

TWO COLOURS



**ONE** DIRECTION

Polyethylene  
**TIPELIN FS 471-02**  
HDPE for blown film

\*\*\*\*\*

**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.

**TIPELIN FS 471-02** is suitable for food contact and for manufacturing of pharmaceutical packing products. The product complies with Food Contact and Pharmaceutical Regulations.

**Properties**

	Test method	Unit	Typical value
Melt Mass-Flow Rate (MFR) (190 °C /2.16 kg)	ISO 1133	g/10 min	0.18
Density (23 °C) *	ISO 1183	kg/m <sup>3</sup>	947
Tensile Strength at Yield (MD/TD) **	ISO 527-3	MPa	22/23
Tensile Strength at Break (MD/TD) **	ISO 527-3	MPa	48/42
Tensile Strain at Break (MD/TD) **	ISO 527-3	%	700/750
Elmendorf Tear Resistance (MD/TD) **	ISO 6383-2	cN	26/270
Dart Drop (F50) **	ISO 7765-1	g	110
Flexural Modulus *	ISO 178	MPa	1100
Spencer Impact Strength **	ASTM D 3420	MPa	35
Vicat Softening Temperature *	ISO 306/A 120	°C	125
Shore D Hardness *	ISO 868	-	63
OIT (200 °C) *	EN 728	min	55

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.

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Technical Data Sheet

**TIPELIN TIPOLEN TIPPLEN TATREN BRALEN**

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### Processing

**TIPELIN FS 471-02** can be used in HDPE or universal screw provided extrusion machines. Recommended processing temperature 200-220 °C.

### Storage and Handling

Pellets are packed in 25 kg PE-LD bags and transported on stretch-wrapped pallets at load of polymer 1375 kg. Heat treated pallets are available as well. Transportation in a road silo or rail silo is also available. For more detailed information please contact Sloznaft Petrochemicals and TVK 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. 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, catalysts and most additives have been pre-registered. SPC/TVK is committed to fully respect this new legislation and will only use REACH compliant raw materials. At this point in time SPC/TVK polyethylenes TIPELIN do 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 equipments used, the processing conditions may differ.

The recommendations and data herein are to be construed as informatory 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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