

# TECHNICAL DATA SHEET

POLYETHYLENE TIPELIN FB 472-02

HDPE for Blown films

TIPELIN / TIPOLEN / TIPPLEN / TATREN / BRALEN+

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

## 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. Recommended film thickness is 0.015 to 0.06 mm.

## PRODUCT COMPLIANCE

See DDS.

## PROPERTIES

| Parameter                                   | Note | Test method         | Unit              | Typical value |
|---------------------------------------------|------|---------------------|-------------------|---------------|
| Melt Mass-Flow Rate (MFR) (190 °C /2.16 kg) | -    | ISO 1133-1          | g/10 min          | 0.69          |
| Melt Mass-Flow Rate (MFR) (190 °C /5 kg)    | -    | ISO 1133-1          | g/10 min          | 2.7           |
| Melt Mass-Flow Rate (MFR) (190 °C /21.6 kg) | -    | ISO 1133-1          | g/10 min          | 40            |
| Density (23 °C)                             | (1)  | ISO 1183-2          | kg/m <sup>3</sup> | 947           |
| Tensile Stress at Yield (MD/TD)             | (2)  | ISO 527-3           | MPa               | 23/19         |
| Tensile Strength at Break (MD/TD)           | (2)  | ISO 527-3           | MPa               | 46/37         |
| Tensile Strain at Break (MD/TD)             | (2)  | ISO 527-3           | %                 | 810/980       |
| Flexural Modulus                            | (1)  | ISO 178             | MPa               | 1200          |
| Elmendorf Tear Resistance (MD/TD)           | (2)  | ISO 6383-2          | cN                | 25/230        |
| Dart Drop (F50)                             | (2)  | ISO 7765-1 method A | g                 | 47            |
| Spencer Impact Strength                     | (2)  | ASTM D 3420         | MPa               | 26            |
| Vicat Softening Temperature                 | (1)  | ISO 306/A 120       | °C                | 125           |
| Hardness Shore D                            | (1)  | ISO 868             | -                 | 63            |
| OIT (Oxidation induction time) at 200 °C    | -    | EN 728              | min               | 30            |

Typical properties, not to be used as specification.

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

(2) 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. Recommended processing temperatures are 180-220 °C.

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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. n-house production waste should be kept clean to facilitate direct recycling.

### SAFETY

See MSDS.

### DISCLAIMER

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