NYLON 6.6 (PA)

Semicrystalline thermoplastic Nylon 6.6 polymer balls, they provide low weight, high corrosion, wear and abrasion resistance. They are auto lubricant and with good ductility, toughness and electric insulating properties. Useful even for high temperature applications.

APPLICATIONS

Special valves, low load bearings, flow meters, switches, handgrips, medical and industrial applications.

CHEMICAL COMPOSITION

Technical name	Commercial name	Abbreviation	Molecular formula
Polyamide	Nylon 6.6	PA 6.6	-OC-(CH2)4-CO-NH-(CH2)6-NH

PHYSICAL / MECHANICAL / THERMAL / ELECTRIC / MAGNETIC PROPERTIES

Property	Symbol	U.o.M.	Type	Notes	Values
Density	δ	[g/cm^3]	Physical	Room temp.	1.11
Youngs modulus	E	[MPa]	Mechanical	-	2500
Friction coefficient	μ	-	Mechanical	Room temp	0.25
Water absorption	Aw	%	Physical	24h.	2.10
Coefficient of linear. Thermal expansion	α	[10^{-6}/ºC]	Thermal	(ΔT=0-100°C)	87.5
Thermal conductivity	λ	[W/(m·K)]	Thermal	Room temp.	0.25
Volume resistivity	ρ	[Ω*m]	Electric	-	>10^{13}
Rel. magnetic permeability	μ	-	Magnetical	Diamagnetic	<~1

TECHNICAL DATA

Property	Type	U.o.M.	Values	U.o.M	Values
Hardness	Mechanical	[ShoreD]	75 – 85	-	-
Compressive yield strength	Mechanical	[MPa]	86 – 103	[psix10^3]	12.4 – 15
Service temperature	Thermal	[ºC]	-30 / 80	[ºF]	-22 / 176

QUALITY AND DIAMETER

DRM mm	U.o.M.	DRM "	U.o.M.	Quality DIN5401 / ISO 3290
1,500 - 350,000	[mm]	1/64 – 14	["]	0 - I - II - III

CORROSION RESISTANCE

Nylon balls are insolvable into diluted mineral acids and in most organic acids. They are resisting to alkalis, petroleum products, greases, inorganic salt solutions, low gradation alcohols, motor oil, transmission fluids, methanol, ketones, esters. They do not resist to strong acids and basis.