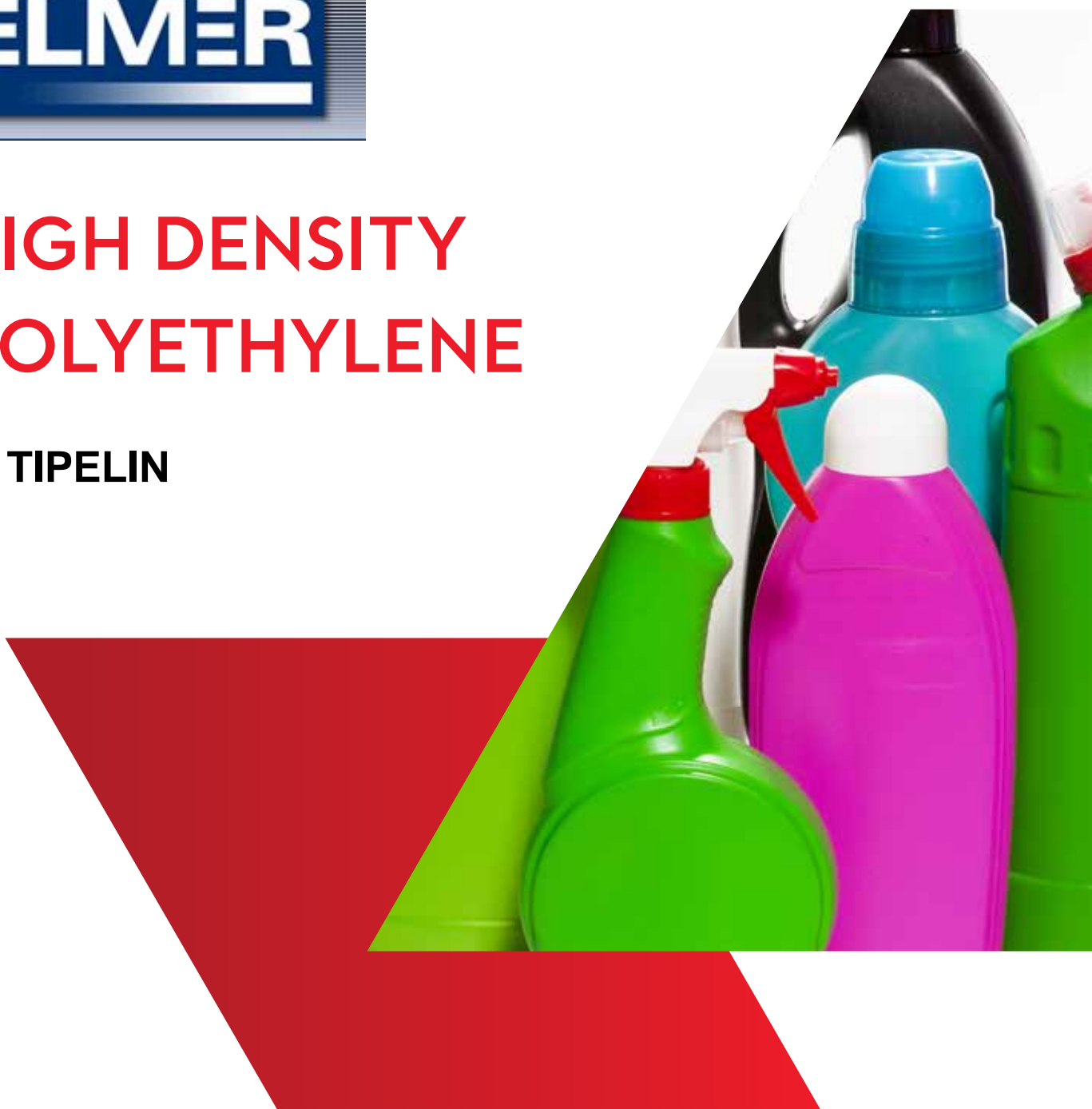




HIGH DENSITY POLYETHYLENE

TIPELIN



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 **MOLGROUP**


PETROCHEMICALS


Slovnaft

	Grade/Parameter	Melt Mass - Flow Rate (MFR)	Density 23 °C ⁽⁴⁾	Tensile Strength at Yield ⁽⁴⁾	Tensile Strain at Yield ⁽⁴⁾	Tensile Strength at Break (MD/TD) ⁽⁴⁾	Tensile Strain at Break (MD/TD) ⁽⁴⁾	Elmendorf Tear Resistance (MD/TD)	Dart Drop (F50)	Flexural Modulus ⁽⁴⁾	Notched Izod Impact ⁽⁴⁾	Spencer Impact Strength	Vicat Softening Temperature ⁽⁴⁾	Shore D Hardness ⁽⁴⁾	ESCR F50 B method	OIT 200 °C	Application	
	Units	g/10 min	kg/m ³	MPa	%	MPa	%	cN	g	MPa	kJ/m ²	MPa	°C	-	h	min	-	
	Test methods	ISO 1133-1	ISO 1183-2	ISO 527-3	ISO 527-3	ISO 527-3	ISO 527-3	ISO 6383-2	ISO 7765-1 method A	ISO 178	ISO 180/A	ASTM D 3420	ISO 306 /A 120	ISO 868	ASTM D 1693	EN 728	-	
BLOW MOULDING GRADES	UNIMODAL	BS 501-17	0.18 ⁽¹⁾ 0.94 ⁽²⁾ 22 ⁽³⁾	950	26	-	32	1000	-	-	1400	15	-	127	64	180 ⁽⁷⁾	7	bottles and cans of max. 10 litre capacity for aggressive, household chemicals and detergents, corrugated pipes
		BS 520-14	0.1 ⁽¹⁾ 0.45 ⁽²⁾ 10.0 ⁽³⁾	952	27	-	30	1290	-	-	1450	29	-	128	64	540 ⁽⁷⁾	90	balloons and drums up to 220 l for aggressive industrial chemicals, thermoforming
		BA 550-13	0.35 ⁽¹⁾ 1.5 ⁽²⁾ 28 ⁽³⁾	954	29	-	-	1000	-	-	1590	15	-	129	66	45 ⁽⁷⁾	10	bottles and cans of max. 30 litre capacity for non-aggressive household chemicals, cosmetics and oils, corrugated pipes
		BB 620-17	0.65 ⁽¹⁾ 2.9 ⁽²⁾ 50 ⁽³⁾	962	32	10	-	1000	-	-	1900	14	-	130	67	18 ⁽⁷⁾	8	small bottles for liquid food (yoghurt, milk, juice, water) packaging, corrugated pipes
	BIMODAL	6000B	0.30 ⁽¹⁾ 1.3 ⁽²⁾ 30 ⁽³⁾	958	32	9	-	1000	-	-	1700	9	-	127	65	200 ⁽⁸⁾	30	thin walled bottles of max. 5 litre capacity for consumer goods (cosmetics, daily care), corrugated pipes,
		6010B	0.30 ⁽¹⁾ 1.3 ⁽²⁾ 30 ⁽³⁾	958	30	10	-	1300	-	-	1700	9	-	126	65	650 ⁽⁸⁾	90	thin walled bottles of max. 5 litre capacity with long colour stability, consumer goods (cosmetics, daily care)
		6300B	0.30 ⁽¹⁾ 1.3 ⁽²⁾ 30 ⁽³⁾	954	29	10	-	1000	-	-	1550	9	-	126	65	665 ⁽⁸⁾	34	bottles and containers of max. 10 litre capacity for detergents and household chemicals, corrugated pipes
		7300B	0.10 ⁽¹⁾ 0.40 ⁽²⁾ 11 ⁽³⁾	955	29	10	28	1040	-	-	1600	18	-	127	64	1375 ⁽⁸⁾	53	jerry can for aggressive industrial chemicals, sheet extrusion
		8200B	0.025 ⁽¹⁾ 0.20 ⁽²⁾ 5.0 ⁽³⁾	952	28	12	37	1300	-	-	1500	31	-	129	65	> 1200 ⁽⁸⁾	85	jerry cans, drums, containers up to 1 m ³ for aggressive, industrial chemicals
		Pipe and Sheet	7700M ⁽⁹⁾	0.06 ⁽¹⁾ 0.26 ⁽²⁾ 8.0 ⁽³⁾	948	25	12	30	1320	-	-	1300	23	-	125	63	> 10000 ⁽⁸⁾	120
7111S ⁽⁹⁾	0.12 ⁽¹⁾ 0.50 ⁽²⁾ 13 ⁽³⁾		949	25	11	30	1215	-	-	1350	19	-	125	63	> 10000 ⁽⁸⁾	120	non-pressure pipes and sheet manufacturing	

Notes: Typical properties, not to be used as specification.

(1) MFR at 190 °C and 2.16 kg

(2) MFR at 190 °C and 5 kg

(3) MFR at 190 °C and 21.6 kg

(4) Values have been measured on standard pressed specimens (ISO 293) conditioned at room temperature (ISO 291)

(5) The thickness of the film: 0.025 mm for the mechanical measurement (MD/TD: MD = machine direction, TD = trans direction)

(6) The thickness of the film: 0.015 mm for the mechanical measurement (MD/TD: MD = machine direction, TD = trans direction)

(7) Values have been measured in 100% Igepal CO-630 on standard pressed specimens (ISO 293) conditioned at room temperature (ISO 291)

(8) Values have been measured in 10% Igepal CO-630 on standard pressed specimens (ISO 293) conditioned at room temperature (ISO 291)

(9) Values have been measured on standard injection moulded specimens (ISO 294-1) conditioned at room temperature (ISO 291)



	Grade/Parameter	Melt Mass - Flow Rate (MFR)	Density 23 °C ⁽⁴⁾	Tensile Strength at Yield	Tensile Strain at Yield	Tensile Strength at Break (MD/TD)	Tensile Strain at Break (MD/TD)	Elmendorf Tear Resistance (MD/TD)	Dart Drop (F50)	Flexural Modulus	Notched Izod Impact	Spencer Impact Strength	Vicat Softening Temperature	Shore D Hardness	ESCR F50 B method	OIT 200 °C	Application	
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INJECTION MOULDING GRADES	UNIMODAL	1100J	8.0 ⁽¹⁾	961	28 ⁽⁹⁾	8 ⁽⁹⁾	12 ⁽⁹⁾	580 ⁽⁹⁾	-	-	1500	5 ⁽⁹⁾	-	128 ⁽⁹⁾	63 ⁽⁹⁾	7 ⁽⁷⁾	35	recommended for making daily necessities, kitchen housewares, boxes, crates, trays, toys, caps, cartridges.
		1108J	8.0 ⁽¹⁾	961	28 ⁽⁹⁾	8 ⁽⁹⁾	13 ⁽⁹⁾	620 ⁽⁹⁾	-	-	1500	5 ⁽⁹⁾	-	129 ⁽⁹⁾	63 ⁽⁹⁾	6 ⁽⁷⁾	120	recommended for making daily necessities, kitchen housewares, boxes, crates, trays, toys, caps, cartridges, contains UV stabilizer package
		2100J	4.0 ⁽¹⁾	953	23 ⁽⁹⁾	10 ⁽⁹⁾	12 ⁽⁹⁾	560 ⁽⁹⁾	-	-	1100	7 ⁽⁹⁾	-	124 ⁽⁹⁾	60 ⁽⁹⁾	6 ⁽⁷⁾	45	recommended for making bottle closures (for non-carbonated drinks), pails, crates, pallets, dust bins, large containers, lids (for pails, drums and containers)
		2108J	4.0 ⁽¹⁾	953	25 ⁽⁹⁾	9 ⁽⁹⁾	13 ⁽⁹⁾	450 ⁽⁹⁾	-	-	1100	7 ⁽⁹⁾	-	124 ⁽⁹⁾	60 ⁽⁹⁾	5 ⁽⁷⁾	120	recommended for making bottle closures (for non-carbonated drinks), pails, crates, pallets, dust bins, large containers, lids (for pails, drums and containers), contains UV stabilizer package
Fiber Grade	UNIMODAL	5700S	0.5 ⁽¹⁾ 1.7 ⁽²⁾ 25 ⁽³⁾	946	23/24 ⁽⁶⁾	15 ⁽⁶⁾	52/54 ⁽⁶⁾	800/900 ⁽⁶⁾	20/115 ⁽⁶⁾	53 ⁽⁶⁾	1250	11	33	127	61	100	105	split yarn fibres for agricultural applications, films, bags
BLOWN FILM GRADES	UNIMODAL	FS 340-03	0.18 ⁽¹⁾ 0.78 ⁽²⁾ 15 ⁽³⁾	935	22/19 ⁽⁵⁾	-	51/44 ⁽⁵⁾	700/790 ⁽⁵⁾	48/390 ⁽⁵⁾	100 ⁽⁵⁾	-	-	39 ⁽⁵⁾	117	59	-	65	heavy duty bags, industrial films, multilayer films, blend component for LDPE
		FA 381-10	0.28 ⁽¹⁾ 1.2 ⁽²⁾ 21 ⁽³⁾	937	20/17 ⁽⁵⁾	-	47/42 ⁽⁵⁾	710/840 ⁽⁵⁾	49/380 ⁽⁵⁾	95 ⁽⁵⁾	900	-	34 ⁽⁵⁾	118	60	-	69	bags, shopping bags, multilayer films, blend component for LDPE
		FS 383-03	0.18 ⁽¹⁾ 0.80 ⁽²⁾ 15 ⁽³⁾	938	23/19 ⁽⁵⁾	-	51/45 ⁽⁵⁾	670/800 ⁽⁵⁾	45/370 ⁽⁵⁾	96 ⁽⁵⁾	900	-	37 ⁽⁵⁾	119	60	-	65	bags, shopping bags, multilayer films, blend component for LDPE
		FS 471-02	0.18 ⁽¹⁾ 0.80 ⁽²⁾ 15 ⁽³⁾	946	24/21 ⁽⁵⁾	-	53/45 ⁽⁵⁾	700/840 ⁽⁵⁾	25/290 ⁽⁵⁾	78 ⁽⁵⁾	1190	-	36 ⁽⁵⁾	125	63	-	70	extra thin packaging films, bags, shopping bags, garbage bags
		FB 472-02	0.69 ⁽¹⁾ 2.7 ⁽²⁾ 40 ⁽³⁾	947	22/21 ⁽⁵⁾	-	47/41 ⁽⁵⁾	740/900 ⁽⁵⁾	29/290 ⁽⁵⁾	42 ⁽⁵⁾	1120	-	29 ⁽⁵⁾	124	63	-	50	bags, shopping bags, garbage bags, blend component for LDPE primarily for shrink film
	BIMODAL	7000F	0.08 ⁽¹⁾ 0.30 ⁽²⁾ 9.0 ⁽³⁾	955	26/25 ⁽⁶⁾	-	67/50 ⁽⁶⁾	500/600 ⁽⁶⁾	15/150 ⁽⁶⁾	220 ⁽⁶⁾	-	-	120 ⁽⁶⁾	126	64	-	45	ultra-thin film, merchandise bags, disposal waste bags
		7500F	0.095 ⁽¹⁾ 0.30 ⁽²⁾ 10.0 ⁽³⁾	952	25/22	-	60/37	550/500	20/160	170	-	-	90	-	-	-	-	ultra-thin film, merchandise bags, disposal waste bags

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