PORON® Polyurethane

CHEMICAL RESISTANCE GUIDE

PORON® polyurethane materials provide design solutions for applications in transportation, communication, and industrial 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.

Tensile Strength & Dimensional Stability (% Change)

1: 0-20 | 2: 20-40 | 3: 40-60 | 4: 60-80 | 5: 80-100

Compression Set (% Actual)

1: 0-10 | 2: 10-20 | 3: 20-30 | 4: 30-40 | 5: 40-50

	TENSILE STRENGTH								DIMENSIONAL STABILITY								COMPRESSION SET			
	WET				DRY				WET				DRY				DRY			
SOLVENT MEDIUM	30	40	50	60	30	40	50	60	30	40	50	60	30	40	50	60	30	40	50	60
Acids and Bases																				
10% Ammonia Water	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
10% Acetic Acid	2	3	3	3	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	3
10% Citric Acid	1	2	2	5	1	1	2	5	1	1	1	1	1	1	1	1	1	1	1	3
10% Hydrochloric Acid	1	2	2	3	1	2	1	3	1	1	1	1	1	1	1	1	1	1	2	4
10% Nitric Acid	4	3	4	5	5	4	4	5	1	1	1	1	5	1	1	1	5	5	5	5
10% Phosphoric Acid	1	1	1	5	2	1	1	5	1	1	1	1	1	1	1	1	3	1	1	3
10% Potassium Hydroxide	2	1	1	2	5	1	1	1	1	1	1	1	5	1	1	1	5	2	1	2
10% Sodium Bicarbonate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10% Sodium Hydroxide	1	1	1	1	5	1	1	1	1	1	1	1	5	1	1	1	5	1	1	1
10% Sulfuric Acid	2	1	1	5	1	1	1	5	1	5	1	1	1	1	1	1	3	1	1	3
Organic Fluids																				
Acetone	5	5	5	5	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1
Carbon Tetrachloride	4	4	4	4	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1
Diethyl Amine	3	4	4	3	1	1	1	3	2	1	1	1	1	1	1	1	1	1	1	3
Diethyl Ether	4	5	5	5	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1
Ethyl Acetate	5	5	5	4	1	2	1	4	3	1	2	2	1	1	1	1	1	1	1	3
Hexane	3	3	3	3	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	3
Isopropyl Alcohol	4	5	5	5	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	4
Methanol	4	5	5	5	1	1	1	1	2	1	1	2	1	1	1	1	1	1	1	1
Methyl Ethyl Ketone	4	5	5	5	1	1	1	2	3	3	3	2	1	1	1	1	1	1	1	4
Methylene Chloride	5	5	5	5	1	1	1	2	5	3	3	2	5	1	1	1	5	1	1	3
Tetrahydrofuran	5	5	5	5	5	1	1	5	4	5	3	3	1	5	1	1	1	1	1	3
Toluene	4	5	5	5	1	1	1	2	3	2	2	1	1	1	1	1	1	1	1	4
Trichloroethylene	5	5	5	5	1	1	1	5	3	2	2	2	1	1	1	1	1	1	1	3
Xylene	4	5	5	5	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	4
Automotive Fluids																				
Brake Fluid	4	5	5	5	4	5	5	5	2	2	2	2	1	2	1	1	1	1	1	1
Coolant (50% Ethylene Glycol)	1	2	3	3	1	2	2	3	1	1	1	1	1	1	1	1	1	1	1	4
Dimethylcarbonate	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Gasoline	4	4	4	4	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	4
Motor Oil	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Power Steering Fluid	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Transmission Fluid	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Windshield Washer Fluid	2	2	2	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Miscellaneous																				
Bleach	1	2	2	3	2	1	3	4	1	1	1	1	1	1	1	1	3	2	2	2
Distilled Water	1	2	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
3% Hydrogen Peroxide	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Mineral Spirits	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Naphtha	2	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Salad Oil	4	1	1	3	1	1	1	4	1	1	1	1	1	1	1	1	1	1	1	2
Sea Water	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

ROGERS CORPORATION

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		THICKNESS	
CHART DESCRIPTION	PORON® POLYURETHANE	inches	mm
30	4701-30	0.125	3.18
40	4701-40	0.125	3.18
50	4701-50	0.125	3.18
60	4701-60	0.125	3.18

All listed values are typical. Typical values are a representation of an average value of the property for a given population of the product. For specification values contact Rogers Corporation.

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. Please refer to the Industrial Materials Physical Properties data sheet for specific test methods.

RESULTS:

In general, PORON® Polyurethane materials show excellent or very good resistance when exposed to dilute acids and bases, organic fluids and petroleum products. When wet, the materials exhibit swelling and a reduction in properties.

For additional product and design recommendations, please contact your Rogers Sales Engineer.