

Equipment Breaking at Low Temperatures?



Selecting the correct elastomer is critical for applications that face cold temperatures. When selecting an elastomer for standard service temperatures, you usually evaluate materials based on chemical resistance, mechanical property and operating temperature range. For cold environment applications it is often easier to first eliminate materials which operational temperatures cannot sustain flexibility at low temperatures.



New Kalrez® Low Temperature Compound

DuPont Performance Elastomers has created a new low temperature Kalrez® compound, Kalrez® Spectrum™ 0040. The new low temperature compound is capable of sustained operation at temperatures as low as -42°C. Customers can now experience the high chemical resistance of Kalrez® with a much lower operation temperature. When using a Kalrez® compounds you can rest assured that you have the broadest chemical resistance of any elastomer. Hi-Tech Seals and DuPont Performance Elastomers also provide customers with:

- Engineering and application support
- Failure analysis capabilities
- Chemical Resistance Guides
- and Kalrez® Application Guides

With a dependable product such as Kalrez® you can increase the mean time between repairs and minimize unscheduled downtime due to seal failure.

Typical Physical Properties ¹	
Colour	Black
Hardness, Durometer Shore A	70
Upper Service Temperature, °C (°F)	220 (428)
Lower Service Temperature, °C (°F)	-42 (-43.6)
Tg °C (°F)	-27 (-16.6)
Tr10 °C (°F)	-17 (1.4)

¹Not intended for design purposes



Hi-Tech Seals Inc.

Improper material selection can lead to seals leaking, cracking or swelling at low temperatures. Hi-Tech Seals is an established Canadian based company with nearly 20 years of experience handling cold temperature situations. Our experienced sales and engineering staff can help you select the correct product for your application. Some popular cold temperature materials include:

HNBR	-40 °C / -40 °F
Viton® GLT	-40 °C / -40 °F
Low Temp. Nitrile	-54 °C / -65 °F
Teflon® (PTFE)	-200 °C / -328 °F
Kalrez® Spectrum™ 0040	-42 °C / -43.6 °F

Engineering and Technical Support

Often elastomer manufacturers evaluate temperature ranges under inconsistent conditions. Seal performance at lower temperature ranges can vary dramatically based on installation method, pressure and whether it is a dynamic or static application.

The last thing you want to encounter in freezing cold weather is seal failure. Hi-Tech Seals technical sales staff and engineering department work with suppliers to identify the test conditions of various compounds. With our knowledgeable and experienced staff, we can help ensure that the correct seal is selected for your specific operating needs.



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