

Chemical Designation

PE (Polyethylene)

Colour

blue

Density

1.27 g/cm³

Fillers

detectable filler

former material REZ-RS-3943

Main features

- detectable via metal detector
- x-ray detectable
- Explanation of food contact according to FDA and EU 10/2011 on request
- good toughness
- low water absorption
- good chemical resistance
- for injection moulding

Target Industries

- food technology

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength		10	MPa	DIN EN ISO 527-1	
Modulus of elasticity (tensile test)		210	MPa	DIN EN ISO 527-1	
Elongation at break (tensile test)		120	%	DIN EN ISO 527-1	
Impact strength (Charpy)		n.B.	kJ/m ²	DIN EN ISO 179-1eU	
Notched impact strength (Charpy)		13	kJ/m ²	DIN EN ISO 179-1eA	

Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		-100	°C	-	1) (1) literature value
Melting temperature		108	°C	-	2) (2) literature value
Service temperature short term	short term	90	°C	-	3) (3) literature value
Service temperature long term	long term	70	°C	-	4) (4) literature value

Electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 ¹²	Ω	DIN EN 61340-2-3	
volume resistivity		10 ¹²	Ω*cm	DIN EN 61340-2-3	

Other properties	parameter	value	unit	norm	comment
Detectability	4 x 4 x 4 mm	2,9	mm Al	-	1) (1) metal detectable
Detectability	4 x 4 x 4 mm	3,7	mm Al	-	2) (2) x-ray detectable
Water absorption		< 0,01	%	DIN EN ISO 62	3) (3) 23 °C / 50 % relative humidity up to saturation
Molding shrinkage	longitudinal	3,0	%	DIN EN ISO 294-4	
Molding shrinkage	transverse	1,8	%	DIN EN ISO 294-4	

Processing parameter	parameter	value	unit	norm	comment
processing temperatures		180 - 240	°C	-	
Mould temperature		20 - 60	°C	-	

→ This material can be processed as a thermoplastic taking the normal technical provisions into account. The above mentioned information refers exclusively to the injection moulding process.

→ Back pressure and injection rate should be adjusted to the component geometry accordingly. The optimum processing temperature depends upon the respective geometry of the moulded part and can be different from machine to machine.

Predrying	parameter	value	unit	norm	comment
Permissible residual moisture content		< 0,1	%	-	
Drying temperature		80	°C	-	
Drying time		2 - 3	h	-	

