

Physical Properties

Plastics and Rubber Process Insulation

Pyropel® is available in three different forms:

Low Density (LD)

A flexible form of Pyropel®, Pyropel LD is an industrial nonwoven. Typically used where thermal control is the major engineering concern, Pyropel LD can be easily wrapped around complex shapes or converted into insulation kits. Unlike other blanket type insulators, Pyropel LD is binder-free and has none of the shedding concerns of other common fiber-based materials

Medium Density (MD)

Pyropel MD is a lightweight fiberboard with superior insulation properties. Pyropel MD-12, MD-18, and MD-30 are semi-rigid and are normally used in areas that require both isolation and limited mechanical resistance.

Pyropel MD-50 and MD-60 are rigid insulation for mechanically demanding areas. More resilient, MD-50 is ideal when loading is not evenly distributed or when equipment alignment is not perfect. MD-60 is the most structurally rigid grade of Pyropel MD and offers the highest compression resistance and physical tolerances.

High Density (HD)

Pure polyimide plate, Pyropel HD is easily machined to make both mechanical and thermal components for highly engineered equipment. These components include high-temperature spacers, washers, slides, and bearings.

	Test Method	LD-6	MD-12	MD-18	MD-30	MD-50	MD-60	HD Plate
PHYSICAL								
Form	-	flexible blanket	semi-rigid fiberboard	Semi-rigid Fiberboard	Semi-rigid Fiberboard	Rigid Fiberboard	Rigid Fiberboard	Solid Plastic
Color	-	Yellow	Gold	Gold	Gold	Gold	Light Brown	Black
Density	-	6lb/ft ³	12lb/ft ³	18lb/ft ³	30lb/ft ³	50lb/ft ³	60lb/ft ³	85lb/ft ³
Standard Thickness	-	1/8"-1"	1/8"-3/8"	1/8"-1/4"	5/16"	5/16"	5/32", 1/4"	1/4", 1/2"
Standard Sheet Size	-	54"wide	4'x8'	4'x8'	2'x3'	2'x3'	2'x3'	12"x12"
MECHANICAL								
Tensile Modulus	D-638	-	15,000 psi	27,000 psi	31,000psi	110,000psi	164,000psi	570,000psi
Yield Strength	D-638	-	1,500 psi	1,700 psi	670 psi	1,960 psi	3,070 psi	10,000 psi
% Elongation @ 2% Offset	-	-	-	-	-	-	-	-
@ Break			6%	6%	4%	4%	4%	-
			31%	22%	29%	13%	6%	2%
Compression Modulus	D-638	-	800 psi	2,200 psi	15,000 psi	46,000 psi	58,000 psi	540,000 psi
Strength @2% strain	D-695	-	10 psi	15 psi	60 psi	275 psi	1,150 psi	-
Flexural Modulus	D-790	-	1,940psi	6,620psi	20,030psi	49,390psi	132,260psi	550,000psi
THERMAL								
Continuous Use Temp	-	575°F	550°F	550°F	550°F	550°F	550°F	550°F
Glass Transition Temp (Tg)	-	600°F	600°F	600°F	600°F	600°F	600°F	600°F
Thermal Conductivity(k):	C-177
@25°C(77°F)		0.22	0.24	0.27	0.34	0.49	0.80	1.57
@93°C(200°F)		0.27	0.26	0.31	0/36	0.51	0.83	-
@149°C(300°F)		0.31	-	-	0.39	0.56	0.86	-
@204°C(400°F)		0.38	0.32	0.36	0.44	0.62	0.90	2.09
Flammability Rating	UL-94	-	94V-O	94V-O	94V-O	94V-O	94V-O	-

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