P.E.T. / Arnite

PET is a thermoplastic polyester based on polyethylene terephthalate. The general characteristics of such material are high toughness and tensile strength to bending higher than the polyamide, which together with its high wear resistance becomes indispensable this material for gears and bushings. Very low friction coefficient. Thermal conductivity: superior to other resins, which facilitates the dispersion of heat into the pieces. Softening Point (Vicat) between the highest, which makes it suitable for high temperature stationary parts. For dynamic parts under load, it is advisable to use up to 120 ° C continuous and 170 ° C for a short time. Dimensional stability at both temperature and moisture. Chemically, PET has a high resistance to aliphatic and aromatic hydrocarbons and oils and fats. Diluted acids and alkaline salt solutions do not, do not attack the material. PET has excellent dielectric properties and it is nonflammable. The machining of PET are suitable for lubricating gears silent, bushings and bearings with very low friction coefficient (less than bronze), skids and slides, rollers, conveyor wheels, etc.

FEATURES	METHOD ASTM	UNIT	VALUE
Specific weight	D-792	Kg/cm^2	1,34
H_20 absorption in 24 h.	D-570	%	0,1
H_20 absorption (saturation)	—	%	0,4
Tensile strength	D-638	Kg/cm^2	650
Elongation at break	D-638	%	120
Tensile elastic modulus	D-638	Kg/cm^2	20.000
Flexural strength	D-790	Kg/cm^2	900
Flexural elastic modulus	D-790	Kg/cm^2	26.000
Compressive strength	D-695	Kg/cm^2	1.350
Rockwell hardness	D-795	–	M-90
Izod impact strength	D-256	$Kg.-cm2/cm^2$	4.5

Coefficient of friction	—	–	0,09
Melting temperature	D-2117	°C	260
Continuous heat resistance		°C	120
Heat resistance few hours		°C	170
Heat distortion 18,6 Kg	D-648		90
Heat distortion 4,6 Kg.	D-648	°C	120
Coefficient of thermal expansion	D-696	cm/cm/°C	60.10^{-6}