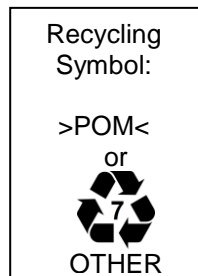


HellermannTyton TYPICAL MATERIAL PROPERTIES	ACETAL	SPECIFICATION NUMBER MTS1401CSU		
		Issued By: MEF 11/10/95 Checked By: KAC 02/18/14	REVISION Level:...03 Date:...02/18/14 By:...LG ECN#:...012586	Page 1 Of 2

DESCRIPTION

Acetal is a crystalline copolymer. It has predictable long-term performance over a wide range of temperatures. It has good chemical resistance and is strong and rigid.

Commercial Name: Acetal
Catalog Code: POM
Chemical Name: Polyoxymethylene
Used On: Snappers



GENERAL PERFORMANCE CHARACTERISTICS

Heat Stabilized	Excellent
High Impact	Good
Moisture Sensitivity	Low
UV Resistance	Not recommended

PERFORMANCE ADDITIVES

Glass	None
Mineral	None

PROCESS ADDITIVES

Fillers	None
Lubricants	Surface
Shrink Additives	None

CONDITIONING

None needed, properties do not improve with moisture absorption.

CHEMICAL RESISTANCE

Acids	Not suitable in strong acids
Bases	Not suitable in strong bases
Solvents	Excellent
Gasoline	Excellent
Oil	Good resistance to base oils and hydraulic fluids.
Chlorine	Attacked by chlorine at concentrations of 3 to 5 ppm and higher.
Zinc Chloride	Not recommended. Zinc chloride acts to depolymerize (corrode) acetal resin. Not recommended where continuous exposure to salt water and contact with zinc plated steel (galvanized) is encountered due to an effect similar to corrosion by zinc chloride.
Ivory liquid	Not recommended
Antifreeze	Not recommended
Autoclave	This material should not be effected when used in an autoclave steam sterilization process at temperatures up to 250°F (121°C) for 25 minutes.


MAJOR TOXIC ELEMENTS

This product is essentially inert and nontoxic. However, if it is overheated or burns, gases such as carbon monoxide and formaldehyde may be released.

APPROVALS (Call for specific approvals)

UL, Chrysler, Ford, GM, Toyota, Federal, Military, FDA, USDA.

Use in space is possible but may outgass Formaldehyde in vacuum.
Gamma radiation causes loss in tensile strength and hardness.

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PROPERTIES CHART

	Dry	Units	Test Method
FLAMMABILITY			
UL Flammability @0.71, 1.5, 3.0 & 6.0	HB	-	UL 94
PHYSICAL			
Density	1.41 (0.051)	g/cm ³ (lb/in ³)	ISO 1183
Melt Volume Rate (MVR) @190°C, 2.16 kg	8	cm ³ /10min	ISO 1133
Mold Shrinkage - Parallel	2	%	ISO 294-4
- Normal	1.9		
Water Absorption (23°C-sat)	0.65	%	ISO 62
Humidity Absorption (23°C/50%RH)	0.2	%	ISO 62
MECHANICAL			
Tensile Strength @ Yield	66 (9573)	MPa (psi)	ISO 527-2/1A
Tensile Strain @ Yield	10	%	ISO 527-2/1A
Tensile Modulus	2760 (400304)	MPa (psi)	ISO 527-2/1A
Tensile Creep Modulus @ 1 h	2450 (355342)	MPa (psi)	ISO 899-1
@ 1000 h	1350 (195801)		
Flexural Modulus	2550 (369846)	MPa (psi)	ISO 178
Charpy Unnotched Impact Strength @ 23°C	188 (89.4)	KJ/m ² (ft lb/in ²)	ISO 179/1eU
@ -30°C	181 (86.1)		
Charpy Notched Impact Strength @ 23°C	6.0 (2.9)	KJ/m ² (ft lb/in ²)	ISO 179/1eA
@ -30°C	6.0 (2.9)		
Izod Notched Impact Strength @ 23°C	5.7 (2.7)	KJ/m ² (ft lb/in ²)	ISO 180/1A
THERMAL			
Continuous Operating Temp - RTI Strength @1.5 mm	-40 to 90 (-40 to 194)	°C(°F)	UL 746
Heat Deflection Temp. @ 1.8 MPa (261 psi)	101 (214)	°C (°F)	ISO 75-1/-2
Vicat Softening Temperature B50 (50°C/h 50N)	161 (322)	°C (°F)	ISO 306
Coefficient of Linear Thermal Expansion - Parallel	1.2 (0.67)	E ⁻⁴ /°C (E ⁻⁴ /°F)	ISO 11359-2
- Normal	1.2 (0.67)		
Melting Temperature (10°C/min)	165 (329)	°C (°F)	ISO 11357-1,-2,-3

This document is intended as a general guide, in the material selection for a product, but does not guarantee satisfactory performance. All materials selected must be thoroughly tested in its intended application to determine its suitability. Consult a HellermannTyton Representative for assistance in the final material selection.

The information contained herein is believed to be accurate at the time of printing. However, this information has been obtained from a variety of sources and has not been independently verified by HellermannTyton Corporation; therefore, we cannot warrant fitness for a particular application. Furthermore, HellermannTyton Corporation reserves the right to make changes to this document, at any time, without notice to our customers.