# Trithene® TS 9022

### Low Density Polyethylene

## Petroquimica Triunfo

#### Message:

Trithene®TS 9022 is a low density polyethylene material. This product is available in Latin America and is processed by film extrusion.

Trithene  ${\bf @}$  The main features of TS 9022 are:

Good processability

Hard

accessible food

beautiful

Typical application areas include:

packing

Movie

food contact applications

Optical Workability, good Compliance of Food Exposure  Packaging Films  Agency Ratings ANVISA n°105/99 ASTM D 1248, II, Class A, Cat. 3 FDA 21 CFR 177.1520(c) 2.1  Forms Particle Processing Method Film extrusion  Physical Nominal Value Unit Test Method Density 0,931 g/cm² ASTM D1505  Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) 2,2 g/10 min ASTM D1238  Mechanical Nominal Value Unit Test Method Tensile Strength ASTM D638  Fracture, molding 14.0 MPa ASTM D638  Fracture, molding 14.0 MPa ASTM D638  Tensile Elongation (Break, Compression Molded) 520 % ASTM D638  Coefficient of Friction (vs. Itself - Dynamic, Blown Film) 0.12 ASTM D1894  Films Nominal Value Unit Test Method	General Information				
Workability, good Compliance of Food Exposure  Packaging Films  Appency Ratings ANVISA n*105/99 ASTM D 1248, II, Class A, Cat. 3 FDA 21 CFR 177.1520(c) 2.1  Forms Particle Processing Method Film extrusion  Physical Nominal Value Unit Test Method Density 0.931 Q/cm³ ASTM D1505  Met Mass-Flow Rate (MFR) (190°C/2.16 kg) 2.2 g/10 min ASTM D1238  Mechanical Nominal Value Unit Test Method  Tensile Strength Vield, molding 14.0 MPa ASTM D638  Fracture, molding 12.0 MPa ASTM D638  Coefficient of Friction (vs. Itself - Dynamic, Blown Film)  L12 ASTM D638  Coefficient of Friction (vs. Itself - Dynamic, Blown Film)  L12 ASTM D1894  ASTM D1894  ASTM D1894  ASTM D1894	Features	Rigidity, high			
Uses Packaging Films  Agency Ratings ANVISA n*105/99 ASTM D 1248, II, Class A, Cat. 3 FDA 21 CFR 177.1520(c) 2.1  Forms Particle Processing Method Film extrusion  Physical Nominal Value Unit Test Method Density 0.931 g/cm³ ASTM D1505  Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) 2.2 g/10 min ASTM D1505  Melt Mass-Flow Rate (MFR) (190°C/2.16 kg) 14.0 MPa ASTM D638  Yield, molding 14.0 MPa ASTM D638  Tensile Strength 12.0 MPa ASTM D638  Tensile Coefficient of Friction (vs. Itself - Dynamic, Blown Film) 0.12 ASTM D1894  Films Nominal Value Unit Test Method		Optical			
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Tensile Elongation (Break, Compression Molded) 520 % ASTM D638  Coefficient of Friction (vs. Itself - Dynamic, Blown Film) 0.12 ASTM D1894  Films Nominal Value Unit Test Method	Yield, molding	14.0	MPa	ASTM D638	
Molded) 520 % ASTM D638  Coefficient of Friction (vs. Itself - Dynamic, Blown Film) 0.12 ASTM D1894  Films Nominal Value Unit Test Method	Fracture, molding	12.0	MPa	ASTM D638	
Blown Film) 0.12 ASTM D1894 Films Nominal Value Unit Test Method	Tensile Elongation (Break, Compression Molded)	520	%	ASTM D638	
Films Nominal Value Unit Test Method	Coefficient of Friction (vs. Itself - Dynamic, Blown Film)	0.12		ASTM D1894	
secant modulus ASTM D882	Films	Nominal Value	Unit	Test Method	
	secant modulus			ASTM D882	

5% secant, MD: 50 μm, blown film	150	MPa	ASTM D882
5% secant, TD: 50 μm, blown film	160	MPa	ASTM D882
Tensile Strength			ASTM D882
MD: Broken, 50 µm, blown film	20.0	MPa	ASTM D882
TD: Broken, 50 µm, blown film	18.0	MPa	ASTM D882
Tensile Elongation			ASTM D882
MD: Broken, 50 µm, blown film	380	%	ASTM D882
TD: Broken, 50 µm, blown film	680	%	ASTM D882
Dart Drop Impact (50 µm, Blown Film)	100	g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD: 50 μm, blown film	330	g	ASTM D1922
TD: 50 µm, blown film	230	g	ASTM D1922
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	102	°C	ASTM D1525
Optical	Nominal Value	Unit	Test Method
Gloss (60°, 50.0 μm, Blown Film)	90		ASTM D2457
Haze (50.0 μm, Blown Film)	12	%	ASTM D1003
Additional Information			

Film properties taken from 50  $\mu$ m blown film produced on a 50 mm extruder, L/D=25, die gap=1.0 mm, BUR=2.3:1Melt Mass-Flow Rate, ASTM D1238, 190°C/2.16 kg: 1.8 to 2.6 g/10 minDensity, ASTM D1505: 0.929 to 0.933 g/cm<sup>3</sup>

Extrusion	Nominal Value	Unit	
Cylinder Zone 1 Temp.	150 - 160	°C	
Cylinder Zone 2 Temp.	160 - 170	°C	
Cylinder Zone 3 Temp.	165 - 170	°C	
Adapter Temperature	165 - 175	°C	
Extrusion instructions			

Recommended Blow Up Ratio: 2-3:1

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