POLYPROPYLENE / PP

Polypropylene balls are featured by a low weight, good mechanical characteristics and corrosion, fatigue and collisions resistance. They are resisting to heat and they are excellent electric insulators. They are floating into water. Additives can be added to avoid degradation phenomena causing to a long exposure at sun light (UV radiation absorption). It is a recyclable material.

APPLICATIONS

Low load bearings, special valves, check valves, floating valves, fluid level indicators, carburetors, flow meters, chemical, medical and laboratory devices, blood transfusion kits.

CHEMICAL COMPOSITION

Technical name	Commercial name	Abbreviation	Molecular formula / %
Poly(propene)	Polypropylene	PP	(C3H6)n

PHYSICAL / MECHANICAL / THERMAL / ELECTRIC / MAGNETIC PROPERTIES

Property	Symbol	U.o.M.	Type	Notes	Values
Density	δ	[g/cm^3]	Physical	Room temp.	0,87
Youngs modulus	E	[MPa]	Mechanical	-	1285
Friction coefficient	μ	-	Mechanical	Room temp	0,30
Water absorption	Aw	%]	Physicall	24h.	0,10
Coefficient of linear. Thermal expansion	α	[10^{-6}/°C]	Thermal	(ΔT=0-100°C)	135,0
Thermal conductivity	λ	[W/(m·K)]	Thermal	Room temp.	0,19
Volume resistivity	ρ	[Ω*m]	Electric	-	>10^{14}
Rel. magnetic permeability	μ	-	Magnetical	Diamagnetic	<~1

TECHNICAL DATA

Property	Type	U.o.M.	Values	U.o.M	Values
Hardness	Mechanical	[ShoreD]	70-80	-	-
Compressive yield strength	Mechanical	[MPa]	40-50	[psix10^3]	5.8 – 7.3
Service temperature	Thermal	[°C]	-30 / 100	[°F]	-22 / 230

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

Polypropylene balls are resisting into not concentrated acids, alkalis, alcohols, oils, greases and most inorganic compounds. Fair resistance in aromatic hydrocarbons, they are not resistant in contact with halogens. They provide corrosive phenomena even in presence of concentrated acids and oxidizing agents at high temperature.