

Empera 542N

General properties

Empera 542N is impact polystyrene with high heat resistance.

Physical properties (typical values)

Property	Value	Unit	Standard	Method
Volume melt-flow rate MVR	4.1	cm ³ /10 min	ISO 1133	200 °C/5 kg
Vicat softening temperature VST	92	°C	ISO 306	B50/oil
Charpy notched impact strength at 23°C	8	kJ/m ²	ISO 179	1eA
Yield stress	25	MPa	ISO 527-2	50 mm/min
Tensile strain at yield	1.8	%	ISO 527-2	50 mm/min
Tensile stress at break	50	MPa	ISO 527-2	50 mm/min
Nominal strain at break	45	%	ISO 527-2	50 mm/min
Tensile modulus	1750	MPa	ISO 527-2	1 mm/min
Flexural strength	40	MPa	ISO 178	2 mm/min
Ball indentation hardness H	120	N/mm ²	ISO 2039-1	358 N/30 s
Density	1040	kg/m ³	ISO 1183	
Water absorption (after 24 h)	< 0.1	%	ISO 62	
Temp. of deflection under load HDT/A	85	°C	ISO 75-2	1.8 MPa
Thermal conductivity	0.16	W/m·K	DIN 52 612	
Mean therm. coefficient of linear expansion	0.8·10 ⁻⁴	K ⁻¹	DIN 53 752	(23 - 80)°C
Processing shrinkage	0.5-0.7	%	ISO 294-4	

Processing

Empera 542N can be processed by all methods normally used for polystyrene. It is preferably processed by extrusion to sheets for thermoforming of packaging, replacing mixtures from high impact polystyrene and high heat resistant general purpose polystyrene.

Examples of application

Packaging, vending cups, razors, CD trays

Supply form

Empera 542N is supplied as cylindrical pellets, packed in 25 kg bags or bulk.

Regulatory Compliance

On request, we will be happy to provide you with Regulatory Compliance Statements (RCSs) that affirm our products' conformity to various EU legislations, including food contact. Standard RCSs are available for legislations on RoHS (Return of Hazardous Substances), WEEE (Waste Electrical and Electronic Equipment), Packaging Waste et al. We can also provide declarations confirming the absence of heavy metals and a range of other substances subject to restrictions under EU Marketing and Use Directives, or prohibited under national laws and Company Standards. Please contact us for up-to-date regulatory information on any of our products.