

Technical datasheet for: epsotech PC PU1 R1 – Preliminary v2

Overview and Structure

epsotech PC PU1 R1 is a non-halogen single or multi-layer sheet made from Polycarbonate, with excellent impact properties. This product has been assessed according to EN 45545-2:2013+A1:2015 (Railway applications – Fire protection on railway vehicles - Part 2; requirements for fire behaviour of materials and components).

According to certified test results, this product can be evaluated for use in HL2, R1 applications.

PC PU1 R1 has an equivalent designation of 'Gertex 15 MT' until 31.01.2020.

Typical Physical Properties

Property	Value	Unit	Standard	Test Method
GENERAL PROPERTIES:				
Density*	1.3	g/cm ³	ISO 1183	-
MECHANICAL PROPERTIES:				
Tensile Modulus	4000	MPa	ISO 178	23°C
Yield stress	54	MPa	ISO 527	23°C
Elongation at break	15	%	ISO 527	23°C
Charpy (notched)	30	KJ/m ²	ISO 179	23°C, 1eA
Charpy (notched)	8	KJ/m ²	ISO 179	-30°C, 1eA
Charpy (un-notched)	-	-	-	-
Charpy (un-notched)	-	-	-	-
THERMAL PROPERTIES:				
VICAT softening Point	110	°C	ISO 306	B/50
HDT-A	100	°C	ISO 75	A 1.8MPa
BURNING BEHAVIOUR:				
Flame Spread	37.7	CFE (kW/m ²)	ISO 5658	T02
MAHRE (max. average rate of heat emission)	75.6	kW/m ²	ISO 5660-1: 2015 + A1: 2019	T03.01, 50 kW/m ²
Smoke Density	136	D _s (4) (-)	EN ISO 5659-2	T10.01, 50 kW/m ²
Smoke Density	213	VOF ₄ (min)	EN ISO 5659-2	T10.02, 50 kW/m ²
Toxicity	0.03	CIT _G (-)	EN ISO 5659-2	T11.01, 50 kW/m ²
MISCELLANEOUS:				
Mould Shrinkage	-	%	-	-
Thermoforming Temperature	-	°C	-	-

Unless otherwise stated, products are tested at a typical thickness of 4mm. Flame tests conducted on this product at 4.3mm

* 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

Chemical resistance is influenced by many factors, including concentration, temperature, exposure time and material stress. Please contact our technical support for more details.

Most common mild soaps 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.

Disclaimer:

Suitability for use - epsotech sells thermoplastic sheet and monofilament products. The above information describes the basic features of our products. However, these are largely influenced by their specific application, the application environment, final processing and the customer's intended usage. We recommend that in each case the suitability of our products for the intended usage is thoroughly listed and evaluated. We do not give any warranty or guarantee for any particular quality required by a customer or for the usability of our products in any particular customer environment. epsotech will under no circumstance be liable for wear and tear, for damages resulting from disregard of product instructions – including those contained in this technical data sheet – operating instructions, disregard of other instructions, misuse, alteration or unauthorised repairs or processing. All deliveries shall be subject to the Terms and Conditions of the Seller.

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