

# TECHNICAL DATASHEET

## POLYETHYLENE TIPELIN FB 472-02

HDPE for Blown films

### DESCRIPTION

TIPELIN FB 472-02 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 FB 472-02 is recommended for films, bags, shopping bags, garbage bags and blend component for LDPE in shrink films.

### 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	0.69
MFR - Melt Mass-Flow Rate (190°C, 5 kg)	-	ISO 1133-1	g/10 min	2.7
MFR - Melt Mass-Flow Rate (190°C, 21.6 kg)	-	ISO 1133-1	g/10 min	40
Density (23°C)	3	ISO 1183-2	kg/m <sup>3</sup>	947
Tensile Stress at Yield (MD/TD)	15	ISO 527-3	MPa	23 / 19
Tensile Stress at Break (MD/TD)	15	ISO 527-3	MPa	46 / 37
Tensile Strain at Break (MD/TD)	15	ISO 527-3	%	810 / 980
Flexural Modulus	3	ISO 178	MPa	1200
Spencer Impact Strength	15	ASTM D3420	MPa	26
Elmendorf Tear Resistance (MD/TD)	15	ISO 6383-2	cN	25 / 230
Dart Drop	15	ISO 7765-1 method A	g	47
Hardness - Shore D	3	ISO 868	-	63
Vicat Softening Temperature	3	ISO 306/A 120	°C	125
OIT - Oxidation Induction Time (200°C)	-	EN 728	min	30
Recommended Film Thickness	-	-	mm	0.015 - 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 FB 472-02 can be used in conventional extrusion machines.

# TECHNICAL DATASHEET

## **POLYETHYLENE TIPELIN FB 472-02**

HDPE for Blown films

### **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.

# TECHNICAL DATASHEET

## POLYETHYLENE TIPELIN FB 472-02

### HDPE for Blown films

#### MANUFACTURER

MOL Petrochemicals Co. Ltd.  
H-3581 Tiszaújváros,  
P.O. Box: 20  
Hungary

---

#### TECHNICAL SUPPORT

POLYMER APPLICATIONS ENGINEERING  
MOL PLC.  
H-3581 Tiszaújváros,  
P.O. Box: 20  
Hungary  
Telephone:  
+36 49 521 540  
+36 80 204 248  
E-mail: pts@mol.hu

---

#### SALES OFFICES

##### HUNGARY

H-3581 Tiszaújváros,  
P.O. Box: 20, Hungary  
Mobile: + 36 30 447 4441  
Fax: +36 1 8877 647  
E-mail: polymersales@mol.hu

##### SLOVAKIA AND CZECH REPUBLIC

Vlčie hrdlo 1  
824 12 Bratislava, Slovak Republic  
Telephone:  
+421 2 5859 5426  
+421 2 5859 5431  
+421 2 5859 5429  
+421 2 5859 5428  
E-mail: predajpolymerov@slovnaft.sk

#### DISCLAIMER

©2022 MOL Group. To the extent the user is entitled to disclose and distribute this document, the user may forward, distribute, and/or photocopy this copyrighted document only if unaltered and complete, including all of its headers, footers, disclaimers, and other information. You may not copy this document to a web site. MOL Group does not guarantee the typical (or other) values. Analysis may be performed on representative samples and not the actual product shipped. The information in this document relates only to the named product or materials when not in combination with any other product or materials. We based the information on data believed to be reliable on the date compiled, but we do not represent, warrant, or otherwise guarantee, expressly or impliedly, the merchantability, fitness for a particular purpose, suitability, accuracy, reliability, or completeness of this information or the products, materials, or processes described. The user is solely responsible for all determinations regarding any use of material or product and any process in its territories of interest. We expressly disclaim liability for any loss, damage, or injury directly or indirectly suffered or incurred as a result of or related to anyone using or relying on any of the information in this document. There is no endorsement of any product or process, and we expressly disclaim any contrary implication. The terms, "we", "our", "MOL", or "MOL Group" are used for convenience, and may include any one or more of MOL Group, or any affiliates they directly or indirectly control. MOL Group, the MOL Group logo, and all other product names used herein are trademarks of MOL Plc. or SLOVNAFT, a.s. unless indicated otherwise.

#### GERMANY

Im Trutz Frankfurt 49,  
D-60322 Frankfurt am Main,  
Germany  
Telephone: +49 69 154 04 0  
Fax: +49 69 154 04 41  
E-mail:  
polymersales@molgermany.de

#### ITALY

Via Montefeltro, 4  
20156 Milano, Italy  
Telephone: +39 02 58 30 5523  
Fax: +39 02 58 30 3492  
E-mail: molitalia@molgroupitaly.it

#### AUSTRIA

Walcherstrasse 11A, 7.Stock  
A-1020 Wien, Austria  
Mobile: +43 664 96 33 578  
E-mail:  
KatalinHorvath@molaustria.at

#### FRANCE

Paris, France  
Mobile : +33 7 89 86 10 64  
E-mail: iren.husson@molgroupitaly.it

#### POLAND

Ul.Postępu 17D  
02-676 Warszawa, Poland  
Telephone: +48 22 545 70 70  
Fax: +48 22 545 70 60  
E-mail: petchem@slovnaft.pl

#### ROMANIA

Str.Daniel Danielopolu 4-6  
ET1 Sector 1 Cod 014 134  
Bucuresti, Romania  
Telephone:  
+40 21 204 85 00  
+40 21 204 85 02  
Fax: +40 21 232 10 59  
E-mail: petchem@molromania.ro

#### UKRAINE

04053 Kiev  
Sichovykh Striltsiv str. 50, 5th floor, office  
5-B, Ukraine  
Tel.: +380 44 374 00 80 | +380 67 463  
58 69  
Fax: +380 44 374 00 90  
E-mail: Jzavojko@mol-ukraine.com.ua

#### CROATIA, SLOVENIA, SERBIA, MONTENEGRO, BOSNIA AND HERZEGOVINA, NORTH MACEDONIA, ALBANIA, KOSOVO

Zadarska 80  
HR-10000 Zagreb, Croatia  
Telephone: +385 1 6160 637  
Fax: +385 1 6160 601  
E-mail: polymersales@tifon.hr

#### OTHER EUROPEAN COUNTRIES

Telephone:  
+36 20 456 1889  
+36 70 373 9209  
E-mail: polymersales@mol.hu