



B. WORK TOP PERFORMANCE REQUIREMENTS: (KEMRESIN)

1. Molded Epoxy Resin:

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1) Physical Properties:

Flexural Strength (A.S.T.M. Method D790-90) =	15,000 PSI
Compressive Strength (A.S.T.M. Method D695-90) =	30,000 PSI
Hardness, Rockwell E (A.S.T.M. Method D785-89) =	100
Water Absorption (A.S.T.M. Method D570-81)% by weight, 24 Hours =	0.04
% by weight, 7 Days =	0.05
% by weight, 2 Hour Boil =	0.04
Specific Gravity =	1.97
Tensile Strength =	8,500 PSI

2) Performance Test Results (Heat Resistance):

A high form porcelain crucible, size 0, 15 ml capacity, shall be heated over a Bunsen burner until the crucible bottom attains an incipient red heat. Immediately, the hot crucible shall be transferred to the top surface and allowed to cool to room temperature. Upon removal of the cooled crucible, there shall be no blisters, cracks or any breakdown of the top surface whatsoever.

3) Performance Test Results (Chemical Resistance):

Tops shall resist chemical attacks from normally used laboratory reagents. Weight change of top samples submerged in the reagents* listed in the next paragraph for a period of seven (7) days shall be less than one-tenth of one percent, except that the weight change for those reagents marked with ** shall be less than one percent. (Tests shall be performed in accordance with A.S.T.M. Method D543-67 at 77o F.).

*Where concentrations are indicated, percentages are by weight.

Acetic Acid, Glacial	Iso-Octane
Acetic Acid, 5%	Kerosene
Acetone	Methyl Alcohol
Ammonium Hydroxide, 28%	Mineral Oil
Ammonium Hydroxide, 10%	Methyl Ethyl Ketone
Aniline Oil	Nitric Acid, 70%**
Benzene	Nitric Acid, 40%
Carbon Tetrachloride	Nitric Acid, 10%
Chromic Acid, 40%**	Oleic Acid
Citric Acid, 10%	Olive Oil
Cottonseed Oil	Phenol, 5%
Dichromate Cleaning Solution**	Soap Solution, 1%
Diethyl Ether	Sodium Carbonate, 20%
Dimethyl Formamide	Sodium Carbonate, 2%
Distilled Water	Sodium Chloride, 10%
Detergent Solution, 1/4%	Sodium Hydroxide, 50%
Ethyl Acetate	Sodium Hydroxide, 10%
Ethyl Alcohol, 95%	Sodium Hydroxide, 1%
Ethyl Alcohol, 50%	Sodium Hypochlorite, 5%
Ethylene Dichloride	Sulfuric Acid, 85%
Heptane	Sulfuric Acid, 30%
Hydrochloric Acid, 37%	Sulfuric Acid, 3%
Hydrochloric Acid, 10%	Toluene
Hydrogen Peroxide, 28%	Transformer Oil
Hydrogen Peroxide, 3%	Turpentine

NOTE: Dichromate cleaning solution is a formula from Lange's Handbook of Chemistry.

4) Performance Test Results (Chemical Spot Tests - 24 Hours):

Chemical spot tests shall be made by applying 10 drops (approximately 1/2 cc) of each reagent to the surface to be tested. Each reagent (except those marked **) shall be covered with a 1-1/2" diameter watch glass, convex side down to confine the reagent. Spot tests of volatile solvents marked ** shall be tested as follows: A 1" or larger ball of cotton shall be saturated with the solvent and placed on the surfaces to be tested. The cotton ball shall then be covered by an inverted 2-ounce, wide mouth bottle to retard evaporation. All spot tests shall be conducted in such a manner that the test surface is kept wet throughout the entire 24-hour test period and at a temperature of 77 degrees F. + 3 degrees F. At the end of the test period, the reagents shall be flushed from the surfaces with water and the surface scrubbed with a soft bristle brush under running water, rinsed, and dried. Volatile solvent test areas shall be cleaned with a cotton swab soaked in the solvent used on the test area. Spots where dyes have dried shall be cleaned with a cotton swab soaked in alcohol to remove the surface dye. The test panel shall then be evaluated immediately after drying.

Ratings:

- A = No effect or slight change in gloss.
- B = Slight change in color or marked loss of gloss.
- C = Slight surface etching or severe staining.
- D = Swelling, pitting, or severe etching.

Reagents*	Rating
Acetic Acid, 98%	A
Acetone**	A
Ammonium Hydroxide, 28%	A
Carbon Tetrachloride**	A
Chloroform**	A
Chromic Acid, 60%	C
Chromic Acid, 40%	C
Dichromate Cleaning Solution***	C
Dimethyl Formamide	A
Ethyl Acetate**	A
Ethyl Alcohol**	A
Formaldehyde, 37%	A
Formic Acid, 90%	A
Hydrochloric Acid, 37%	A
Hydrofluoric Acid, 48%	C
Hydrogen Peroxide, 28%	A
Methanol**	A
Methylethyl Ketone**	A
Nitric Acid, 70%	B
Phenol, 85%	A
Phosphoric Acid, 85%	A
Sodium Carbonate, 20%	A
Sodium Hydroxide, 40%	A
Sodium Hydroxide, 10%	A
Sodium Hypochlorite, 5%	A
Sulfuric Acid, 96%	D
Sulfuric Acid, 85%	A
Toluene**	A
Wrights Blood Stain	A
Xylene**	A

* Where concentrations are indicated, percentages are by weight.

** Indicates these solvents tested with cotton and jar method.

*** Dichromate cleaning solution is a formula from Lange's Handbook of Chemistry.