UTEC 3041

Ultra High Molecular Weight Polyethylene

Braskem

Message:

Description:
UTEC3041 is an Ultra High Molecular Weight Polyethylene with a molecular weight about 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.
Applications:
Applications which require high impact resistance and use of pigments and/or additives - technical and porous parts, filters, compression molded sheets.

General Information			
Features	Ultra high molecular weight Low friction coefficient Impact resistance, good Good wear resistance Good wear resistance Self-lubricating		
Uses	Engineering accessories Filter Sheet		
Agency Ratings	FDA 21 CFR 177.1520		
Processing Method	Compression molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	0.925	g/cm³	ASTM D792
Apparent Density	0.45	g/cm³	ASTM D1895
Water Absorption (24 hr)	0.010	%	ASTM D570
Intrinsic Viscosity	14	dl/g	ASTM D4020
Average Molecular Weight	3000000	g/mol	Internal method
Average Particle Size [1]	130	µm	ASTM D1921
Specific Melt Enthalpy	34.0	cal/g	ASTM D3418
Abrasion Index			Internal method
-- [2]	100		Internal method
-- [3]	25		Internal method
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness			ASTM D2240, ISO 868
Shaw D	64		ASTM D2240, ISO 868
Shaw D, 15 seconds	57		ASTM D2240, ISO 868
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength			ASTM D638, ISO 527-2

Yield	> 17.0	MPa	ASTM D638, ISO 527-2
Fracture	> 30.0	MPa	ASTM D638, ISO 527-2
Tensile Elongation			
Fracture	> 350	%	ASTM D638
Fracture	> 400	%	ISO 527-2
Coefficient of Friction			ASTM D1894
Dynamic	0.090		ASTM D1894
Static	0.10		ASTM D1894
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength [4]	> 180	kJ/m^2	ISO 11542-2
Notched Izod Impact	No Break		ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	79.0	°C	ASTM D648
1.8 MPa, not annealed	48.0	°C	ASTM D648
Vicat Softening Temperature	128	°C	ISO 306/A, ASTM D1525 [5]
Peak Melting Temperature	133	°C	ASTM D3418
CLTE - Flow (-30 to 100°C)	1.5E-4	cm/cm/°C	ASTM D696
Specific Heat	2010	J/kg/°C	ASTM E1269
Thermal Conductivity (23°C)	0.40	W/m/K	ASTM C177
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	> 1.0E+12	ohms	ASTM D257
Volume Resistivity	> 1.0E+14	ohms·cm	ASTM D257
Dielectric Strength	90	kV/mm	ASTM D149
Dielectric Constant (1 kHz)	2.30		ASTM D150
NOTE			
1.	Dp50		
2.	reference ISO 15527 = 100		
3.	reference Stainless Steel SAE1020 = 100		
4.	Determined with double-notched specimens (14° v-notch on both sides) in accordance with ISO 11542-2.		
5.	压 力1 (10N)		

Recommended distributors for this material

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