

# SABIC® HP2023NN

HP2023NN is a Low Density Polyethylene grade suitable for general-purpose packaging. They exhibit better draw down, good optical and mechanical properties. HP2023NN contains no slip, no antiblock and no antioxidant additives.

Physical Properties	Metric	English	Comments
Density	0.923 g/cc	0.0333 lb/in <sup>3</sup>	ASTM D1505
Melt Flow	2.0 g/10 min @Load 2.16 kg, Temperature 190 °C	2.0 g/10 min @Load 4.76 lb, Temperature 374 °F	ASTM D1238
Mechanical Properties	Metric	English	Comments
Film Tensile Strength at Yield, MD	12.0 MPa	1740 psi	Properties have been measured by producing 30 µm film with 2.5 BUR using 100% HP2023NN.; ASTM D882
Film Tensile Strength at Yield, TD	12.0 MPa	1740 psi	Properties have been measured by producing 30 µm film with 2.5 BUR using 100% HP2023NN.; ASTM D882
Film Elongation at Break, MD	300 %	300 %	Properties have been measured by producing 30 µm film with 2.5 BUR using 100% HP2023NN.; ASTM D882
Film Elongation at Break, TD	588 %	588 %	Properties have been measured by producing 30 µm film with 2.5 BUR using 100% HP2023NN.; ASTM D882
Elmendorf Tear Strength, MD	15.0 g/micron	381 g/mil	Properties have been measured by producing 30 µm film with 2.5 BUR using 100% HP2023NN.; ASTM D1922
Elmendorf Tear Strength, TD	11.0 g/micron	279 g/mil	Properties have been measured by producing 30 µm film with 2.5 BUR using 100% HP2023NN.; ASTM D1922

Dart Drop	2.00 g/micron	50.8 g/mil	Properties have been measured by producing 30 $\mu$ m film with 2.5 BUR using 100% HP2023NN.; ASTM D1709
Film Tensile Strength at Break, MD	20.0 MPa	2900 psi	Properties have been measured by producing 30 $\mu$ m film with 2.5 BUR using 100% HP2023NN.; ASTM D882
Film Tensile Strength at Break, TD	15.0 MPa	2180 psi	Properties have been measured by producing 30 $\mu$ m film with 2.5 BUR using 100% HP2023NN.; ASTM D882
1% Secant Modulus, MD	235 MPa	34100 psi	Properties have been measured by producing 30 $\mu$ m film with 2.5 BUR using 100% HP2023NN.; ASTM D882
1% Secant Modulus, TD	271 MPa	39300 psi	Properties have been measured by producing 30 $\mu$ m film with 2.5 BUR using 100% HP2023NN.; ASTM D882

Thermal Properties	Metric	English	Comments
Vicat Softening Point	92.0 °C	198 °F	ASTM D1525

Optical Properties	Metric	English	Comments
Haze	8.0 % @Thickness 0.0300 mm	8.0 % @Thickness 0.00118 in	2.5 BUR using 100% HP2023NN.; ASTM D1003

Gloss	61 %	61 %	45°; Properties have been measured by producing 30 $\mu$ m film with 2.5 BUR using 100% HP2023NN.; ASTM D2457
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