



Chemical Resistance
Fast Set Polyurea Spray System
Penatron 1007

The test for chemical resistance is based on test data from raw material suppliers using the immersion method of exposure for a coating system to chemicals. In this test method an aromatic polyurea spray coating system, Penatron 1007, was used. This system was applied to a 2 mil blast profile on steel panels providing complete test sample coverage/encapsulation. These coated test samples were then immersed halfway into specific chemicals for a period of 1 year at 25 degrees C, except where noted. The test samples were removed and examined, resulting in the following table. Resistance depends on actual environmental conditions and the temperature of the chemicals that the product is exposed to. An aliphatic polyurea/aspartic, non-pigmented slow set system, Penatron 5500, is also shown.

It is suggested that the product always be tested against the chemical materials that it will be exposed to before any application is made. The product is not resistant to some chemicals, but little damage will result with quick clean up.

Key Chemical Resistance - ASTM D 1308

<u>Resistant</u>	=	R
<u>Spill Resistant/Short Term Exposure Slight Visible Change, Resistant Effect, Slight Swelling, Color Change</u>	=	S
<u>Not Resistant, Not Recommended</u>	=	N

Chemical	Aromatic Polyurea	Aliphatic Polyurea Slow System
Acetone	R	R
Brake Fluid	R/S	R
Gasoline	R	R
Chlorine Bleach 10%	R	R
Hexane	R	R
Hot Brominated Water	R/S	R
Hydraulic Oil	R	R
Methanol	R	R
Methanol/Gasoline – 5%	R	R
Engine Oil	R	R
Propylene Carbonate	R	R
Vinegar @ 5% Acetic Acid	R	R
Water	R	R

Chemical	Comments	Aromatic Polyurea
Acetic @ 10%	No visible change	R
Acetic @ 30%	Slight color change, no damage	R
Acetic @ 90%	Color change & damage	N
Citric @ 30%	Slight color change, no damage	R
Hydrochloric @ 5%	No visible damage	R
Hydrochloric @ 10%	No visible damage	R
Sulfuric @ 5%, 10%	No visible damage	R
Sulfuric @ 3%, @ 50° C -14 days	No visible damage	R
Phosphoric Acid @ 10%	No visible damage	R
Ammonium Hydroxide @ 10%	No visible damage	R
Ammonium Hydroxide @ 20%	No visible damage	R

Chemical	Comments	Aromatic Polyurea
Sodium Hydroxide @ 50%	Color change, no hardness change	R
Sodium Hydroxide @ 1% @ 50° C-14 days	Color change, no hardness change	R
Potassium Hydroxide @ 10%	No visible damage	R
Potassium Hydroxide @ 20%	Color change, no hardness change	R
Methanol	Surface color change	R
Gasoline	Slight surface change, no hardness change	R
Diesel Fuel	No visible damage	R
Toluene	Surface change	R
Engine Oil	Slight surface change, no hardness change	R
Engine Coolant	No visible damage	R
Transmission Fluid	Slight surface change, no hardness change	R
Ethanol @ 30%	Clean immediately	S/R
Skydrol	Clean immediately	S/R
Jet Fuel – Civil	Slight visible change	R/S
Methylene Chloride	Surface damage only if cleaned immediately	N
MEK	Surface damage only if cleaned immediately	N
Zylene	Clean immediately	S/E

This chart describes the chemical resistance of selected polyurea spray systems. The products tested represent Aromatic and Aliphatic polyurea spray systems and were tested per ASTM D 1308 & 3912 at 25° C. Visual observations are noted. These test results are to be used only as a guide to the applicability of the polyurea spray systems in a variety of possible applications and it is the responsibility of each user of fast set spray polyurea products to test and assess the suitability of the products prior to use. Chemical concentrations and percentages of strength vary widely. No guarantee or warranty concerning the use of these systems is intended or implied.