the partition before and after the insertion of the component and is measured in decibels (dB).

STC or Sound Transmission Class is a single number system for quantifying the transmission loss (or insertion loss) through a building element. The measured transmission loss, in third octave bands from 125 Hz to 4 kHz, is compared to a standard reference curve to determine the single number value.

## NZBC COMPLIANCE

Premier Polyester is designed for thermal & acoustic insulation of buildings, when installed in accordance with the manufacturer's instructions, Premier 100% Polyester Insulation will perform for a minimum of 50 years, meeting the durability clause of NZBC B2.3.1(a). Premier Polyester meets the relevant clauses of NZBC E3 Internal Moisture, F2 Hazardous Building Materials and can support a buildings ability to meet NZBC G6 Acoustic Design requirements.

### Premier Polyester must be:

- Installed & maintained in a dry, protected environment.
- Installed in a building where provisions of NZBC E2 and E3 are met.
- Installed to the requirements of NZD 4226:2016: Energy Efficiency-Installing Bulk Thermal Insulation in Residential Buildings.

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## NZBC C1-C6 PROTECTION FROM FIRE

All polyester insulation is classified as combustible insulating materials, and may therefore not be suitable for all applications, as stipulated in NZBC C-Prodction from Fire. We recommend you consult a Fire Engineer before specifying Polyester Insulation in buildings other than those described in Risk Group SH.

### PIL Group Ltd polyester insulation has been tested to ISO 9705: 1993

Classification: Group 1-S  
Smoke Production Rate: 1.0m<sup>2</sup>/s and therefore within the 5.0m<sup>2</sup>/s limit  
Product Range: 100% Polyester up to 1,800gsm  
Report Ref: BRANZ FC18133-01-2 (June 2024)

Classification: Group 3  
Smoke Production Rate: 1.0m<sup>2</sup>/s and therefore within the 5.0m<sup>2</sup>/s limit  
Product Range: 100% Polyester 1,800gsm up to 4,800gsm, including double-layer install  
Report Ref: BRANZ FC18133-01-2 (June 2024)

### IEC60695-11-5 Downlight Fire Standard

PIL Group Ltd Polyester Insulation has been tested and assessed as complying with IEC60695-11-5 Needle Flame Test.  
Report Ref: Spectrum Lab Report No. 8616 (Aug 2023).

## ENVIRONMENTAL

Premier Insulation is proud to carry Eco Choice Aotearoa Certification for selected Polyester Thermal & Acoustic Insulation products. All Premier 100% Polyester Insulation products are manufactured in the same environmentally considerate way. Eco Choice Aotearoa provides a credible and independent standard to guide people who want to purchase and use products that are proven to be better for the environment. At the foundation of Eco Choice Aotearoa are the technical specifications it develops, setting the most stringent, up to date standards for environmental compliance in business. New Zealand companies who meet or exceed these specification are permitted to display the ECA mark, widely recognised by New Zealanders as a badge of environmental leadership.

Eco Choice Aotearoa is interntionally recognised as Level-A Eco-Label, and operates to internationally recognised standards and principles as a member of GEN, the Global Ecolabelling Network, which links a world of enviromentally preferable products and services.

### NZGBC GreenStar & HomeStar

Premier 100% Polyester Insulation can support a buildings ability to meet the GreenStar & HomeStar accreditation. The specification and use of Premier Polyester Insulation can support available 'points' for insulation materials. For specification or technical support, please contact our Technical Team on 0800 467 855 or email [support@premierinsulation.co.nz](mailto:support@premierinsulation.co.nz)

## VOC EMISSIONS

PIL Group polyester insulation has been tested by CETEC Foray Ltd to ISO16000 Part 9:2011 with ISO16000 Part 11: 2011 "Determination of the emission of volatile organic compounds from building products and furnishing - Emission test chamber method" (Emission testing method for Greenguard UL 2818 certification program specification).

Report Reference: V2012043

VOC (C6 to C16) Emission Concentration: 0.007 mg/m<sup>3</sup>  
Formaldehyde Emission Rate: <0.003ppm

All other Target CREL VOCs and their emission rates are well below the maximum allowable concentrations in accordance with Table 27A (revised December 30, 2014) of the standard method.

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## 50 YEAR WARRANTY

PIL Group Limited takes pride in offering a 50-year Manufacturer's Durability Warranty for Premier Insulation 100% Polyester Thermal and Acoustic Insulation, when installed in compliance with the manufacturer's installation instructions and NZ4246:Energy Efficiency - Installing insulation in residential buildings.

## INSTALLATION

Premier Baffle Stack is designed to be installed as a layer stack above acoustic rated partition walls. Baffle Stack should be installed with enough compression to ensure stack stability and a tight fit to all surfaces including slab, roof or floor above. There should be no gaps through the stack. Small pieces can be used to fill around ducting, services and structural components. We recommend that all insulation be installed in accordance with the manufacturer's instructions and the relevant sections of NZS4246:Energy Efficiency - Installing Insulation in Residential Buildings. Please refer to individual product installation instructions available from our website.

## POLYESTER MOISTURE ABSORPTION

Premier Polyester Insulation does not absorb or wick moisture. Tested at 50°C d 90% Relative Humidity for four days, showed moisture absorption of 0.00% by weight.

Testing was conducted by AWTA in accordance with ASTM C739-97 (Section 12 Modified)

Ref: 23-003634 (Sep 23).

## MATERIAL SAFETY DATASHEET

Premier 100% Polyester Insulation Material Safety Data Sheet is available from our website, or by contacting our Technical Team on 0800 467 855, or email [support@premierinsulation.co.nz](mailto:support@premierinsulation.co.nz)

## PACKAGING & RECYCLING

Our Premier Polyester Insulation packaging is recyclable – made from LDPE 4 material.

Please refer to your local recycling centres for recycling options or contact PIL Group for information on our Take Back & Recycling options for plastic packaging and insulation off-cuts.

## PROFESSIONALLY SUPPLIED & INSTALLED

Premier Insulation offers a nationwide installer network to help ensure our Premier 100% Polyester Insulation products are installed correctly and perform over the life of the building. Premier Insulation branches are locally owned and operated. Find your local branch on our website.

## SPECIFICATIONS & TECHNICAL SUPPORT

Premier specification documents are available from our website. For specification or technical support please contact our Technical Team on 0800 467 855, or email [support@premierinsulation.co.nz](mailto:support@premierinsulation.co.nz).

## Premier Insulation

### Manufactured by PIL Group Limited

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