ENSINGER-HYDE
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TECAFORM™ HPV 13

(DELRIN® AF 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**
- **Superior wear resistance**
  Improved performance, reliability, and longer life result from TECAFORM™ HPV 13's excellent wear resistance.
- **Good surface hardness and resilience**
- **Superior resistance to repeated impacts and creep**
- **Self-lubricating**
  The use of TECAFORM™ HPV 13 can eliminate costly lubricants, reduce maintenance costs and product contamination.
- **Excellent machinability**
- **Complies with FDA regulation 21CFR 177.2470 for use in contact with food up to 212°F except those containing 8% alcohol. Delrin AF is not.**

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.

TYPICAL PROPERTY VALUES

	PROPERTIES	ASTM Test Method	Units	TECAFORM™ HPV 13
PHYSICAL	Density	D792	lbs/in^3	0.054
	Specific Gravity	D792	-	1.50
	Water Absorption, @ 24 hours, 73°F	D570	%	0.11
MECHANICAL	Tensile Strength @ Break, 73°F	D638	psi	7,000
	Tensile Modulus, 73°F	D638	psi	3.4×10^5
	Elongation @ Break, 73°F	D638	%	10
	Flexural Strength, 73°F	D790	psi	12,500
	Flexural Modulus, 73°F	D790	psi	3.5×10^5
	Izod Impact Strength, Notched, 73°F	D256	ft-lbs/in	1.0
	Rockwell Hardness, 73°F	D785	"R" Scale	118
	Shure Hardness	-	-	-
	Wear Factor Against Steel, 40 psi, 50 fpm	-	$\frac{in^3}{hr} \bullet \frac{1}{PV}$	20×10^{-10}
	Static Coefficient of Friction	-	-	.07
	Dynamic Coefficient of Friction, 40 psi, 50 fpm	-	-	.12
THERMAL	Heat Deflection Temperature @ 66 psi	-	-	334
	@ 264 psi	D648	°F	244
	Coefficient of Linear Thermal Expansion	D696	in/in/°F	5.1×10^{-5}
	Maximum Servicing Temperature, Intermittent	-	-	-
	Long Term	-	°F	185
	Specific Heat	-	-	-
	Thermal Conductivity	-	-	-
	Vicat Softening Point	-	-	-
	Melting Point	-	°F	347
	Flammability	-	-	-
TRIBOLOGICAL	Limiting PV, 10 fpm		ft-lbs/min	12,000
	100 fpm		ft-lbs/min	1,600

MATERIAL AVAILABILITY

Rods: Diameters: 3/16" to 6"
Length: 3/16" to 4-3/4" – 10'
5" to 6" – 5'

Plates: 1/4" to 4" thickness inclusive are 2' x 4'

Primary Specification (Typical)
ASTM D-4181 POM110L13A00000

Shapes Specification (Typical)
ASTM-D-6100S-POM0132

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

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