Technical Bulletin

BISCO® Silicones Chemical Resistance Guide

ROGERS CORPORATION

BISCO® silicone materials provide design solutions for applications in transportation, communication, industrial and medical markets. The following chemical resistance information, when used with the typical physical properties for each material, is provided to assist in assessing suitability for each application.

In general, BISCO silicone materials show excellent or very good resistance to exposure to diluted acids and bases, organic fluids, and petroleum products. When immersed, the materials can exhibit moderate swelling and a reduction in properties.

RATING KEY	1	2	3	4	5
Tensile Strength & Dimensional Stability **(% Change)**	0-20	20-40	40-60	60-80	80-100
Compression Set **(% Actual)**		5-10	10-15	15+	

	BISCO® Silicone BF-1000					BISCO® Silicone HT-800 Series				
	Tensile Strength		Dimensional Stability		Compression Set	Tensile Strength		Dimensional Stability		Compression Set
SOLVENT MEDIUM	Wet	Dry	Wet	Dry	Dry	Wet	Dry	Wet	Dry	Dry
ACIDS & BASES										
10% Sulfuric acid	1	1	1	1	1	1	1	1	1	1
10% Hydrochloric acid	2	2	1	1	1	1	1	1	1	1
10% Acetic Acid	2	1	1	1	1	3	1	1	1	1
10% Sodium bicarbonate	1	1	1	1	1	1	1	1	1	1
10% Ammonia water	1	1	1	1	1	1	1	1	1	1
10% Potassium hydroxide	1	1	1	1	1	1	1	1	1	1
ALCOHOLS										
Isopropyl alcohol	2	1	1	1	1	2	1	1	1	1
Methyl alcohol	2	1	1	1	1	1	1	1	1	1
AUTOMOTIVE FLUIDS										
Gasoline	4	1	2	1	1	4	1	2	1	1
HOUSEHOLD CLEANERS										
Mr. Clean®	1	1	1	1	1	1	1	1	1	1
Fantastik®	2	1	1	1	1	1	1	1	1	1
Formula 409®	1	1	1	1	1	1	1	1	1	1
MISCELLANEOUS										
Distilled Water	1	1	1	1	1	1	1	1	1	1

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BISCO® Silicones Chemical Resistance Guide, cont'd

RATING KEY	1	2	3	4	5
Tensile Strength & Dimensional Stability **(% Change)**	0-20	20-40	40-60	60-80	80-100
Compression Set **(% Actual)**		5-10	10-15	15+	

	BISCO® Silicone General Purpose Solids					BISCO® Silicone Performance Solids				
	Tensile Strength		Dimensional Stability		Compression Set	Tensile Strength		Dimensional Stability		Compression Set
SOLVENT MEDIUM	Wet	Dry	Wet	Dry	Dry	Wet	Dry	Wet	Dry	Dry
ACIDS & BASES										
10% Sulfuric acid	1	1	1	1	1	1	1	1	1	1
10% Hydrochloric acid	1	2	1	1	1	1	1	1	1	1
10% Acetic Acid	1	1	1	1	1	1	1	1	1	1
10% Sodium bicarbonate	1	1	1	1	1	1	1	1	1	1
10% Ammonia water	1	1	1	1	1	1	1	1	1	1
10% Potassium hydroxide	1	1	1	1	1	1	1	1	1	1
ALCOHOLS										
Isopropyl alcohol	1	1	1	1	1	1	1	1	1	1
Methyl alcohol	1	1	1	1	1	1	1	1	1	1
AUTOMOTIVE FLUIDS										
Gasoline	3	1	2	1	1	2	1	2	1	1
HOUSEHOLD CLEANERS										
Mr. Clean®	1	1	1	1	1	1	1	1	1	1
Fantastik®	1	1	1	1	1	1	1	1	1	1
Formula 409®	1	1	1	1	1	1	1	1	1	1
MISCELLANEOUS										
Distilled Water	1	1	1	1	1	1	1	1	1	1

Test Method: Immersion duration for 168 hours (1 week) at room temperature, followed by 48 hours (2 days) drying. Material properties evaluated were tensile strength, dimensional stability and compression set resistance.