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Polyethylene  
**TIPELIN FS 471-02**  
 HDPE for Film

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**Description**

**TIPELIN FS 471-02** is a high density polyethylene copolymer (with hexen-1 as comonomer) grade.

Typical properties of **TIPELIN FS 471-02**: high molecular mass, very good Tear strength and Dart drop resistance, low gel content, good vapour barrier properties.

**TIPELIN FS 471-02** contains primary and secondary antioxidants as processing stabilisers and slipping agent.

**Applications**

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

**Suitability**

**TIPELIN FS 471-02** complies with FDA, BgVV and EU norms.

**Properties**

	Test method	Unit	Value Tolerance limits	Note	
Melt flow rate (190 °C/2.16 kg)	ISO 1133/B	g/10 min	0.18 (0,16-0,21)	Guaranteed	
Density	ISO 1183-2	g/cm³	0.947 (0.944-0.947)	Guaranteed	
Colour number by Phillips	1.3.3.2-22-157		min. 120	Guaranteed	
Pellet number	1.3.3.1-2-007	n/g	35-65	Guaranteed	
Granulate appearance					
Discolour pellet					
Agglutinated pellet					
Twin	1.3.3.1-2-004	n		Guaranteed	
Triplets			max. 10		
Agglutinated pellet			max. 5		
4-5-6 or higher			max. 3		
Film quality					
Gels 0,25-0,5 mm	2-06	n/10 perc	max. 35	Guaranteed	
Gels 0,5-1,0 mm			max. 10		
Tensile strength at yield*	MD TD	ISO 527-3	MPa	22 23	Informative
Tensile strength*	MD TD	ISO 527-3	MPa	50 42	Informative
Elongation at break*	MD TD	ISO 527-3	%	700 850	Informative
Elmendorf tear resistance*	MD TD	ISO 6383-2	g	26 320	Informative
Dart drop (F50)*		ISO 7765-1	g	120	Informative
Vicat softening point*		ISO 306	°C	125	Informative
Flexural modulus*		ISO 178	MPa	1000	Informative

\* Data should not be used for specification works. Average mechanical property values of several measurements carried out on standard specimens (ISO 293) conditioned at room temperature (ISO 291).

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### Processing

**TIPELIN FS 471-02** can be used in all conventional extrusion machines. Recommended processing temperature of 200-220°C.

### Storage and Handling

**TIPELIN FS 471-02** should be stored in dry conditions at temperatures -20 – +50°C and protected from UV-light. Improper storage can initiate degradation, which results in odour generation and colour changes and can have negative effects on the physical properties of the product.

### Safety

See MSDS.

### Recycling

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

### Notes

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 informative 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.

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