

POLITERM PE 60 – poliamid 6

implementation: For cog, roller gear, clutch elements, eccenters, packing rings, srew thread elements, pillow block bearing, and other element, which contains taughness, and impact tenacity.

density: 1,13 g/cm³

modulus of elasticity: 1600 N/mm²

permanent statically loaded: do 12 N/mm²

poroperty: high resistance to taughness and resistance to wear.

POLITREM PE – high molecular polietilen

implementation: For elements exposed toughness at low temperature, and for elements with resistance to wear, sliding friction. For cogs, worm cogs and star type elements...

density: 0,94 g/cm³

modulus of elasticity: 500 N/mm²

permanent statically loaded: do 3 N/mm²

poroperty: high resistance to wear, abrasive hardnes, (coke, road metal...)

POLITERM PP – polipropilen

implementation: Wide implementation at chemistry industry, for elements exposed to low intensity of strain.

density: 0,9 g/cm³

modulus of elasticity: 1200 N/mm²

poroperty: High acid resistance. Possibility for plastic welding.

BASIC MATERIAL	BASIC APPLICATION	RESISTANCE TO WEAR				ULTIMATE STRENGTH P u N/mm ² statically	KINETIC FRICTION dry friction	APSORPTION OF MOISTURE AT 65% R.U.			TEMPERATURE OF PRACTICE permanent evanescent				ACID RESISTANT + goods 0 conditionaly - weakly	PHYSIOLOGICAL CLEARLY	POSSIBLY INJECTION CASTING	LUBRICATION + goods 0 middling - weakly				ANNONATION			
		middling	good	very good	ultimate			0	1,5	3	-50	0	50	100				150	200	acids	basic sensisters		solvents	yes	no
POLITERM 60	cogs roller gears universal joint pins					14	0,3								-	+	(0)	●		+		+	+	+	high toughness
POLITERM PE	acid resistant cogs					2	0,12								+	+	(0)	●		+	+	+		-	high toughness
POLITERM PP	element exposed to acids					6	0,4								+	+	(0)	●	●	+		+		-	

POLITERM MATERIALS
MECHANICAL, THERMAL and ELECTRICITY PROPERTY

PROPERTY		STANDARD	UNIT OF MEASUREMENT	POLITERM PA 60	POLITERM PE	POLITERM PP
1	2	3	4	5	6	7
MECHANICAL PROPERTY						
density	-		g/cm ³	1,13	0,94	0,905
tensile strength	-	DIN 53455	N/mm ²	80	22	32
	+	DIN 53455	N/mm ²	40	22	32
tension at interruption	-	DIN 53455	%	110	Ca 450	Ca 650
	+	DIN 53455	%	300	Ca 450	Ca 650
modulus of elasticity (tension)	-	tensile	N/mm ²	2700	-	Ca 1200
	+	tensile	N/mm ²	1600	-	Ca 1200
modulus of elasticity (bending stress)	-	bending stress	N/mm ²	2400	790	-
	+	bending stress	N/mm ²	1200	790	-
critical bending stress	-	DIN 53452	N/mm ²	120	27	45
	+	DIN 53452	N/mm ²	35	27	45
tenacity	+	DIN 53453	kJ/m ²	no interruption	-	no interruption
dynamic tenacity at t= 20 ⁰ C	+	DIN 53453	kJ/m ²	Ca 100	no interruption	4÷8
dynamic tenacity at t= 0 ⁰ C	+	DIN 53453	kJ/m ²	-	-	Ca 4
dynamic tenacity at t= -20 ⁰ C	+	DIN 53453	kJ/m ²	-	-	Ca 2
dynamic tenacity at t= -40 ⁰ C	+	DIN 53453	kJ/m ²	-	-	-
toughness (SHORE D)	-	DIN 53505	SHORE D	78	64÷67	69
	+	DIN 53505	SHORE D	65	64÷67	69
THERMAL PROPERTY						
melting temperature			⁰ K	Ca 488	373	
coefficient of linear expansion			mm/ms ⁰ K	9÷12x10 ⁻¹¹	2x10 ⁻¹⁰	16x10 ⁻¹¹
specific heat			J	1674	1841	1925
ELECTRICITY PROPERTY						
permittivity dielectric constant +10 ⁵ Hz	-	DIN 53483		3,6	2,3	2,2÷2,4
	+	VDE 0303, TEIL4/10X55		6÷7	2,3	2,2÷2,4
dielectric factor of loss at +10 ⁵ Hz	-	DIN 53483		0,02÷0,03	0,0002	0,0006
	+	VDE 0303, TEIL4/10X55		0,01÷0,03	0,0002	0,0006
break-down voltage	-	DIN 53481	kV/mm	50	90	30÷90
	+	VDE 0303, TEIL2/10X55	kV/mm	20	90	30÷90
specific electrical resistance	-	DIN 53482	Ohm x cm	5x10 ¹⁴	>10 ¹⁸	-
	+	VDE 0303, TEIL3/10X55	Ohm x cm	10 ¹²	>10 ¹⁸	10 ¹⁶ ÷10 ¹⁸
surface resistance	-	DIN 53482	Ohm	10 ¹²	>10 ¹³	-
	+	VDE 0303, TEIL3/10X55	Ohm	10 ¹³	>10 ¹³	5x10 ¹³
RESISTANCE ON VAGABOND CURRENT	-	DIN 53480		KA 3c	KA 3c	KA 3c
	+	VDE 0303, TEIL1/10X55		KA 3b	KA 3c	
<i>legend: (-) dry material (+) conditioned material</i>						