

# TECHNICAL DATASHEET

## POLYPROPYLENE TIPPLEN R 660

Random copolymer for extrusion applications

### DESCRIPTION

TIPPLEN R 660 is a random copolymer polypropylene for extrusion. This grade is formulated with a new generation clarifying agent, so the product shows excellent optical properties (transparency and gloss).

### APPLICATIONS

TIPPLEN R 660 is recommended for blow moulded bottles for detergents, toiletries and flat mineral water, where the higher gas permeability than PVC and PET is no problem. This grade is well suited for extruded sheet for stationery folder and thermoforming articles.

TIPPLEN R 660 is not intended for use in medical & pharmaceutical applications.

### PRODUCT COMPLIANCE

See DDS.

### PROPERTIES\*

Parameter	Note	Test method	Unit	Typical value
MFR - Melt Mass-Flow Rate (230°C, 2.16 kg)	-	ISO 1133-1	g/10 min	2
Tensile Stress at Yield	2	ISO 527-1,2	MPa	26
Tensile Strain at Yield	2	ISO 527-1,2	%	13
Modulus of Elasticity in Tension	2	ISO 527-1,2	MPa	950
Flexural Modulus	2	ISO 178	MPa	1000
Izod Impact Strength (notched, 23°C)	2	ISO 180/A	kJ/m <sup>2</sup>	24
Haze	10	ISO 14782	%	15
Hardness - Rockwell	2	ISO 2039-2	R scale	73
HDT (0.45 MPa, flatwise)	2	ISO 75-1,2	°C	86
Recommended Processing Temperature	-	-	°C	185 - 230

\*Typical properties, not to be used as specification.

(2) Typical properties measured on standard injection moulded test specimen according to ISO 294-1.

(10) Typical properties measured on standard injection moulded test specimen according to ISO 294-3. Values have been measured on specimens with 1 mm wall thickness.

### PROCESSING

TIPPLEN R 660 can be used in conventional extrusion machines.

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### **STORAGE AND HANDLING**

Pellets are packed in 25 kg polyethylene bags and transported on shrink-wrapped or stretch-wrapped pallets at eligible load of polymer 1375 kg. We use adhesive between the bags in order to avoid their slipping. Pay attention to this fact during the removing of the bags from the pallets. The preferred method is to lift the bag at first without rotation. Heat treated pallets are provided by PRS, a member of the Faber Halbertma Group, operating a pooling system which collects the pallets after use, and organizes reuse as part of a sustainable, circular system. PRS pallets remain property of PRS at all times. Transportation in road silo or rail silo is also available. For more detailed information please contact a sales representative at SLOVNAFT or at MOL Petrochemicals.

Since polypropylene is a combustible substance, the fire safety rules applicable for combustible materials in warehouses and store rooms should be observed.

If polymer is stored in conditions of high humidity and fluctuating temperatures, then atmospheric moisture can condense inside the packing. If it happened, it is recommended the pellets to be dried before use. During the storage polypropylene should not be exposed to UV radiation and temperatures above 40°C. Producer does not take responsibility for any damages caused by adverse storage.

### **REACH STATEMENT**

Polymers are exempt of REACH registration. However, their raw materials which mean monomers and relevant additives have been registered. MOL Petrochemicals is committed to fully respect legislation and will only use REACH compliant raw materials. At this point in time PP TIPPLEN does not contain any substances specifically identified as SVHC at levels greater than 0.1%.

### **RECYCLING**

Polypropylene resins are suitable for recycling using modern recycling methods. In-house production waste should be kept clean to facilitate direct recycling.

### **SAFETY**

See MSDS.

Flammability measurement according to TL1010(2008) burning rate 35 mm/min (after 24 hours at 23 °C) and 29 mm/min (after 168 hours at 80 °C), measured on press moulded specimens (size 350 x 100 x 2 mm).

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### MANUFACTURER

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