



UP-30 Long-wearing UHMW Polyethylene

Material Data Sheet
M-4 (Rev. 01; 08-08-17)

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Overview

UP-30 is an ultra-high molecular weight (UHMW) polyethylene-based material that offers excellent sealing performance in temperatures from cryogenic, -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. UP-30 has been optimized for use in ultra-high performance liquid chromatography (UHPLC) pumps where long life is expected.

Chemical Compatibility

UP-30 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 and USP Compliance

UP-30 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” review.

Color

Yellow-gold

Mechanical Properties of UP-30

| ASTM Standard | Tensile Strength at Break Typical | Elongation at Break Typical |
|---------------|--------------------------------------|--------------------------------|
| D638 | 5900 psi (407 bar) | 330% |

Advantages of UP-30

- 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

Other Information

For additional information, please contact a technical sales representative at one of our offices nearest you. Bal Seal Engineering, Inc. maintains a vast library of material references and testing information.

It is essential that the customer run evaluation testing under actual service conditions with a sufficient safety factor to determine if the proposed, supplied or purchased Bal Seal Engineering, Inc. products are suitable for the intended purpose and to confirm expected results. Bal Seal Engineering, Inc. shall not be liable for any loss or damage of any kind or nature that may result from the use of, reference to, or reliance on the information contained herein, including but not limited to consequential, special (including loss of profits) direct, indirect, incidental or similar damages, even if Bal Seal Engineering, Inc. has been advised of the possibility of such damages. Products contained herein may be covered by all or in part by one or more of the following U.S. Patents: 8,054,459. Products contained herein may be covered all or in part by various pending U.S. Patents.

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