

# HDPE

## Grades Used in Small Blow Molding Applications

Properties	Physical			Mechanical						Specific Characteristics and Typical Customer Applications	
	Density	MFR		Tensile Modulus	Tensile Stress at Yield	Tensile Elongation/Strain at Yield	Tensile Impact Strength; notched	Charpy Impact; notched	Ball indentation hardness (H132/30)		ESCR (FNCT): 3.5MPa, 80°C, 2%Igepal BC/9)
Test Method	23°C	190°C, 2.16 kg	190°C, 5 kg				ISO 527			ISO 8256/1A	
Unit	g/cm <sup>3</sup>	g/10 min		MPa	MPa	%	kJ/m <sup>2</sup>	kJ/m <sup>2</sup>	MPa	h	
<b>High Density Polyethylene – Lupolen</b>											
<i>Lupolen</i> 5021 DX	0.950	0.25	1.0	1000	25	9	100	6	45	10	Good ESCR; good chemical resistance; good impact resistance; good organoleptic prop.; engineering parts, packaging for surfactants, consumer goods; due to high impact and stress cracking resistance potentially usable for packaging of dangerous goods
<b>High Density Polyethylene – Hostalen</b>											
<i>Hostalen</i> GF 4750	0.950	0.4	1.5	1000	23	10	80	5.5	44	15	High ESCR; packaging of surfactants, consumer goods and dangerous goods
<i>Hostalen</i> ACP 5231 D	0.952	0.3	1.2	1100	25	8	75	6	51	30	Very high ESCR balanced with good stiffness. Packaging for detergents and personal care, engineering parts, toys. Due to high impact and stress cracking resistance potentially usable for packaging of dangerous goods
<i>Hostalen</i> ACP 5831 D	0.958	0.3	1.2	1350	28	7.5	75	6.5	60	8	Excellent balance of high stiffness and high ESCR; high rigidity; toys, packaging of consumer goods
<i>Hostalen</i> ACP 6031 D	0.960	0.35	1.2	1420	30	7	65	6	63	7	Excellent balance of highest stiffness and good ESCR; very high rigidity; packaging of consumer goods

ESCR = Environmental Stress Crack Resistance, FNCT = Full-notch creep test

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## PP

## Grades Used in Small Blow Molding Applications

Properties	Physical		Mechanical					Optical	Specific Characteristics and Typical Customer Applications	
	Density	MFR	Tensile Modulus	Tensile Stress at Yield	Tensile Elongation/Strain at Yield	Charpy Impact notched		Ball indentation hardness (H132/30)		
	23°C	230°C, 2.16 kg				23°C	0°C			Haze (1mm)
Test Method	ISO 1183	ISO 1133	ISO 527			ISO 179-1/1eA		ISO 2039-1	ASTM D1003	
Unit	g/cm <sup>3</sup>	g/10 min	MPa	MPa	%	kJ/m <sup>2</sup>		MPa	%	
<b>PP Homopolymer – Moplen</b>										
Moplen HP501H	0.9	2.1	1450	33	9	5.0	–	72	–	Good stiffness / impact balance
<b>PP Random Copolymer – Moplen</b>										
Moplen RP210G	0.9	1.8	950	25	14	6	2.0	–	–	Bottles
Moplen RP241H	0.9	1.8	850	24	14	45	4.0	45	9	NU; high transparency and impact strength; bottles for food, detergents, household chemicals
Moplen RP340H	0.9	1.8	1100	29	13	28	2.5	56	9	NU; high transparency and stiffness; bottles
Moplen RP390H	0.9	1.8	1100	29	13	28	2.5	56	11	NU; improved transparency, gloss and processability; bottles with high optical performance
<b>PP Heterophasic Copolymer – Moplen</b>										
Moplen EP440G	0.9	1.3	1450	27	8	40	9.0	48	–	NU; High stiffness, very high impact strength at room and sub-zero temp., good dimensional stability and excellent creep resistance
<b>Clyrell</b>										
Clyrell RC124H	0.9	2.2	750	25	15	30	6.5	–	15	High transparency and impact resistance; Haze (40µm Film): 1%
<b>Stretchene</b>										
Stretchene RP1903	0.9	10.5	1100	30	14	6	2.0	58	–	NU; suitable for ISBM; excellent transparency and clarity; Haze (0.4 mm bottle wall): 3%

ISBM – Injection Stretch Blow Molding; NU – Nucleated

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