Application Note

Material Solutions for the Medical Industry

From critical respiratory equipment and catheters, to diagnostic tests and vial protection, consistent quality and performance over the lifetime of a medical device is essential to patient safety and ensuring medical markets run smoothly.

Formulated to withstand extreme temperatures, pressures, chemicals, manufacturing techniques, and cleaning procedures, Rogers' innovative materials are designed to enable the latest medical applications.

Our BISCO® silicone and PORON® polyurethane materials provide industry-leading sealing, impact protection and vibration management, while our DeWAL® film and laminate materials provide lubricity, chemical resistance, and bio-compatibility.

As new technologies emerge, regulatory and industry standards change, and patients' expectations of comfort rise, Rogers' extensive portfolio of elastomeric products is there to meet the demand.

	Application	*Problem*	*Solution*	*Benefit*
Medical Device, Respirator	Vibration Management	Respiratory machines are often loud, discouraging use and keeping users awake	BISCO® MF1® silicone foam	Absorbs noise and vibration, holds up well to sanitization cycles, naturally resists fungal growth
Medical Device, Electronics	Gasketing/Sealing	Internal seals protecting electronics must remain functional	BISCO® HT-800 silicone series	Superior compression set and stress relaxation, invariable with temperature
Electronic Display Gaskets	Gasketing/Sealing	Poor sealing of display allows dust and other particulates to enter the display, potential for light leakage	PORON® 4701 Firm polyurethane	Superior resistance to compression set, wide range of CFD enables long term performance and design flexibility
Laboratory Vial Protection	Cushioning	Glassware and its contents are vulnerable to damage or breakage during transport, risk of contamination	BISCO® BF-1000 Soft silicone foam series	BISCO® silicone foam is ad aptable and soft, allowing it to absorb shock while providing support for critical glassware
Minimally Invasive Endoscopic Devices	Insertion Guide Wrapping	Reduce friction during manipulation and insertion of endoscopic devices	DeWAL® DW-235 MSPU and other specialty laminate materials	Insertion guide wrap provides a low friction, low profile, inert and sterilizable surface
Cold Supply Chain Transport	Gasketing/Sealing	Dry ice used in transport of goods can activate too quickly, subcooling materials in transit	BISCO® BF-1000 Soft silicone foam series	Silicone material provides a functional seal at low temperatures, restricting air flow that could activate dry ice
PPE	Comfort, Sealing	Demand for disposable facemasks leads to shortages, high operational costs for medical facilities	BISCO® BF-2000 Soft silicone series	Silicone material withstands chemical cleaning and long-term wear, forms tight seal ensuring both safety and comfort. Material is low off-gassing and chemically resistant
Cap Liners	Gasketing/Sealing	Containers need tight seals to keep chemicals in and allow fumes to escape	DeWAL® 950, 953, 955 materials	Chemically resistant materials - at a variety of specifications – provide protection for any application
In Vitro Diagnostics	Gasketing/Sealing	Impermeable seal must be compatible with reagents and have ability to withstand repeated thermal cycles	BISCO® BF-1000 or BISCO® HT-6240	BISCO® silicone foams and solids offer a wide range of compression qualities to suit various designs
Medical Grade Filtration	Gasketing/Sealing	Filter seals must ensure process reliability and product purity	BISCO® MS-1600 silicone series	Platinum cured silicone with USP Class IV and 21CFR177 certifications
Vaporizer Heater	Gasketing/Sealing	Heat tolerant material needed to withstand thermal cycles	BISCO® BF-2000 Soft silicone series	Medical grade materials withstand extreme temperatures over long periods of time

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