

OMEGA-THANE® Polyurethane Elastomers (PU)



OMEGA-THANE® Polyurethane Elastomers are an extremely versatile material and their unique design and construction combines the advantages of rigid plastics, metals and ceramic with the flexibility and extensibility of rubber. OMEGA-THANE® Polyurethane is used in the replacement of car suspensions and ancillary components due to its excellent resistance to deformation, impact, UV and other aggressors such as oils and fuels beyond the scope of traditional rubber components.

MAIN ADVANTAGES OF OMEGA-THANE®POLYURETHANE SHEET, ROD AND CASTINGS

- Abrasion resistance
- Toughness – tensile strength
- High load bearing capacity
- High tear resistance
- Good mechanical properties
- Resistance to water, oil and grease
- Good electrical properties
- Very high corrosion resistance
- Wide colour range
- Rebound and memory

WEAKNESSES OF OMEGA-THANE®POLYURETHANE SHEET, ROD AND CASTINGS

- Quality & Properties may be affected by inaccurate mixes

APPLICATIONS

- Arc shield in railroad cars, replacing fiberglass parts which exhibited frequent and premature breakage resulting in excessive maintenance costs.
- Gaskets and seals, replacing synthetic rubbers where a combination of chemical resistance and outstanding toughness are required for specialty applications. Custom seals can generally be made using relatively low cost tooling.
- Cutter bars in paperboard plants, replacing UHMW-PE cutter bars which often needed replacing.
- Wheels for carts and trolleys in automotive and other manufacturing plant use, replacing rubber. Polyurethane wheels have higher load bearing capacity and roll easier.



PROPERTIES of OMEGA-THANE® Polyurethane Elastomers

Criteria	Test Method	Units	PU
PHYSICAL			
Specific Gravity	ISO 1183	g/cm ³	1,2
Specific Volume	ISO 1183	cm ³ /g	0,83
THERMAL			
Min Service Temp		°C	-50
Max Service Temp		°C	90
Max Service Temp Short Term		°C	100
Coefficient of Linear Expansion	ISO 11359	10 ⁻⁵ m/m°C	14,0
MECHANICAL			
Nominal Hardness	ISO 868	Shore (A)	20-95
Nominal Hardness	ISO 868	Shore (D)	50-80
Tensile Strength	ISO527	MPa	13.79-82.74
Tear Strength die C	ISO34	MPa	100-1200
Compression set	ISO37	MPa	15-45
Bashore rebound	ISO4662	%	25-60
NBS abrasion index	D1630		100-500
ELECTRICAL			
Dielectric Strength	ISO 243	kV/mm	12
CHEMICAL			
Good Resistance			oxygen, ozone, oils and solvents
Food Safe	FDA		NO

DELIVERY PROGRAM

RODS: 300mm and 600mm length

DIAMETERS: 6mm, 8mm, 10mm, 12mm, 13mm, 15mm, 16mm, 18mm, 20mm, 24mm, 25mm, 30mm, 32mm, 35mm, 40mm, 45mm, 50mm, 55mm, 60mm, 63mm, 65mm, 70mm, 72mm, 75mm, 80mm, 88mm, 95mm, 100mm, 125mm, 150mm

TUBES: 300mm and 600mm length

SHEETS: 500mm x 500mm, 1000mm x 500mm, 3000mm x 500mm; 1000mm x 1000mm; 1200mm x 300mm

THICKNESSES: 6mm, 8mm, 10mm, 12mm, 15mm, 20mm, 25mm, 30mm, 35mm, 40mm, 45mm, 50mm

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