

Ultra High Molecular Weight Polyethylene UTEC4041

Description:

UTEC4041 is an Ultra High Molecular Weight Polyethylene with a molecular weight greater than 10 times higher than High Density Polyethylene (HDPE) resins. This extremely high molecular weight yields several unique properties to this polymer such as high abrasion resistance and impact strength and low coefficient of friction, what makes it a self-lubricating material.

Aplicações:

Applications which require highest wear resistance, Technical and porous parts, filters, compression molded sheets

Physical Properties

| Característica | Método | Unidades | Valores |
|----------------------------|----------------------|-------------------|-----------------------|
| Intrinsic Viscosity | ASTM D4020 | dL/g | 18 |
| Average Molecular Weight | Internal | g/mol | 4.0 x 10 ⁶ |
| Density | ASTM D792 | g/cm ³ | 0.925 |
| Bulk Density | ASTM D1895 | g/cm ³ | 0.45 |
| Average Particle Size Dp50 | LaserLightScattering | µm | 160 |
| Melt Temperature | ASTM D3418 | °C | 133 |

Mechanical Properties

| Característica | Método | Unidades | Valores |
|-------------------------------------|--------------------|-------------------|---------|
| Tensile Strength at Yield | ASTM D638 ISO 527 | MPa | ≥ 17 |
| Tensile Strength at Break | ASTM D638 ISO 527 | MPa | > 30 |
| Ultimate Elongation | ASTM D638 ISO 527 | % | > 350 |
| Double Notch Charpy Impact Strength | ISO 11542-2 | KJ/m ² | > 130 |
| Shore D Hardness (15 sec) | ASTM D2240 ISO 868 | - | > 58 |

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

Electrical Properties

| Característica | Método | Unidades | Valores |
|---------------------|-----------|----------|--------------------|
| Volume Resistivity | ASTM D257 | ohm.cm | > 10 ¹⁴ |
| Surface Resistivity | ASTM D257 | ohm | > 10 ¹² |

Final Remarks:

- 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 set forth on the Certificate of Analysis should be considered as a guarantee of product properties.
- Values set forth in this report may be changed without notification.
- For some applications, Braskem has developed resins to meet specific requirements. Please consult the Braskem Technical Service Team for questions regarding the use of such resins.
- For information about safety, handling, individual protection, first aid, and waste disposal, please consult the SDS.
- Braskem does not recommend this grade for packaging, parts, or any other types of products that will be used in broad based medical applications or those where such products will have internal contact with the human body.
- The content of this Data Sheet supersedes and replaces all previous versions.