



Filled UHMW Polyethylene (UP30)

Material Data Sheet
M-4 (Rev. 02; 11-5-20)

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Overview

UP30 is an ultra-high molecular weight (UHMW) polyethylene-based material that offers excellent sealing performance in temperatures from -450 °F to 180 °F (-268 °C to 82 °C). Its unique physical properties make it superior to PTFE-based materials in reciprocating applications sealing aqueous solutions. UP30 has been optimized for use in ultra-high performance liquid chromatography (UHPLC) pumps where long life is required.

Chemical Compatibility

UP30 is compatible with acids and bases. This material is compatible with most fluids.

For more compatibility information, request report TR-60A, or go to www.balseal.com/technical-library. Select Technical Reports, then select TR-60A, Chemical Compatibility Guide.

FDA Compliance

UP30 is FDA compatible for use in food contact. 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 listed in the California Code of Regulations Hazardous Substance List.

Color

Gold

Heat Treatment

Certain seal sizes are supplied as UP30 HT. The “HT” denotes our use of a heat treatment process to limit dimensional changes. Material properties and composition remain the same.

Mechanical Properties of UP30

Tensile Strength (typical)	Elongation (typical)	Hardness
5900 psi (407 bar)	330%	63 ShoreD (47 Rc)

Advantages of UP30

- Suitable for high pressure rotary and reciprocating applications
- High chemical resistance
- High wear and pressure/extrusion resistance
- Temperature range of -450 °F to 180 °F

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

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