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Elastomer Compatibility of P-80® Temporary Assembly Lubricants — Room Temperature (25° C)

CONCLUSION: P-80 Lubricants were found compatible with all elastomers tested.

% SWELL (mm)

	Buna-N			Neoprene			Butyl			EPDM			Viton			Silicone			Natural Rubber		
	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours
P-80 Emulsion	4.601 ± 0.004	0.8%	1.1%	2.114 ± 0.012	1.4%	1.9%	3.172 ± 0.012	0.1%	-0.2%	2.103 ± 0.004	0.2%	0.4%	2.309 ± 0.026	0.1%	0.1%	3.145 ± 0.008	0.2%	0.2%	3.034 ± 0.005	1.3%	2.5%
P-80 Thix	4.601 ± 0.009	1.3%	2.0%	2.124 ± 0.022	1.2%	2.7%	3.132 ± 0.011	0.0%	0.0%	2.117 ± 0.005	0.3%	0.3%	2.290 ± 0.032	-0.3%	-0.3%	3.145 ± 0.006	0.6%	0.6%	2.942 ± 0.009	2.2%	2.3%
P-80 Grip-it	4.626 ± 0.004	0.5%	0.8%	4.812 ± 0.008	0.7%	1.1%	3.146 ± 0.005	0.3%	0.4%	4.402 ± 0.006	0.4%	0.3%	2.273 ± 0.039	0.2%	0.1%	3.159 ± 0.001	0.5%	0.6%	2.997 ± 0.002	0.3%	1.5%
P-80 RediLube	4.602 ± 0.006	1.0%	1.5%	4.801 ± 0.007	0.3%	1.2%	3.142 ± 0.008	0.5%	0.5%	4.457 ± 0.009	0.9%	1.0%	2.194 ± 0.012	-0.3%	0.0%	3.161 ± 0.008	-0.3%	-0.9%	3.057 ± 0.028	0.1%	0.2%
Water	4.583 ± 0.008	0.1%	0.3%	2.149 ± 0.023	0.3%	1.1%	3.192 ± 0.004	-0.2%	-0.3%	2.103 ± 0.009	-0.2%	0.1%	2.290 ± 0.016	0.0%	0.0%	3.153 ± 0.008	0.1%	0.6%	2.926 ± 0.028	0.1%	0.8%
Mineral Oil	4.613 ± 0.016	0.5%	2.2%	2.136 ± 0.008	2.1%	3.4%	3.186 ± 0.004	2.2%	4.0%	2.107 ± 0.012	6.1%	10.7%	2.316 ± 0.061	0.1%	0.4%	3.147 ± 0.004	4.1%	7.4%	3.084 ± 0.027	11.3%	18.0%

Test data is for comparison purposes only. Individuals should conduct their own tests for compatibility verifications. Please contact International Products Corp. for compatibility information on any elastomer not shown.

Initial measurements: Thickness (mm) ± Standard Deviation

22-hour & 70-hour measurements: % Change of Initial Measurement

Elastomers

Buna-N, (Nitrile), Mil-R-3065, ½" x ½" x ¼"; Neoprene, ASTM D2000, Type BC, ½" x ½" x ¼"; Butyl, ASTM D2000, Type BA, ½" x ½" x ¼"; EPDM, Ethylene Propylene Diene Methylene, ASTM D2000, Type HK, ½" x ½" x ¼"; Viton, (Fluorocarbon), ASTM D2000, Type HK, ½" x ½" x ¼"; Silicone, FDA Silicone, Type ZZ-R-765-E, Class 2A & B, 50A Durometer

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Elastomer Compatibility of P-80® Temporary Assembly Lubricants — Room Temperature (25° C)

% HARDNESS - Shore A Durometer

	Buna-N			Neoprene			Butyl			EPDM			Viton			Silicone			Natural Rubber		
	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours
P-80 Emulsion	53.3 ± 0.5	-1.4%	-4.2%	61.5 ± 0.6	-0.8%	-2.4%	69.3 ± 0.5	-0.7%	-0.7%	67.5 ± 0.6	-1.5%	-2.2%	76.5 ± 0.6	-0.7%	-0.7%	57.3 ± 0.5	-3.1%	-3.9%	39.0 ± 1.6	-5.8%	-12.8%
P-80 Thix	53.5 ± 0.6	-0.9%	-2.8%	63.0 ± 1.4	-1.6%	-4.4%	69.5 ± 0.6	0.4%	-0.4%	67.5 ± 1.0	-0.4%	-0.4%	75.0 ± 0.0	0.0%	0.0%	58.5 ± 0.6	-4.7%	-4.7%	41.5 ± 0.6	-10.8%	-13.3%
P-80 Grip-it	52.7 ± 0.6	-1.9%	-3.2%	60.7 ± 0.6	-3.3%	-5.0%	68.7 ± 0.6%	1.0%	1.9%	60.7 ± 0.6%	0.6%	-0.6%	76.0 ± 1.0	0.4%	0.0%	58.3 ± 0.6	-1.1%	-6.9%	37.7 ± 0.6	-3.5%	-9.7%
P-80 RediLube	53.0 ± 1.9	-0.4%	-7.9%	59.5 ± 1.0	0.3%	-6.7%	66.2 ± 0.8	0.5%	0.2%	59.8 ± 1.0	-2.2%	-5.2%	75.7 ± 0.5	-0.5%	-4.6%	54.5 ± 0.5	-4.2%	-6.8%	32.7 ± 0.8	-9.8%	-6.7%
Water	52.8 ± 1.0	0.5%	-1.0%	62.3 ± 0.5	-2.0%	-2.4%	67.8 ± 0.5	1.5%	0.0%	66.5 ± 0.6	2.6%	1.5%	75.5 ± 0.6	0.0%	2.3%	55.0 ± 0.8	-0.9%	-0.5%	37.5 ± 0.6	0.0%	-2.0%
Mineral Oil	52 ± 0	-2.4%	-7.2%	61.8 ± 0.5	-6.1%	-8.9%	68.5 ± 1.0	-1.5%	-5.8%	67.8 ± 0.5	-10.0%	-17.0%	75.8 ± 0.5	-0.3%	-0.3%	57 ± 0	-9.2%	-10.1%	37.3 ± 0.5	-26.2%	-33.6%

% MASS (g)

	Buna-N			Neoprene			Butyl			EPDM			Viton			Silicone			Natural Rubber		
	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours	Initial	22 Hours	70 Hours
P-80 Emulsion	4.3295	0.2%	0.5%	1.7618	1.0%	1.9%	2.6885	0.0%	-0.1%	1.9116	0.1%	0.2%	2.6809	0.1%	0.1%	2.5017	0.2%	0.3%	2.0444	1.0%	2.1%
P-80 Thix	4.0706	0.4%	1.0%	2.0452	1.5%	3.1%	2.6052	-0.1%	0.1%	1.8907	0.4%	0.9%	2.5579	0.1%	0.1%	2.3628	0.2%	0.3%	2.117	1.2%	2.5%
P-80 Grip-it	4.2189	0.4%	0.7%	3.9617	0.9%	1.8%	2.6039	-0.3%	-0.2%	3.412	0.0%	0.0%	2.3972	0.1%	0.1%	2.4154	0.5%	0.8%	2.0644	1.2%	2.3%
P-80 RediLube	3.9975	1.0%	2.3%	4.0651	1.3%	3.5%	2.6615	0.3%	0.7%	3.4659	0.8%	1.8%	2.9	0.2%	0.4%	2.7102	0.4%	0.6%	1.7355	3.5%	7.1%
Water	4.174	0.2%	0.3%	2.0998	0.5%	1.3%	2.7467	0.0%	0.0%	1.9275	0.1%	0.1%	3.0248	0.1%	0.1%	2.5843	0.1%	0.1%	2.0149	0.8%	1.5%
Mineral Oil	4.0877	1.3%	2.4%	1.6717	3.5%	6.5%	2.7360	3.4%	6.6%	1.4655	12.9%	26.1%	2.9116	0.0%	0.0%	2.5404	12.4%	15.0%	1.9761	33.3%	64.7%

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Test Method: ASTM D471-79 (1991).

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