

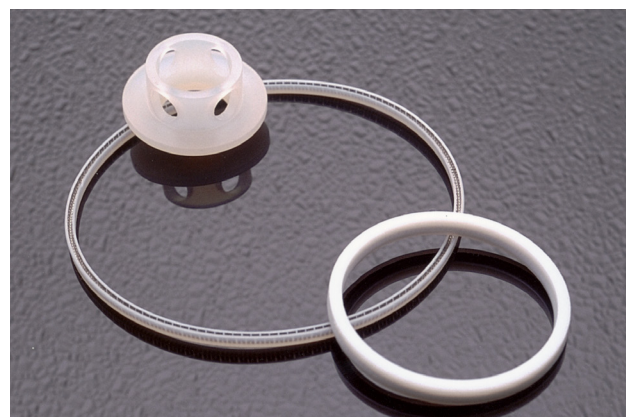
Avalon® 56 HP

High Purity Plastic Components for Wet Applications

Plastic Components

Greene Tweed offers precision plastic components designed for a variety of demanding semiconductor applications. Avalon® 56 HP, a high-performance plastic based on the latest generation modified PTFE, is ideal for improving the performance of wet wafer processing systems that require exceptional chemical resistance and very low extractable levels. In addition, Avalon® 56 HP provides a very high level of purity, a wide temperature operating range, and superior low friction and dielectric properties.

Typical Properties	
Physical Properties	Typical
Color	White
Specific Gravity	2.18
Melt Point (Powder), °F (°C)	626 (330)
Mechanical	
Tensile Strength, psi	5000
Elongation, %	450
Flexural 0.5% Secant Modulus, psi	80,000
Coefficient of Thermal Expansion, <300°F (149°C), inch/inch per °F x 10 ⁻⁵	5.5
Coefficient of Static Friction @ 33.3 psi and 150 fpm	0.05
Coefficient of Dynamic Friction PV=5000 psi ft/min.	0.08
Wear Factor, in. ³ -min./lb-ft-hr x 10 ⁻¹⁰	2500
Permanent Deformation Under Load, 2000 psi @ 78°F (26°C), %	3.2
Shear Strength @ 80°F (27°C), psi	2400
Shear Strength @ 400°F (204°C), psi	1350



Features and Benefits

- Lower void content, less porosity and minimal permeability compared to standard PTFE
- Reduced cold flow resulting in longer service life compared to standard PTFE
- Extremely low extractable levels
- Precision components available in a variety of configurations
- Lower costs of ownership and higher yields

Applications

- Valve and pump components
- Manifolds
- Wafer carriers
- Fittings
- MSE® seals
- Low-friction slide rails

Contact Us

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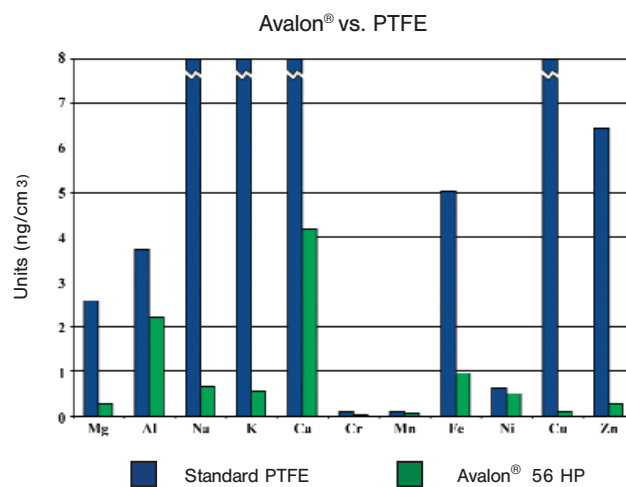
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Extractables Comparison

Elements	Avalon® 56 HP (ng/cm ³)	Standard PTFE (ng/cm ³)
Mg	0.28	2.58
Al	2.20	3.73
Na	0.67	18.10
K	0.55	18.40
Ca	4.18	21.90
Cr	0.02	0.085
Mn	0.06	0.098
Fe	0.96	5.04
Ni	< 0.50	0.63
Cu	0.09	21.40
Zn	0.28	6.43

Test conducted with 2% HNO₃ for 2 days @ 68°F (20°C).



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