City Plastics Pty Ltd
61 East Street
Brompton 5007
South Australia
Ph: (+61) 8, 8346 6500
Fax: (+61) 8, 8346 6711
Email:info@cityplastics.com.au
www.cityplastics.com.au
ABN 20 101 181 793
ACN 101 181 793

- Sheet Plastics
- Cut to size & shape
- CNC Router cutting
- Fabrication
- Vacuum Forming
- Boat Screens & windows
- Signs & Displays
- Engineering Plastics
- Ecoscreen Plastic Lattice
- C/S Acrovyn
- Bld/Lic RL155051

updated:1/8/05

ACETAL TECHNICAL DATA SHEET

Acetal is a crystalline thermoplastic polymer with a high melting point.
It offers a high modulus of elasticity combined with great strength, stiffness and resistance to abrasion. Moisture has little to no effect on acetal resin, and because of this, the dimensional stability of close tolerance fabricated items is excellent. It is suitable for mechanical parts or electrical insulators that require structural strength at above normal temperatures.

PROPERTIES:
High modules of elasticity. High strength and stiffness.
Low coefficient of friction. Easily fabricated with hand tools and automatic production machinery. Good abrasion and impact resistance. Low moisture absorption. Excellent machinability. Natural lubricity. Resistant to petroleum products, solvents, and other neutral chemicals. Useful in air temperatures of -50°C to +160°C.

Applications
Acetals overall combination of physical, tribological and environmental properties make it ideal for many industrial wear and mechanical applications such as pump and valve components, gears, bearings, bushings, rollers, fittings and electrical insulator parts.

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ACETAL TECHNICAL DATA SHEET (continued)

MECHANICAL PROPERTIES		
Specific gravity	ASTM D 792	1.42
Tensile strength, Ultimate	ASTM D 638	10,000 p.s.i.
Elongation at break	ASTM D 638	75%
Tensile modulus	ASTM D 638	4.5x10~5 p.s.i.
Rockwell hardness	ASTM D 785	R120,M94
Impact strength (23° C) (notched)	ASTM D 256	2.3 ft-lb/inch
Flexural strength	ASTM D 790	14,300 p.s.i.
Flexural modulus	ASTM D 790	3.8x 10~5 p.s.i.
Wear factor against steel 40 psi 50fpm		55x10~10
Coefficient of friction 40psi 50fpm		0.20 Dynamic
THERMAL PROPERTIES		
Melting point		175° C
Heat deflection at 66 psi	ASTM D 648	170° C
Heat deflection at 264 psi	ASTM D 648	136° C
Maximum service temp. for short term		150° C
Maximum serving temp. for long term		85° C
Thermal conductivity	ASTM C 177	2.60 Btu-inch/hr-ft~2- ° F
Specific heat		0.35 Btu/lb- ° F
Coefficient of linear thermal expansion	ASTM D 696	6.8x10~5
Applicable temp. range for thermal expansion		30-60° C
ELECTRICAL PROPERTIES		
Dielectric constant at 60Hz	ASTM D 150	(23° C 50% RH) 3.7
Dissipation factor at 60Hz	ASTM D 150	(23° C) 0.005
Volume resistivity	ASTM D 257	10~15 ohm-cm
Dielectric strength	ASTM D 149	500 v/MIL
MISCELLANEOUS		
Water absorption - 24 hours	ASTM D 570	0.25%
Water absorption - saturation	ASTM D 570	0.90%
Density	ASTM D 792	0.0513 lb/inch~3
Flammability	UL 94	HB
Weathering Resistance		Limited

These values are representative of those obtained under standard ASTM conditions and should not be used to design parts which function under different conditions.