Technical datasheet for: epsotech PS BS1 VM

Overview and Structure

epsotech PS BS1 VM is a single layer product made from blown film High Impact Polystyrene (HIPS).
The base material is formulated to pass UL94 V0 at 1.5mm, so in the lower thickness range when laminated to a flame retardant substrate, it can maintain the desired fire behaviour performance of the laminate composite.

Typical Physical Properties

Property	Value	Unit	Standard	Test Method
GENERAL PROPERTIES:				
Density*	1.15	g/cm3	ISO 1183	-
MECHANICAL PROPER|TIES:				
Tensile Modulus	1800	MPa	ISO 527	23°C
Yield stress	21	MPa	ISO 527	23°C
Elongation at yield	2	%	ISO 527	23°C
Charpy (notched)	5	KJ/m^2	ISO 179	23°C, 1eA
Charpy (notched)	-	KJ/m^2	ISO 179	-30°C, 1eA
Charpy (un-notched)	-	-	-	-
Charpy (un-notched)	-	-	-	-
THERMAL PROPERTIES:				
VICAT softening Point	89	°C	ISO 306	A/50
HDT-A	78	°C	ISO 75	A 1.8 Mpa un-annealed
UV STABILISATION:				
UV Stabilisation	Optional	-	-	According to customer requirement
BURNING BEHAVIOUR:				
Burning Rate**				
Flammability Rating				
Flammability Rating UL**	V0**	-	UL94	At 1.5mm, see product description
SCRATCH/SURFACE:				
MISCELLANEOUS:				
Mould Shrinkage	0.5 - 0.7	%	-	-
Thermoforming Temperature	180 – 210	°C	-	-

Unless otherwise stated, products are tested at a typical thickness of 4mm

[1] The impact values stated indicate the range that this grade meets and *depends on thickness of the sheet, plus actual material grades selected in each layer for every customer's project – typically customised*. Mechanical suitability for each formulation should be evaluated based on the material delivered.

* The density quoted should only be used as a guide. This value can change depending upon the type and quantity of pigments or additives used.

** Fire behaviour values given by raw material supplier or by indicative test on raw material. Not intended as a specification.

Supplemental Information

Chemical Contact and cleaning

Reagent	Chemical resistance		Reagent	Chemical resistance
Acetone	Poor		Chloroform	Poor
Acid – (Weak)	Very Good		Citric Acid Solution	Good
Acid – (Strong)	Poor		Common Salt	Excellent
Apple Juice	Very Good		Detergents	Good
Beef Fat	Very Good		Dairy Products	Good
Butter	Good		Diesel	Poor
Base (Weak)	Excellent		Ethyl Alcohol	Good
Base (Strong)	Poor		Fertilisers	Good
Carrot Juice	Excellent		Petrol	Poor

Chemical resistance is influenced by many factors, including concentration, temperature, exposure time and material stress. Therefore the data should only be used as a guide.

Most common mild soaps or detergents dissolved in warm water can be used to effectively clean general dirt and surface contaminants, but in all cases should be objectively tested. Abrasive products will damage the surface.

Storage and Drying

Long storage times in humid conditions may require a product to be dried, e.g. 80°C for 2 hours +1hr per additional mm of thickness. Space must be left between sheets to allow correct drying.

Dimensional Tolerances

Standard tolerances are subject to the local standard tolerance set. Extra tolerance requirements may be possible on request and by special agreement

Product Modification

Product code nomenclature takes in to account selected primary features of a product. The suffix may indicate a primary additional functionality, however, further multiple modifications are almost always possible and may be agreed upon and specified prior to our technical and commercial offer. Such enhancements are a normal part of our service capability and they do not affect the general characteristics listed in technical datasheets.

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