

High Molecular Weight Polyethylene IDEALIS500

Description:

Braskem Idealis500 is the only High Molecular Weight Polyethylene resin in powder form specially designed for the compression molding process.

Applications:

Applications range from food handling cutting boards and playground toys to technical parts.

Physical Properties:

| | Method | Units | Values |
|----------------------------|-------------|----------|---------|
| Intrinsic Viscosity | ASTM D 4020 | dL/g | 4.7 |
| Average Molecular Weight | Internal | g/mol | 5.5x105 |
| Melt Flow Rate (190/21.60) | ASTM D 1238 | g/10 min | 0.70 |
| Density | ASTM D 792 | g/cm3 | 0.952 |
| Bulk Density | ASTM D 1895 | g/cm3 | 0.45 |
| Average Particle Size Dp50 | ASTM D 1921 | µm | 195 |

Mechanical Properties:

| | Method | Units | Values |
|-------------------------------------------|---------------------------|-------|--------|
| Tensile Strength at Yield | ASTM D 638 ISO 527 | MPa | > 20 |
| Tensile Strength at Break | ASTM D 638 ISO 527 | MPa | > 30 |
| Ultimate Elongation | ASTM D 638 ISO 527 | % | > 500 |
| Flexural Modulus | ASTM D 790 | MPa | 930 |
| Charpy Impact Strength* | ISO 11542-2 | KJ/m2 | > 50 |
| Shorle D Hardness (15 sec) | ASTM D 2240 | - | 63 |
| Abrasion Index (reference PE500 = 100) | Sand slurry - Internal | - | 80 |

* Determined with double-notched specimens (14° v-notch on both sides) in accordance with ISO 11542-2.

Thermal Properties:

| | Method | Units | Typical Values |
|-------------------------------------|-------------|-------|----------------|
| Melt Temperature | ASTM D 3418 | °C | 136 |
| Vicat Softening Temperature at 50 N | ASTM D 1525 | °C | 80 |

Final Remarks:

1. This resin meets the requirements for olefin polymers as defined in 21 CFR, section 177.1520 issued by FDA – Food and Drug Administration in force on the date of publication of this specification. The additives present are covered in appropriate regulation by FDA
2. The information presented in this Data Sheet reflects typical values obtained in our laboratories, but should not be considered as absolute or as warranted values. Only the properties and values mentioned on the Certificate of Quality are considered as guarantee of the product.
3. In some applications, Braskem has developed tailor-made resins to reach specific requirements.
4. In case of doubt regarding utilization, or for other applications, please contact our Technical Assistance.
5. For information about safety, handling, individual protection, first aids and waste disposal, please see MSDS. CAS Registry number: 9002-88-4.
6. The mentioned values in this report can be changed at any moment without Braskem previous communication.
7. Braskem does not recommend this grade for packages, parts or any kind of product manufacture that will be used for storage or contact with solution that will have internal contact with human body.
8. The content of this Data Sheet replaces previous revisions published for this product.
9. This resin does not contain the substance Bisphenol A (BPA, CAS # No. 80-05-7) in its composition.