



# Comparative Properties of Bal Seal® Polyethylene-based Materials

Material Data Sheet  
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## Comparative Properties of Bal Seal® Polyethylene-based Materials

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

<sup>1</sup>Bal 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>).

<sup>2</sup>Bal 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](mailto:solutions@balseal.com).

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