



Comparative Properties of Bal Seal® Polyethylene-based Materials

Material Data Sheet
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Parameter	UPC10 Virgin UHMWPE	UPC16 Virgin UHMWPE for medical use	UP30 Filled UHMW Polyethylene	UP40 Filled UHMW Polyethylene
Application	Industrial	Medical	HPLC-long life	HPLC-long life
Chemical Compatibility	Excellent compatibility with most fluids	Excellent compatibility with most fluids	Compatible with acids and bases	Compatible with acids and bases
Compliance	FDA compliant ¹	FDA compliant ¹ USP Class VI compliant	FDA compatible ²	FDA compatible ²
Media	Aqueous solutions	Aqueous solutions	Aqueous solutions	Aqueous solutions
Temperature	-450 °F to 180 °F (-268 °C to 82 °C)	-450 °F to 180 °F (-268 °C to 82 °C)	-450 °F to 180 °F (-268 °C to 82 °C)	-450 °F to 180 °F (-268 °C to 82 °C)
Tensile Strength	8200 psi (577 kg/cm ²)	9200 psi (647 kg/cm ²)	5900 psi (415 kg/cm ²)	6400 psi (450 kg/cm ²)
Elongation	410%	440%	330%	320%
Distinguishing Applications	<ul style="list-style-type: none"> • Food contact • Industrial • Fluid components 	<ul style="list-style-type: none"> • Food contact • Medical devices • Fluid components 	<ul style="list-style-type: none"> • Liquid chromatography • Ink dispensing • Cryogenic equipment 	<ul style="list-style-type: none"> • Cryogenic components • Laboratory Equipment • Pump and valve components
Color	White, translucent	White, translucent	Gold	Gold
Cost	\$	\$	\$\$\$	\$\$\$

¹Bal Seal defines “FDA compliant” materials as compositions found by the FDA to be “safe for use in food contact” or “acceptable for use in food contact,” and to contain no ingredients on the California Code of Regulations Hazardous Substance List (<https://www.dir.ca.gov/title8/339.html>).

²Bal Seal Engineering defines “FDA compatible” as compositions where the majority (97% or more) of the ingredients have received an FDA “safe for use in food contact,” and contain no ingredients in the California Code of Regulations Hazardous Substance List. (<https://www.dir.ca.gov/title8/339.html>).

For more information, contact a technical sales representative, or e-mail us at solutions@balseal.com.

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