# POLYMER INDUSTRIES

## Acetal

### Typical Propeties

| Property | Test Method | Units | NATURAL AND BLACK Unfilled Copolymer | Acetal esd Static Dissipative Copolymer |
|---|---|---|---|---|
| **Mechanical** | | | | |
| Specific Gravity | ASTM-D792 | --- | 1.4 | 1.33 |
| Tensile Strength | ASTM-D638 | psi | 9,000-10,200 | 6,600 |
| Elongation at Break | ASTM-D638 | % | 30-60 | 45 |
| Tensile Modulus | ASTM-D638 | psi | 400,000 | --- |
| Flexural Strength | ASTM-D790 | psi | 12,000 | 7,000 |
| Flexural Modulus | ASTM-D790 | psi | 366,000 | 210,000 |
| Compression Strength | ASTM-D695 | psi | 15,000 | --- |
| Izod Notched Impact | ASTM-D256 | ft.- lb./in | 1 | 2 |
| Rockwell Hardness | ASTM-D785 | M or R scale | M90 | --- |
| **Thermal** | | | | |
| Coef. Of Linear Thermal Expansion | ASTM-D696 | in./in./°F | $5.4x10^{-5}$ | $6.5x10^{-5}$ |
| Max Continuous Temp. | Internal Std. | °F | 185 | 185 |
| Heat Defl. Temp. @ 264 psi | ASTM-D648 | °F | 220 | 141 |
| Melting Point | ASTM-D3418 | °F | 335 | --- |
| **Electrical** | | | | |
| Dielectric Strength-Short Term | ASTM-149 | volts/mil | 500 | --- |
| Dielectric Constant @ 60 Hz | ASTM-D150 | --- | 3.8 | --- |
| Dielectric Constant @ ¯ Hz | ASTM-D150 | --- | 3.8 | --- |
| Dissipation Factor @ 60 Hz | ASTM-D150 | --- | 0.003 | --- |
| Surface Resistivity | ASTM-D257 | ohm-square | $10^{15}$ | $10^{7}x10^{10}$ |
| **Miscellaneous** | | | | |
| Water Absorption/24 hours | ASTM-D570 | % | 0.25 | 0.2 |
| Water Absorption @ Saturation | ASTM-D570 | % | 0.8 | 2.5 |
| Flammability | UL-94 | | HB | HB |
| Dynamic Coefficient of Friction | Internal Std. | | 0.21 | --- |
| **Agency Compliance** | | | | |
| FDA | --- | --- | Yes | No |
| USDA | --- | --- | Yes | No |
| NSF | --- | --- | No | No |

Note: Meets requirements for **NAVSEA** 5959311 **rev.C** and **NAVSEA** 803-**4384678 rev.B** and **C**

Polymer Industries believes that the information presented here is the best available at the time of publication. This information is intended only as a guideline and Polymer Industries makes no guarantee as to its accuracy or completeness and will not assume any obligation or liability whatsoever for the use of this information. *Nominal Property Values are based on tests of injection molded plaques; properties of extruded shapes may differ from values shown.