



Technical Data Sheet

TPC Enhanced Grade Polyisobutylene TPC 175, TPC 1105, TPC 1160, TPC 1285, TPC 1350

CHARACTERISTICS

TPC offers enhanced grades of polyisobutylene which are replacements for conventional grades of PIB in applications where viscosity and tackiness are desired key qualities. Our proprietary process produces clear, consistent and water white products in a variety of molecular weights and viscosities. Our Enhanced grades are TPC 175, TPC 1105, TPC 1160, TPC 1285 and TPC 1350.

TPC 175 APPLICATIONS

TPC 175 can be used for a variety of applications such as: Fuel oil additive, Lubricant Oil additive, Emulsifier, 2 stroke engine oil, viscosity modifiers, hot melt adhesives, roofing membranes, tackifiers, PIBSA reactions, emulsions, asphalt/bitumen, sealants, Polypropylene films, drilling fluid, metal working fluids, cables, compressor oil, polymer and rubber modifiers. TPC 175 has a viscosity range of 75 -95 cSt with a molecular weight of 750.

TPC 1105 APPLICATIONS

TPC 1105 can be used for a variety of applications such as: cosmetics, replacement for bright stocks, mineral oils and process oils, cosmetics, PIBSA reactions, emulsions, fuel and lubricant additives, 2 stroke engine oil, viscosity modifiers, personal care products, pour point depressants, corrosion inhibitors, tackifiers, asphalt/bitumen, polymer modification, adhesives and elastomer based sealants and caulks. TPC 1105 has a viscosity range of 4000 – 5000 cSt with a molecular weight of 1050.

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**TPC 1160
APPLICATIONS**

TPC 1160 can be used for a variety of applications such as: Cosmetics, pressure sensitive adhesives, hot melt adhesives, water based adhesives, automotive sealants, window sealants, tire sealants, viscosity modifiers, tackifiers, PIBSA reactions, emulsions, asphalt/bitumen, elastomer based sealants and caulks, polymer modification, adhesives, cling film, gum base, rubber modifier, roofing membranes. TPC 1160 has a viscosity range of 625 – 685 cSt with a molecular weight of 1600.

**TPC 1285
APPLICATIONS**

TPC 1285 can be used for a variety of applications such as: Personal care, hot melt adhesives, water based adhesives, automotive sealants, window sealants, tire sealants, emulsions, asphalt/bitumen, elastomer based sealants and caulks, adhesives, stretch/cling film, compressor oil, metal working fluids, submarine cable insulating oils, rubber modifier. TPC 1285 has a viscosity range of 3000 – 3400 cSt with a molecular weight of 2850.

**TPC 1350
APPLICATIONS**

TPC 1350 can be used for a variety of applications such as: Emulsions, asphalt/bitumen, elastomer based sealants and caulks, adhesives, stretch/cling film, compressor oil, metal working fluids, submarine cable insulating oils, rubber modifier, damping fluids. TPC 1350 has a viscosity range of 4000 – 4500 cSt and a molecular weight of 3500.

GENERAL

Enhanced PIB grades are used as replacements for conventional grades of PIB. Enhanced PIB grades are ideal for applications where viscosity and tackiness are key qualities of the material.

TPC Group offers the broadest portfolio of PIB products to the market and is a major supplier to many different markets, including fuels and lubricants, caulks, sealants, adhesives, packaging, greases and emulifiers.

PACKAGING

These grades are typically sold in railcar quantities but isocontainers and trucks are also available.



Technical data Sheet

General Sales Specifications

| Property | Method | 175 | 1105 | 1160 | 1285 | 1350 |
|----------------------------|------------|------------------|------------------|------------------|------------------|------------------|
| Kinematic Viscosity, cSt | ASTM D445 | 75-95 | 190 – 240 | 625 – 685 | 3000 – 3400 | 4000 - 4500 |
| Flash Point, COC, °C | ASTM D92 | >140 | >185 | >210 | >210 | >210 |
| Specific Gravity @ 15.6 °C | ASTM D4052 | 0.87 – 0.90 | 0.88 – 0.91 | 0.89 – 0.93 | 0.90 – 0.94 | 0.90 – 0.94 |
| Color, APHA | ASTM D1209 | <70 | <50 | <50 | <50 | <50 |
| Haze, Photometric | ASTM D6181 | <4 | <4 | <4 | <4 | <4 |
| Water, ppm | ASTM D1533 | Report | Report | Report | Report | Report |
| Appearance | | Clear and Bright | Clear and Bright | Clear and Bright | Clear and Bright | Clear and Bright |

Supplemental Data ¹

| Technical Data Sheet Property | Method | 175 | 1105 | 1160 | 1285 | 1350 | |
|--|-------------|--------|--------|--------|---------|---------|---------|
| Molecular Weight, Mn | Proprietary | 750 | 1050 | 1600 | 2850 | 3500 | |
| Kinematic Viscosity, cSt | ASTM D445 | 100°C | 86 | 220 | 647 | 3,121 | 4,090 |
| | | 70°C | 287 | 840 | 2,801 | 13,172 | 17,481 |
| | | 40°C | 1,721 | 5,600 | 19,809 | 80,106 | 107,277 |
| | | 20°C | 7,582 | 21,200 | 111,436 | 346,926 | 465,790 |
| Water, ppm | ASTM D1533 | 25 | 25 | 25 | 25 | 25 | |
| Chlorine, ppm | ASTM D4327 | <1 | <1 | <1 | <1 | <1 | |
| Sulfur, ppm | ASTM D2622 | <1 | <1 | <1 | <1 | <1 | |
| Aromatics, ppm | HPLC | <1 | <1 | <1 | <1 | <1 | |
| Viscosity Index | ASTM D2270 | 118 | 144 | 187 | 294 | 307 | |
| Refractive Index | ASTM D1218 | 1.4922 | 1.4971 | 1.5029 | 1.5065 | 1.5054 | |
| Pour Point, °C | ASTM D97 | -18 | -6 | 3 | 12 | 21 | |
| Dielectric Breakdown Voltage, KV | ASTM D877 | 50 | 50 | 50 | 50 | 50 | |
| Power Factor 100°C, (x10 ⁻⁶) | ASTM D924 | 80 | 80 | 80 | 80 | 80 | |
| Dissipation Factor @ 100°C, (x10 ⁻⁶) | ASTM BS5737 | 80 | 80 | 80 | 80 | 80 | |
| Acid Number | ASTM D974 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | |
| Saponification Number, mg KOH/g | ASTM D94 | <1 | <1 | <1 | <1 | <1 | |
| Bromine Number, g Br ₂ /100g | ASTM 1159 | 20.6 | 15.7 | 10.0 | 5.9 | 4.8 | |
| Evaporation Loss, 10 hrs @ 99°C, wt% | ASTM D972 | 1.80 | 0.53 | 0.24 | 0.10 | <0.10 | |

¹The supplemental data listed herein is subject to change without notice. The supplemental data is based on randomly selected samples of product and is believed to represent average values. However, TPC Group does not warrant that its products comply with the supplemental data.

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