## Tecaform® HPV 13
## (Acetal homopolymer, PTFE-filled)(Delrin® 100AF blend alternative)

Tecaform® HPV 13 is a brown homopolymer acetal with an internal PTFE lubricant. Its low coefficient of friction, excellent PV values, toughness, wear resistance, and machinability make it an exceptional material for use in many industrial and military components with moving parts. Additionally, Tecaform® HPV 13 has superior chemical resistance and flexural fatigue properties, as well as low moisture absorption associated with acetal materials.

- No stick slip - Tecaform® HPV 13 provides less starting torque and smooth continuous operation.
- Low coefficient of friction
- Good dimensional stability
- Excellent machinability
- Good surface hardness and resilience
- Superior resistance to repeated impacts and creep
- Superior wear resistance - Improved performance, reliability, and longer life result from Tecaform® HPV 13 excellent wear resistance.
- Self-lubricating - The use of Tecaform® HPV 13 can eliminate costly lubricants; reduce maintenance costs and product contamination.
- Complies with FDA regulations 21CFR 177.2470 and 21CFR 177.105 for use in contact with food.

Tecaform® HPV 13's range of exceptional properties makes it an ideal engineering plastic for use in precision instruments and measuring devices, as well as in many critical components in the automotive, aviation, military, industrial, food processing machinery, business equipment, and specialty valve areas.

Primary Specification (Resin): ASTM D-4181 POM11OL13A00000 Shapes Specification: ASTM D-6100S-POM0132

| Properties | ASTM Test Method | Units | **Tecaform® HPV 13** |
|---|---|---|---|
| **Physical** | | | |
| Density | D792 | $lbs/in^3$ | 0.056 |
| Specific Gravity | D792 | g/cc | 1.54 |
| Water Absorption, 24 hours, 73 F | D570 | % | 0.22 |
| **Mechanical** | | | |
| Tensile Strength, Break, 73 F | D638 | psi | 12,500 |
| Tensile Modulus, 73 F | D638 | psi | 858,000 |
| Elongation, Break, 73 F | D638 | % | 17.5 |
| Flexural Strength, 73 F | D790 | psi | 10,000 |
| Flexural Modulus, 73 F | D790 | psi | 350,000 |
| Izod Impact Strength, Notched, 73 F | D256 | ft-lbs/in | 0.7 |
| Rockwell Hardness | D785 | "R" scale | 118 |
| **Thermal** | | | |
| Deflection Temperature, 66 psi | | °F | |
| Deflection Temperature, 264 psi | D648 | °F | 215 |
| Maximum Temperature, Long Term | | °F | 185 |
| Maximum Temperature, Short Term | | °F | |
| Coefficient of Thermal Expansion | D696 | in/in/°F | $5.1 \times 10^{-5}$ |
| Applicable Temperature Range for Thermal Expansion | | °F | 85 - 140 |
| Melting Point | | °F | 347 |
| **Tribological** | | | |
| Coefficient of Friction, static | | | .07 |
| Coefficient of Friction, dynamic | | | .12 |
| Wear factor | | $in^3/hr*1/PV$ | $20 \times 10^{-10}$ |
| Limiting PV, 10 fpm | | ft-lbs/min | 12,000 |
| Limiting PV, 100 fpm | | ft-lbs/min | 1,600 |

*NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets. All values at 73°F (23°C) unless otherwise noted.*