INDUSTRIAL FILMS *Preliminary Information**

Metallized Laminates for Vacuum Insulation Panels

Item number: **V085HB3**

VACUUM INSULATION PANEL
VIPA
GLOBAL ASSOCIATION

Description:

A laminate comprising two metallized PET films, a Proprietary Surface Treatment (PST) and and a coex of LDPE/ LLDPE as sealing layer. This laminate demonstrates foil-like barrier qualities, with extremely low GTR and low MVTR compared to other commercially available laminates[1]. It is designed for very long term vacuum insulation panel applications requiring extremely high levels of barrier.

Product Specifications: *Product is under development and values are based on preliminary results.

PROPERTY	TEST METHOD	V085HB3	
Thickness	—	**91** **3.6**	[micron] [mil]
Area Yield	—	**9.63** **6785**	[m^2/kg] [in^2/lb]
Heat Seal Strength Heat Seal Break Point	165°C, 4kg/cm^2, 2 sec	**>3.5** **>8880**	[N/mm] [g/in]
Puncture Resistance	FTMS 101C 2065	**125** [N]	**39.5** [lb]
Puncture Resistance (Japanese Sting Strength)	JIS Z1707	**16** [N]	**5.1** [lb]
MVTR	ASTM F-1249-90 38°C 90% RH 100°F 90% RH	**<0.035** **<0.00226**	[gr/m^2day] [gr/100in ^{2}day]
GTR* (Gas Transmission Rate) @ 22°C/50% RH	Hanita's internal test method*	**<3.0**	[cc (STP)/ m^2/year]

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[1] For a sample comparison report of Hanita laminates with other commercially available laminates, please see "Comparison of Barrier of VIP Laminates - New PST Technology" under Technical Downloads on our site. More data can be provided by our technical support team tech.industrial@eu.averydennison.com. Please note that this footnote is applicable to all references to terms/durations mentioned in this data sheet.

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* GTR is the rate of gas permeation into a panel, while OTR is oxygen permeation rate through a flat film. As air contains mainly nitrogen and the application is VIP, gas permeation is a more relevant value for the film performance. Detailed test description can be found under "Hanita testing methodology for VIP" http://www.hanitacoatings.com/energy/vip-zone/resources/technical-downloads

Please note that the lifetime of the products will differ based on the type of application. For an specific indication of lifetime properties of the products related to a specific application, please contact the Avery Dennison Hanita technical support team tech.industrial@eu.averydennison.com . The life time indication given by the Avery Dennison Hanita technical support team is based on a calculation believed to be reliable but shall not constitute a guarantee or warranty.

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