TECHNICAL DATASHEET

POLYETHYLENE TIPELIN FS 471-02

HDPE for Blown films

DESCRIPTION

TIPELIN FS 471-02 is a film grade of high density polyethylene copolymer (with hexen-1 as comonomer) grade. The product has high molecular mass, very good Tear strength and Dart drop resistance, low gel content, good vapour barrier properties. The grade contains antioxidants and acid scavenger.

APPLICATIONS

TIPELIN FS 471-02 is recommended for extra thin packaging films, bags, shopping bags and garbage bags.

Applications listed here are only a recommendation, not a guarantee. User is obliged to carry out own tests to assess suitability of the polymer for the intended application. This also includes the test of final articles necessary to assess compliance with relevant regulations, e.g. food contact. For more product safety related information, please see the DDS.

PRODUCT COMPLIANCE

See DDS.

PROPERTIES*

Parameter	Note	Test method	Unit	Typical value
MFR - Melt Mass-Flow Rate (190°C, 2.16 kg)	-	ISO 1133-1	g/10 min	0.18
MFR - Melt Mass-Flow Rate (190°C, 5 kg)	-	ISO 1133-1	g/10 min	0.8
MFR - Melt Mass-Flow Rate (190°C, 21.6 kg)	-	ISO 1133-1	g/10 min	15
Density (23°C)	3	ISO 1183-2	kg/m³	946
Tensile Stress at Yield (MD/TD)	15	ISO 527-3	MPa	23 / 20
Tensile Stress at Break (MD/TD)	15	ISO 527-3	MPa	51 / 43
Tensile Strain at Break (MD/TD)	15	ISO 527-3	%	700 / 850
Flexural Modulus	3	ISO 178	MPa	1150
Elmendorf Tear Resistance (MD/TD)	15	ISO 6383-2	cN	23 / 300
Dart Drop	15	ISO 7765-1 method A	g	80
Hardness - Shore D	3	ISO 868	-	63
Vicat Softening Temperature	3	ISO 306/A 120	°C	126
OIT - Oxidation Induction Time (200°C)	-	EN 728	min	30
Recommended Film Thickness	-	-	mm	0.008 - 0.06
Recommended Processing Temperature	-	-	°C	180 - 220

*Typical properties, not to be used as specification.

(3) Values has been measured on standard pressed specimens (ISO 293) conditioned at room temperature (ISO 291).
(15) 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 FS 471-02 can be used in conventional extrusion machines.

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Last revision: August/2025

Manufacturer website: https://mol.hu/en/

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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. For more detailed information please contact a sales representative at SLOVNAFT or at MOL Petrochemicals.
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 HDPE TIPELIN does not contain any substances specifically identified as SVHC at levels greater than 0.1%.

RECYCLING

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

SAFETY

See MSDS.

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