TKG® 1000 (PE-UHMW)

Density 0,93 g/cm^3
Colour White / black / red / yellow / brown / green
Chemical Designation PE-UHMW (Polyethylene ultra high molecular weight)

PROPERTIES	RESULT	UNIT	PARAMETER	NORM USED
Mechanical properties				
Modulus of elasticity	650	MPa	In tension	DIN EN ISO 527-2
Modulus of elasticity	800	MPa	In flexure	DIN EN ISO 178
Tensile strength at yield	17	MPa	50 mm/min	DIN EN ISO 527-2
Tensile strength at break	40	MPa	50 mm/min	DIN EN ISO 527-2
Impact strength	No break	Kj/m^2	Máx 7,5j	DIN EN ISO 179-1EU
Ball indentation hardness	35	MPa		ISO 2039-1
Elongation at break	50 min	%		DIN 527
Coefficient of friction	0,29	-	Against steel p=0,05 N/mm^2	
Thermal Properties				
Crystalline melting point	135	°C		DIN 53765
Service temperature	120	°C	Short term	
Service temperature	90	°C	Long term	
Thermal expansion	20	10^{-5} K^{-1}		DIN 53483
Specific heat	1,84	J/(g+K)		ISO 22007-4:2008
Thermal conductivity	0,41	W/(K+m)		ISO 22007-4:2008
Heat distorsion temperature	42	°C	Method A	R75
Heat distorsion temperature	70	°C	Method B	R75
Electrical Properties				
Surface resistence	10^{12}	Ω		DIN IEC 60093
Specific volume resistance	10^{14}	Ω* cm		DIN IEC 60093
Tracking resistance	KA 3c			DIN 53480
Dielectric constant	3		At 10^5 Hz	DIN 53483
Dielectric loss factor	-		At 10^5 Hz	DIN 53483
Dielectric strength	45	kV / mm	1 mm	ASTM 149
Miscellaneous Properties				
Water absorption	0,02	%	24h / 96h (23 °C)	DIN EN ISO 62
Resistance to hot mater/bases	Resistant			
Resistance to weathering	Resistant in colour			
Flammability (UL94)	HB		According to	DIN IEC 60995-11-10

Main Characteristics

Very low water absorption
Resistant to dilute acids, solvents and cleaning agents
Tough and light weight
Good electrical insulation
Great abrasion resistance

Industry Applications

Food processing industry
Chemical machines
Waer strips
Cryogenic and conveyor parts
Liners

VENTAS@PLASTICOSYMETALES.CL 2 2556 8270