

# TECHNICAL DATA SHEET

## POLYETHYLENE TIPELIN FA 381-10

### MDPE for Blown films

TIPELIN / TIPOLEN / TIPPLEN / TATREN / BRALEN+

The joint product portfolio of MOL Petrochemicals and Slovnaft provides infinite opportunities

#### DESCRIPTION

**TIPELIN FA 381-10** is a film grade of medium density polyethylene copolymer (with hexen-1 as comonomer) grade. The product has very good Elmendorf tear strength and Dart drop resistance, low gel content and good vapour barrier capacity. The grade contains antioxidants and acid scavenger.

#### APPLICATIONS

**TIPELIN FA 381-10** is recommended for bags, shopping bags, garbage bags, shrink films, multi-layer films and blend component for LDPE.

**TIPELIN FA 381-10** is suitable for food contact. The product complies with Food Contact Regulations.

#### PROPERTIES

	Test method	Unit	Typical value
Melt Mass-Flow Rate (MFR) (190 °C /2.16 kg)	ISO 1133-1	g/10 min	0.28
Melt Mass-Flow Rate (MFR) (190 °C /5 kg)	ISO 1133-1	g/10 min	1.2
Melt Mass-Flow Rate (MFR) (190 °C /21.6 kg)	ISO 1133-1	g/10 min	21
Density (23 °C) *	ISO 1183-2	kg/m <sup>3</sup>	937
Tensile Strength at Yield (MD/TD)**	ISO 527-3	MPa	20/17
Tensile Strength at Break (MD/TD)**	ISO 527-3	MPa	47/42
Tensile Strain at Break (MD/TD)**	ISO 527-3	%	710/840
Elmendorf Tear Resistance (MD/TD)**	ISO 6383-2	cN	49/380
Dart Drop (F 50)**	ISO 7765-1 method A	g	95
Flexural modulus*	ISO 178	MPa	900
Spencer Impact Strength**	ASTM D 3420	MPa	34
Vicat Softening Temperature *	ISO 306/A 120	°C	118
Shore D Hardness *	ISO 868	-	60
OIT (200 °C) *	EN 728	min	69

Typical properties, not to be used as specification.

\* Average mechanical property values of several measurements carried out on standard pressed specimens (ISO 293) conditioned at room temperature (ISO 291).

\*\* Average mechanical property values of several measurements on film (MD = machine direction, TD = trans direction) thickness of 0.025 mm, blow up ratio 4:1.

#### PROCESSING

**TIPELIN FA 381-10** can be used in conventional extrusion machines.

Recommended processing temperatures are 180-220°C.

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### STORAGE AND HANDLING

Pellets are packed in 25 kg PE-LD bags and transported on stretch or shrink-wrapped pallets at eligible load of polymer 1375 kg. Heat treated pallets are available as well. 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. Transportation in a road silo or rail silo is also available. For more detailed information please contact SLOVNAFT and MOL Petrochemicals sales representative.

Since polyethylene 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 polyethylene 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 TIPELIN does not contain any substances specifically identified as SVHC at levels greater than 0.1%.

### SAFETY

See MSDS.

### RECYCLING

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

### DISCLAIMER

The information provided in this publication has been compiled to the best of our present knowledge. However, in view of the various applications of polyethylene resins and the equipment used, the processing conditions may differ.

The recommendations and data herein are to be construed as informational only and do not relieve users from carrying out their own tests and experiments prior to processing in order to check suitability for a specific use. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed. Our products are under continuous development, therefore we reserve the right to change the information presented in this brochure at our own discretion.

The REACH statement herein does not constitute legal advice. The REACH statement is provided for informational purpose only.

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