

Acetron® MD POM-C



Competitive Advantages

Quadrant Acetron® MD is a wear-resistant POM (acetal) that provides a unique combination of light weight, chemical resistance and ability to perform in moist/wet applications – while being fully metal detectable to $>27\text{mm}^3$. Quadrant Acetron® MD allows food processors and packagers to gain the efficiencies that polymer wear materials provide and while minimizing their investment. Quadrant Acetron® MD is detectable with existing equipment present in most processing lines. Quadrant has delivered a full line of metal detectable (MD) materials that meet the various needs within the food, medical and pharmaceutical production environment. Quadrant Acetron® MD has been successfully used in meat and poultry processing as well as dairy and cheese production.

Key Benefits

- FDA compliant
- Metal detectable to $>27\text{mm}^3$
- Wear resistant
- Same good chemical resistance as other POM materials
- Good bearing performance in wet and dry application environments
- An ideal choice for elevated temperature applications with maximum continuous operating temperature of 180°F

Common Applications

- Bearings/bushings
- Scraper blades
- Conveyor wear surfaces
- Change parts
- Timing screws
- Star wheels

Other MD Family Materials:

- Quadrant TIVAR® MD UHMW-PE
- Quadrant Nylatron® MD PA6



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Data Sheet - Acetron® MD POM-C

	Property	Units	Test Method	Typical Average Value
Mechanical Properties	Specific Gravity, 73°F	-	ASTM D792	1.47
	Tensile Strength, 73°F	psi	ASTM D638	9,000
	Tensile Modulus of Elasticity, 73°F	psi	ASTM D638	415,000
	Tensile Elongation (at break) 73°F	%	ASTM D638	15
	Flexural Strength, 73°F	psi	ASTM D790	12,000
	Flexural Modulus of Elasticity, 73°F	psi	ASTM D790	400,600
	Shear Strength, 73°F	psi	ASTM D732	8,000
	Compressive Strength, 10% Deformation, 73°F	psi	ASTM D695	13,200
	Compressive Modulus of Elasticity, 73°F	psi	ASTM D695	270,000
	Hardness, Rockwell, Scale as noted, 73°F	-	ASTM D785	M89 (R121)
	Hardness, Durometer, Shore "D" Scale, 73°F	-	ASTM D2240	D85
	Izod Impact (notched), 73°F	ft. lb./in.	ASTM D256 Type "A"	0.8
	Coefficient of Friction (Dry vs Steel) Dynamic	-	QTM 55007	0.3
	Limiting PV (with 4:1 safety factor applied)	ft. lbs.in. ² min.	QTM 55007	4,000
	Wear Factor	in. ³ min./ft.lbs.hr.	QTM 55010	400
Thermal Properties	Coefficient of Linear Thermal Expansion (-40°F to 300°F)	in./in./°F	ASTM E-831 (TMA)	7.1 x 10 ⁻⁵
	Heat Deflection Temperature 264 psi	°F	ASTM D648	280
	Tg-Glass Transition (amorphous)	°F	ASTM D3418	N/A
	Melting Point (crystalline) peak	°F	ASTM D3418	340
	Continuous Service Temperature in Air (Max.) ⁽¹⁾	°F	-	180
	Thermal Conductivity	BTU in/(hr.ft. ² °F)	-	N/A
Electrical Properties	Dielectric Strength, Short Term	Volts/mil	ASTM D149	N/A
	Surface Resistivity	ohms/square	EOS/ESD S11.11	≥ 10 ¹³
	Dielectric Constant, 10 ⁶ Hz	-	ASTM D150	N/A
	Dissipation Factor, 10 ⁶ Hz	-	ASTM D150	N/A
	Flammability @3.1 mm (1/8 in.) ⁽²⁾	-	UL 94	HB
Other	Water Absorption Immersion, 24 Hours	% by wt.	ASTM D 570 ⁽³⁾	0.20
	Water Absorption Immersion, Saturation	% by Wt.	ASTM D570 ⁽³⁾	-

(1) Data represents Quadrant's estimated maximum long-term service temperature based on practical field experience.

(2) Estimated rating based on available data. The UL 94 Test is a laboratory test and does not relate to actual fire hazard.

Contact Quadrant for specific "Yellow Card" recognition number.

(3) Specimens 1/8" thick x 2" dia. or square.

All statements, technical information and recommendations contained in this publication are presented in good faith, based upon tests believed to be reliable and practical field experience. The reader is cautioned, however, that Quadrant Engineering Plastic Products does not guarantee the accuracy or completeness of this information and it is the customer's responsibility to determine the suitability of Quadrant's products in any given application.

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