

## ACETAL

(Acetal Copolymer)

ACETAL is a semi-crystalline thermoplastic offering high strength, stiffness and toughness. ACETAL is resistant to hot water, hydrocarbons and solvents, and it

possesses good bearing and wear properties. It is available in natural and black grades. ACETAL is commonly used as bushings, rollers,

wear strips and other applications requiring a combination of strength, low moisture absorption, chemical resistance and dimensional stability.

- **No centerline porosity**
- **Low moisture absorption**
- **Excellent machinability**
- **Good combination of mechanical properties**
- **Chemical resistance to fuels and solvents**  
ACETAL is resistant to aqueous solutions with pH values ranging from 4 to 14.
- **Good wear and abrasion properties**
- **Natural grade is FDA, USDA, NSF and 3A Sanitary compliant**
- **Good dimensional stability**
- **Good property retention at elevated temperatures**
- **Black grade is FDA compliant**

ACETAL is used in a wide variety of industrial applications requiring good strength and toughness, dimensional stability, wear resistance and the ability to operate in a wet environment with little absorption. Material handling, machinery and fluid handling are some of the common industries utilizing ACETALs combination of properties. Typical applications are gears, wear strips, bushings, pump parts, fittings and rollers.

# TYPICAL PROPERTY VALUES

	PROPERTIES	ASTM Test Method	Units	ACETAL
<b>PHYSICAL</b>	Density	D792	lbs/in <sup>3</sup>	0.0507
	Specific Gravity	D792	g/cc	1.41
	Water Absorption, @24 hours, 73°F	D570	%	0.22
	@Saturation, 73°F	D570	%	0.8
<b>MECHANICAL</b>	Tensile Strength @ Yield, 73°F	D638	psi	8,800
	Tensile Modulus	D639	psi	380,000
	Elongation @ Break, 73°F	D638	%	25
	Flexural Strength, 73°F	D790	psi	11,000
	Flexural Modulus, 73°F	D790	psi	360,000
	Compressive Strength	D695	psi	4,500
	Izod Impact Strength, 73°F	D256	ft-lbs/in	1.0
	Rockwell Hardness, 73°F	D785	M Scale	86
	Shure Hardness	-	D Scale	-
	Wear Factor Against Steel, 40 psi, 50 fpm	D3702	$\frac{\text{in}^3}{\text{hr}} \times \frac{1}{\text{PV}}$	$65 \times 10^{-10}$
	Static Coefficient of Friction	D3702	-	-
	Dynamic Coefficient of Friction, 40 psi, 50 fpm	D3702	-	0.21
<b>THERMAL</b>	Heat Deflection Temperature @ 66 psi	D648	°F	316
	@ 264 psi	D648	°F	230
	Coefficient of Linear Thermal Expansion	D696	in/in/°F	$4.7 \times 10^{-5}$
	Maximum Servicing Temperature, Intermittent	-	°F	285
	Long Term	UL746B	°F	195
	Specific Heat	-	BTU/lb-°F	-
	Thermal Conductivity	-	-	-
	Vicat Softening Point	-	°F	-
	Melting Point	D2133	°F	329
Flammability	UL94		HB	
<b>ELECTRICAL</b>	Surface Resistivity	D257	ohm/square	-
	Volume Resistivity	D257	ohm-cm	$1.0 \times 10^{14}$
	Dielectric Strength	D149	V/mil	500
	Dielectric Constant, @ 60 Hz, 73°F, 50% RH	D150	-	3.7
	@ 1 MHz	D150	-	-
	@ 20 GHz	D150	-	-
	@ 30 GHz	D150	-	-
	Dissipation Factor, @ 60 HZ, 73°F	D150	-	0.001

This information is only to assist and advise you on current technical knowledge and is given without obligation or liability. All trade and patent rights should be observed. All rights reserved. Data obtained from extruded shapes material.

## MATERIAL AVAILABILITY

**Rods:** Diameters: 4 3/4", 10' length  
Length: 5" and greater, 5' length

**Plates:** 1/4" to 2" thickness inclusive are 2' x 4', 4' x 8', 4' x 10'  
2-1/4" to 4" thickness inclusive are 2' x 4'

## Primary Specification (Resin) (Typical)

**Natural** ASTM-D-4181 POM211  
**Black** ASTM-D-4181 POM211

## Shapes Specification (Typical)

**Natural** ASTM-D-6100 S-POM0211  
**Black** ASTM-D-6100 S-POM0211

Profiles, tubes, and special sizes are custom produced on request.



Plastifab  
7777 Rte Transcanadienne  
Saint-Laurent Quebec H4S 1L3

Telephone: 514-325-9840  
Fax: 514-325-3341

Web site: www.plastifab.ca  
E-mail: infoprod@plastifab.ca