

# ThermaVIP+ Technical Overview

## Product Description:

ThermaVIP+ is an insulation panel for use in thermally-controlled packaging, comprising two main components: a fiberglass core VIP made with a metallized film envelope, and a PU encapsulation layer for protection.

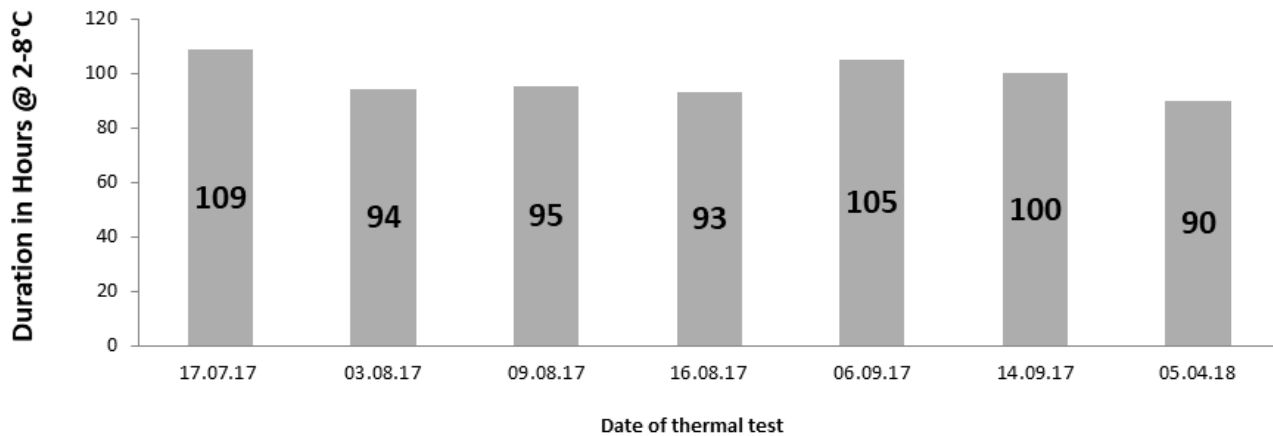
## General Specification:

Criteria	ThermaVIP+	Test Methods	Comment
Color	Silver / white edges	External appearance	
Geometry Available			Standard = Rectangular. Special shapes such as round, trapeze, donut, etc, available as per customer requirements.
Maximum Dimensions Available	1000 * 1000 [mm] 39.37" * 39.37"		For 30mm (1.18") thickness
Maximum Dimensions Available	1800 * 3800 [mm] 71.87" * 149.6"		For ≤60mm (2.36") thickness
ThermaVIP+ Panel Density	190±15 [kg/m <sup>3</sup> ] 1.585±0.125 [lb/gal]	Density=Weight of ThermaVIP panel / (Length*Width*Thickness of ThermaVIP+ panel)	
Core Material	Fiberglass		
ThermaVIP+ Panel Thickness	30 mm +/-10 % 1.18" +/-10 %		Total panel thickness (different thickness from 20 mm to 65 mm available on request)
Thermal Conductivity	≤0.0042 for PU-VIP Panel [W/mK] ≤0.002426715 [Btu (IT) foot/hour/square foot/°F]	ASTM C518-10, Average Temperature: 22.5°C	At manufacture, for the standard rectangular product.
Initial R Value	≥8 [m <sup>2</sup> K/W] ≥45 [ft <sup>2</sup> °F h/BTU]		
ThermaVIP+ Panel Dimension Tolerance	Length : ±2 [mm] (0.08") Width: ±2 [mm] (0.08") Thickness: ±2 [mm] (0.08")		
Temperature Range During Application	-80 °C to +100 °C (-112 °F to 212 °F)		

# ThermaVIP+ Technical Overview

## Panel performance over time

Thermal performance of the same cooling box repeatedly tested over eight months



External volume of box: 40.7 L

Internal volume of box: 22.6 L

Payload volume: 14.8 L

PCM amount: 6 pcs x 1 L

Temperature profile: 30° C constant

Panel thickness: 30mm

From the data above, we can see that the thermal performance of the cooling box remained consistently effective over the eight months of testing.

## Storage:

ThermaVIP+ panels should be stored in the original packaging, in a cool, dry place with no exposure to sunshine, acid, alkali, or moisture. Avoid contact with flames or excessive heat. Recommended long-term storage temperature should not exceed 40°C (104°F), @ relative humidity 0%<RH <60%.

\*All Avery Dennison statements, technical information and recommendations are based on tests believed to be reliable but do not constitute a guarantee or warranty. All Avery Dennison products are sold with the understanding that purchaser has independently determined the suitability of such products for its purposes. All Avery Dennison's products are sold subject to Avery Dennison's general terms and conditions of sale, see <http://terms.europe.averydennison.com>.

©2021 Avery Dennison Corporation. All rights reserved. Avery Dennison and all other Avery Dennison brands, this publication, its content, product names and codes are owned by Avery Dennison Corporation. All other brands and product names are trademarks of their respective owners. This publication must not be used, copied or reproduced in whole or in part for any purposes other than marketing by Avery Dennison.

Contact: [thermavip@eu.averydennison.com](mailto:thermavip@eu.averydennison.com)

DS No=9100/1, Page 2 of 2, Ed B, January 2021

