



## S-41 CORROSION RESISTANT MEMBRANE

### PRODUCT DESCRIPTION:

S-41, when installed as a system with S-40 and S-45, forms an acid, alkali and water-resistant barrier as well as a flexible membrane between Summitville floor brick and concrete substrates. S-41 is a hot melt oxidized asphaltic compound free from fillers or other adulterants. S-41 contains no coal tar, phenol or naval store products. S-41 will not be attacked when immersed for 5 days at 75°F in each of the following solutions:

1% Sulfuric Acid

5% Sodium Hydroxide

5% Potassium Hydroxide

Water saturated with H<sub>2</sub>S

For full testing information, see chemical resistance reference chart

### USES:

The S-40/41/45 system is recommended for use as an impervious membrane under chemical resistant brick in corrosive environments such as flooring, walls, sumps, trenches, secondary containment barriers, concrete tanks, and manholes in steel, chemical, pulp, paper and refining industry applications. It protects concrete against highly corrosive chemical attacks and isolates brick from structural movement of the concrete. The S-40, 41, 45 system is not intended for use as an uncovered membrane as it can be affected by thermal and/or mechanical damage if not protected by brick coverings. The S-40, 41, 45 system is not recommended for use with organic solvents, some organic acids and strong oxidizers.

### TECHNICAL DATA: Physical Properties

Property	Test Method	Typical Value
Ash		Less than 0.2%
Specific Gravity @ 77°F (25°C)	ASTM D71	.95 to 1.1
Ball and Ring Melting Point °F	ASTM D36	200 to 225 (93.3°C to 107.2°C)
Penetration @ 77°F (25°C) 100 gm.-5 sec.	ASTM D5	30 to 50
Penetration @ 115°F (46.1°C) 50 gm.-5 sec.	ASTM D5	75 max.
Flash Point °F	ASTM D92	500 (260°C)
Fire Point °F	ASTM D92	500 (260°C)

### Application of S-41 and S-45:

Substrate temperature and atmosphere must be 50°F to 90°F. Substrate must be 5°F above the dew point. Substrate must be protected from direct sunlight and all water and weather until chemical final surface has been installed. Substrate must also be dry enough to pass the ASTM D 4263 Plastic Sheet Test Method. Heat S-41 to a temperature of 350 degrees F to 400 degrees F (177 degrees to 204 degrees C). Pour three or four gallons at a time on the primed concrete and quickly spread to a uniform thickness by squeegee or mop. Mopping will allow installer to build the required two layers of 1/8" minimum thickness each, at a faster rate. The squeegee should be straight-edged piece of Masonite, or similar, of such size as to be able to be worked with one hand. In order to build up a 1/8" (3mm), layer two or three applications are required. Seventy-five pounds (34 kg) of S-41 should be applied per 100 sq. ft. (9.3 sq. M) as a total of two or more layers totaling 1/8" **before** the cloth is installed. Each application layer should be thin so that all bubbles in

the S-41, resulting from the freeing of air and moisture entrapped in concrete, will be broken. Inspect for pinholes after each application and mark any defects with chalk. In subsequent applications, it is essential that all marks be covered. **After** the 75 pounds per 100 sq. ft (1/8" 93mm) layer of S-41 has been applied, S-45 textile is placed on its surface and smoothed out as much as possible. All edges must be overlapped at least 2 inches (50 mm). **The final** 1/8" (3mm) layers of S-41 are then applied as noted above making sure to apply 75 lbs. (34 kg) of S-41 per 100 sq. ft. (9.3 sq. M) to assure a 1/8" (3mm) minimum thickness. Fine silica flour can be sprinkled over the finished surface to prevent it from sticking to workers' shoes or to boards laid down for use as walkways. If the silica flour is used between layers, be certain to remove it completely before applying the next layer, otherwise the silica flour will act as a bond breaker and the layers will not adhere to each other.

No traffic or equipment must be permitted on the S-41 membrane until the brick sheathing, that is always required, is installed and the setting mortar at minimum has fully cured.

**COVERAGE TOTALS:**

~150 lbs. required for each 100sq. ft of surface.

**PACKAGING:**

S-41 is available in 100-pound fiber drum.

**SPECIFICATIONS:**

Material: S-41 shall be used as a chemical resistant membrane on which tile or floor brick may be set. S-41 asphaltum shall be a hot melt oxidized asphaltic compound free from fillers or other adulterants. It shall contain no coal tar, phenol or naval store products. S-41 shall be used in conjunction with S-40 primer and S-45 cloth. S-41 shall be supplied by Summitville Tiles Inc., Summitville, Ohio.

## S-41 Chemical Resistance Reference Guide

Chemical	80°F	150°F	Chemical	80°F	150°F	Chemical	80°F	150°F
Acetaldehyde	C	C	Ethylene Chloride	N	N	Picric Acid	N	N
Acetic Acid, up to 10%	C	N	Ethylene Glycol	R	R	Potassium Bicarbonate, Carbonate	R	R
Acetic Acid, Glacial	N	N	Fluosilicic Acid	C	C	Potassium Chloride, Cyanide	R	R
Alum	R	R	Formaldehyde	C	C	Potassium Ferricyanide	R	R
Aluminum Chloride Nitrate, Sulfate	R	R	Formic Acid	C	N	Potassium Ferrocyanide	R	R
Ammonium Chloride	R	R	Gasoline	N	N	Potassium Hydroxide, up to 30%	R	C
Ammonium Hydroxide	R	C	Glycerine	R	R	Potassium Hydroxide, 30% and over	C	N
Ammonium Nitrate, Sulfate	R	R	Gold Cyanide	R	R	Potassium Nitrate, Sulfate	R	R
Amyl Acetate	N	N	Hexane	N	N	Pyridine	N	N
Amyl Alcohol	R	R	Hydrobromic Acid	R	R	Rochelle Salt	R	R
Aniline	N	N	Hydrochloric Acid	R	R	Salicylic Acid	R	R
Aqua Regia	N	N	Hydrocyanic Acid	R	R	Silver Nitrate	R	R
Barium Chloride	R	R	Hydrofluoric Acid	C	C	Sodium Acetate	R	R
Barium Hydroxide	R	R	Hydrofluosilicic Acid	C	C	Sodium Bicarbonate	R	R
Barium Nitrate	R	R	Hydrogen Peroxide	C	C	Sodium Carbonate	R	R
Barium Sulfide	C		Hydrogen Sulfide Gas, Dry	R	R	Sodium Chloride	R	R
Benzene	N	N	Hydrogen Sulfide Gas, Wet	R	R	Sodium Cyanide	R	R
Benzene Sulfonic Acid, 10%	R	R	Iron Chlorides, Nitrates, Sulfates	R	R	Sodium Hydroxide, up to 30%	R	C
Benzoic Acid	R	R	Isopropyl Ether	N	N	Sodium Hydroxide, 30 % and over	C	N
Boric Acid	R	R	Kerosene	N	N	Sodium Hypochlorite, up to 3%	C	C
Bromine Water	N	N	Lactic Acid	R	R	Sodium Hypochlorite, 15 % and over	N	N
Butyl Acetate	N	N	Lead Acetate, Nitrate	R	R	Sodium Nitrate, Sulfate	R	R
Butyl Alcohol	R	R	Linseed Oil	N	N	Sodium Sulfide	C	C
Butyric Acid	N	N	Magnesium Chloride	R	R	Sodium Sulfite	R	R
Cadmium Chloride, Nitrate, Sulfate	R	R	Magnesium Hydroxide	R	R	Sodium Thiosulfate	R	R
Calcium Bisulfite, Chloride	R	R	Magnesium Nitrate, Sulfate	R	R	Soya Oil	N	N
Calcium Hydroxide	R	C	Maleic Acid	R	C	Stearic Acid	C	N
Calcium Nitrate	R	R	Mercuric Acetate	R	R	Sulfur Dioxide Gas, Dry	R	R
Carbon Disulfide	N	N	Methyl Acetate	N	N	Sulfur Dioxide Gas, Wet	R	R
Carbon Tetrachloride	N	N	Methyl Alcohol	R	R	Sulfur Trioxide Gas, Dry	R	R
Chlorine Dioxide, Water soln.	N	N	Methyl Ethyl Ketone	N	N	Sulfur Trioxide Gas, Wet	R	R
Chlorine Gas, Dry	R	R	Methyl Sulfate	N	N	Sulfuric Acid, up to 50%	R	R
Chlorine Gas, Wet	R	C	Mineral Oil	N	N	Sulfuric Acid, 80%	C	N
Chlorine Water	C	C	Mineral Spirits	N	N	Sulfuric Acid, 93%	N	N
Chloroacetic Acid, 10%	N	N	Muriatic Acid	R	R	Sulfuric Acid, over 93%	N	N
Chlorobenzene	N	N	Nickle Chloride, Nitrate, Sulfate	R	R	Sulfuric Acid, fuming	N	N
Chloroform	N	N	Nitric Acid, up to 5%	R	R	Sulfurous Acid	R	R
Chromic Acid, up to 5%	R	C	Nitric Acid, 20%	R	C	Tannic Acid	R	R
Chromic Acid, 10%	R	C	Nitric Acid, 40%	N	N	Tartaric Acid	R	R
Chromic Acid, 20%	C	C	Nitric Acid, 50% and over	N	N	Tin Chloride, Sulfate	R	R
Chromic Acid, 50% and over	N	N	Nitrobenzene	N	N	Toluene	N	N
Citric Acid	R	R	Oleic Acid	C	N	Trichloroethylene	N	N
Copper Chloride, Nitrate, Sulfate	R	R	Oxalic Acid	R	R	Trisodium Phosphate	C	N
Dichloroacetic Acid, 10%	N	N	Perchloric Acid	N	N	Tung Oil	N	N
Dichlorobenzene	N	N	Phenol	N	N	Urea	R	R
Diethyl Ether	N	N	Phosphoric Acid	R	R	Sylene	N	N
Ethyl Acetate	N	N	Phosphorous Acid	R	R	Zinc Chloride, Nitrate, Sulfate	R	R
Ethyl Alcohol	R	R	Phosphorous Trichloride	R	R			
Ethyl Sulfate	N	N	Phthalic Acid	R	R			

R= Recommended

N= Not Recommended

C=Conditional, Contact Summitville Tiles, Inc before use