

ARTICLE: KNB0028

SUBJECT: SUPERTHANE CHEMICAL AND SOLVENT RESISTANCE

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The chemical and solvent resistance of Superthane films has been tested on the following build-up applied to sandblasted iron bolts.

- 1 coat of HMG 2 pack Yellow Etch Primer
- 1 coat of HMG Polykote Primer
- 2 coats of HMG Superthane

The individual coats were applied at 24 hour intervals. To eliminate as far as possible any influence on the chemical resistance of the system through solvent retention, testing was started only after 3 months of storage at room temperature.

The symbol “>” (= larger than) means that after the immersion time of the specimen listed behind the symbol there still has been no change or further change of the finish.

The result list in the column “incipient surface change” refers to the first changes in the surface of the film becoming visible, e.g. Isolated microscopically fine blisters, slight softening of film surface, etc.

	Incipient Surface Change	Nature Of Change	No More Protection
Tap water	13 months	Small blisters	>20 months
Distilled water	13 months	Small blisters	>20 months
Sea water	13 months	Small blisters	>20 months
Hydrochloric acid 5%	15 months	Small blisters	>20 months
Hydrochloric acid 10%	6 months	Small blisters	>20 months
Acetone	>3 months	Softening	>20 months
Methyl ethyl ketone	>15 months	Softening	>20 months
Methyl isobutyl ketone	>20 months		
Cyclohexanone	>20 months		
Diacetone alcohol	>20 months		
Formaldehyde 40%	>16 months	Gloss reduction	>20 months
Dimethyl formamide	3 months	Softening	>20 months
Methylene chloride	3 days	Blisters	3 days
Chloroform	3 days	Blisters	3 days
Carbon tetrachloride	>20 months		

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	Incipient Surface Change	Nature Of Change	No More Protection
Dichloroethane	0.5 months		0.5 months
Dichloropropane	>10 months		
Trichloroethane	>10 months		
Perchloroethane	>10 months		
Chlorinated benzene	>18 months		
Clophen A 30	>20 months		
Clophen A 60	>20 months		
Caprolactam 100%	>20 months		
Caprolactam 50%	>20 months		
Caprolactam 30%	>20 months		
Caprolactam 20%	>20 months		
Tartar 5%	>16 months	Small blisters	>20 months
Skydrol A 500	>20 months		
Trikresyl phosphate	>20 months		
Wash liquor 3%	12 months	Small blisters	>20 months
Dish washer detergent 3%	12 months	Small blisters	>20 months
Vehicle cleaner (acid) 100%	6 months	Small blisters	>20 months
Vehicle cleaner (acid) 10%	>9 months	Small blisters	>20 months
Jet fuel	>6 months		
Electrophoresis lacquer	>5 months		
Sulphuric acid 5%	15 months	Small blisters	>20 months
Sulphuric acid 10%	15 months	Small blisters	>20 months
Sulphuric acid 20%	15 months	Small blisters	>20 months
Sulphuric acid 30%	1 month	Small blisters	>2 months
Sulphuric acid 50%	1 month	Small blisters	>2 months
Nitric acid 5%	13 months	Small blisters	>2 months
Nitric acid 10%	6 months	Small blisters	>13 months
Phosphoric acid 5%	15 months	Small blisters	>20 months
Phosphoric acid 50%	>9 months	Small blisters	
Boric acid 10%	15 months	Small blisters	>20 months
Caustic soda solution 5%	9 months	Gloss reduction	>20 months
Caustic soda solution 10%	9 months	Gloss reduction	>20 months
Caustic soda solution 20%	9 months	Gloss reduction	>20 months
Caustic soda solution 30%	9 months	Gloss reduction	>20 months
Caustic soda solution 40%	9 months	Gloss reduction	>20 months
Caustic potash solution 5%	9 months	Gloss reduction	>20 months
Caustic potash solution 10%	9 months	Gloss reduction	>20 months
Caustic potash solution 20%	9 months	Gloss reduction	>20 months
Ammonia 5%	0.5 months	Blisters	2 months
Ammonia 10%	0.5 months	Blisters	1 month
Ammonia 20%	3 days	Blisters	0.5 months
Hydrazine hydrate	7 days	Blisters & softening	7 days

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	Incipient Surface Change	Nature Of Change	No More Protection
Soda solution 5%	>20 months		
Soda solution 10%	>20 months		
Sodium bicarbonate 10%	>20 months		
Common salt solution 5%	>20 months		
Common salt solution 10%	>20 months		
Ammonium chloride 30%	>20 months		
Chloride of lime solution 1%	>8 months		
Formic acid 5%	1 month	Blisters	2 months
Formic acid 10%	1 month	Blisters	2 months
Acetic acid 5%	5 months	Blisters	6 months
Acetic acid 10%	2 months	Blisters	2 months
Oxalic acid 10%	>20 months	Blisters	
Citric acid 10%	>20 months		
Lactic acid 5%	>20 months		
Lactic acid concentrate	18 months	Small blisters	>20 months
Tartaric acid 5%	>20 months		
Oleic acid	>20 months		
Linseed fatty acid	>20 months		
Succinic acid 10%	13 months	Small blisters	>20 months
Coconut fatty acid	>20 months		
Maleic acid 10%	>20 months		
Petroleum spirit	>20 months		
White spirit	>20 months		
Benzene	>20 months		
Toluene	>20 months		
Xylene	>20 months		
Methanol	5 months	Softening	>20 months
Ethanol 100%	15 months	Softening	>20 months
Ethanol 70%	18 months	Softening	>20 months
Ethanol 40%	>20 months		
Ethanol 15%	>20 months		
i-propanol	>20 months		
n-butanol	>20 months		
Cyclohexanone	>20 months		
Benzyl alcohol	0.5 months	Softening	>20 months
Ethylene glycol	>20 months		
Glycerine	>20 months		
Ethyl acetate	>20 months		
Butyl acetate	>20 months		
Metyglycol acetate	>20 months		
Ethylglycol acetate	>6 months		
Methyl acrylate	>6 months		