



Filled UHMW Polyethylene (UP40)

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

19650 Pauling
Foothill Ranch, CA
USA 92610-2610
O +1 949 460 2100
F +1 949 460 2300

VIDA Building, 1st floor
Kabelweg 57
1014 BA Amsterdam
The Netherlands
O +31 20 638 6523
F +31 20 625 6018

Suite 901, Chinachem
Century Tower
178 Gloucester Road,
Wanchai, Hong Kong
O +852 28681860
F +852 22956753

www.balseal.com



Overview

UP40 is an ultra-high molecular weight (UHMW) polyethylene-based material similar to UP30, but made from a higher molecular weight polyethylene. It is designed for high-performance liquid chromatography (HPLC) pumps, and offers excellent sealing performance in reciprocating applications from -450 °F to 180 °F (-268 °C to 82 °C).

Chemical Compatibility

UP40 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

UP40 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 UP40 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 UP40

Tensile Strength (typical)	Elongation (typical)	Hardness
6400 psi (441 bar)	320%	63 ShoreD (47 Rc)

Advantages of UP40

- Suitable for medium pressure reciprocating and rotary 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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