PP General Purpose

Polypropylene Impact Copolymer · Thermoforming Grade

FOOD & WATER CONTACT
IS 10910
FDA 21 CFR 177.1520 · IS 16738:2018

CHARACTERISTICS

- High impact strength — impact copolymer
- Excellent chemical & moisture resistance
- Low density (0.90 g/cm³) — lightweight
- Good thermoformability and deep-draw
- Food, pharma & drinking-water contact safe

APPLICATIONS

- Blow-moulded containers & bottles
- Thermoformed trays & articles
- Extruded sheets & profiles
- Automotive trims & interior parts
- Rigid & food packaging

COMPLIANCE IS 10910 · IS 16738:2018 · FDA 21 CFR 177.1520 · RoHS 2011/65/EU · REACH SVHC · ISO 9001:2015

TYPICAL PROPERTIES

All values are typical · ASTM test methods · injection-moulded specimens unless noted

PROPERTY	TEST METHOD	VALUE	UNIT
MECHANICAL			
Tensile Strength @ Yield	ASTM D638	**27**	MPa
Elongation @ Yield	ASTM D638	**11**	%
Flexural Modulus	ASTM D790A	**1000**	MPa
Flexural Strength	ASTM D790	*On request*	
IMPACT			
Notched Izod @ 23 °C	ASTM D256	**200**	J/m
HARDNESS			
Hardness — Shore D	ASTM D2240	**68**	—
PHYSICAL			
Density	ASTM D792	**0.90**	g/cm³
Melt Flow Rate (MFR)	ASTM D1238	**1.8**	g/10 min
Water Absorption	ASTM D570	*On request*	
Mould Shrinkage	ASTM D955	*On request*	

PROPERTY	TEST METHOD	VALUE	UNIT
THERMAL			
HDT @ 455 kPa	ASTM D648	**95**	°C
Low-Temp Service	—	*On request*	
FLAMMABILITY · UL 94			
Flammability @ 1.6 mm	UL 94	*On request*	
PROCESSING			
Melt Temperature	—	**190 – 250**	°C
Thermoforming Temp	—	**130 – 150**	°C
Pre-drying	—	*On request*	
Mould Temperature	—	*On request*	

NOTES

Values based on analysis of representative samples per ASTM methods. Mechanical properties on ASTM D638 Type I specimens injection-moulded to ASTM D4101; tensile and elongation at 50 mm/min; flexural modulus at 1% secant; MFR at 230 °C / 2.16 kg. Melt temperature 190–250 °C; thermoforming 130–150 °C. Complies with IS 10910 and IS 16738:2018 for safe contact with foodstuffs, pharmaceuticals and drinking water, and FDA 21 CFR 177.1520 (olefin polymers). Store below 50 °C, protected from UV / direct sunlight. Resin sourced from globally-certified suppliers including Reliance Industries (Repol grade family). Values are typical, intended as guide only. Final product suitability must be validated under actual application conditions. HDT, flammability, water absorption and shrinkage available on request.

PERFORMANCE PROFILE

0.90 g/cm³
Low-density polyolefin

200 J/m Izod
High impact strength

95 °C HDT
@ 455 kPa

FDA 21 CFR
Food-contact compliant

Food-contact PP — engineered for thermoforming, extrusion and blow-moulding.

APPLICATIONS

Where PP General Purpose gets specified — food-safe, chemical-resistant sheet for forming, extrusion and moulding.

Thermoformed Articles

Trays, blisters, clamshells and formed articles. Food-safe, deep-draw capable.

Blow-Moulded Containers

Bottles, jars and rigid containers. Impact-tough, lightweight, chemical-resistant.

Extruded Sheets

Flat and profiled sheet for fabrication, lining and converting. Custom gauge.

Automotive Components

Interior trims, panels and under-hood components. Rigid and heat-resistant.

PRODUCTION SPECIFICATIONS

Sheet Thickness	**0.5 – 10 mm**	Line-dependent; thin-gauge from 0.3 mm
Sheet Width	**up to 2500 mm**	XL line capacity
Sheet Length	**up to 6 m**	Custom cut-to-size on request
Thickness Tolerance	**± 5 %**	Multi-point validated
Layer Structure	**Mono / ABA**	Co-extrusion option for skin-core
Colour Matching	**Pantone & RAL**	Spectrophotometer ΔE validation, batch-traced

SURFACE TEXTURES

T01 Regular

T02 Fine

T03 Diamond

T04 Fine Diamond

T05 Plain Smooth

T06 FM06

HOW TO READ THESE NUMBERS

Quick reference for what each test actually tells you about how the sheet behaves.

- **Tensile Strength** — Pulling force before the sheet permanently stretches.
- **Elongation** — How far it stretches before snapping. Higher = tougher.
- **Flexural Modulus** — Bending stiffness. Higher = more rigid when flexed.
- **Notched Izod** — Impact resistance with a stress notch. Survives knocks.
- **Density** — Mass vs water. 0.90 = lighter than water, floats.
- **Melt Flow Rate** — How easily molten PP flows. Affects formability.
- **HDT** — Heat at which it starts to sag under load. Short-term limit.
- **Shore D Hardness** — Surface hardness / scratch resistance of the sheet.
- **IS 10910** — Indian standard for PP safe in food & water contact.
- **IS 16738:2018** — Positive list of constituents for food-contact PP/PE.
- **FDA 21 CFR 177** — US food-contact clearance for olefin polymers.
- **Chemical Resistance** — Withstands acids, alkalis, solvents and moisture.

STELLAR-EX
Sheet Extrusion Excellence

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