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Chemical resistance properties of MasterCoat PR flooring



a guide to the chemical resistance of resin coatings

Chemicals, cleaning agents and other ingredients will have a different effect on polymer flooring materials, depending on their formulation as well as the type and degree of exposure.

This guide to the chemical resistance of resin flooring technologies demonstrates the typical response for a range of common irritants on various floor coatings, dependent on their concentration and temperature. Each coating type has been determined to exhibit a different level of resistance, as outlined below.

Excellent	No physical signs of attack after long term contact
Medium Term	Unaffected after 1 month contact but may begin to fail thereafter
Short Term	Unaffected after 24 hours contact but may begin to fail thereafter
Not Resistant	Attacked on contact or within 2–3 hours

please note...

This document serves as a tool to aid in choosing the most suitable product for expected chemical exposure conditions. The information presented is derived from laboratory immersion tests and practical observations. All laboratory samples underwent a curing period of at least 10 days at 20°C before testing. It is important to note that certain chemicals may discolour the surface of the resin flooring product without compromising its hardness, especially in the presence of mechanical abrasion. Adhering to good housekeeping practices is always recommended.

Chemical		%	MasterCoat PR MF / DP
A	Acetaldehyde		
	Acetic acid @ 20°C	5	
	Acetic acid @ 20°C	10	
	Acetic acid @ 60°C	10	
	Acetic acid @ 20°C	20	
	Acetic acid @ 20°C	30	
	Acetic acid @ 60°C	30	
	Acetic anhydride		
	Acetone		
	Acetonitrile		
	Acetyl chloride		
	Acrolein		
	Acrylic acid @ 20°C		
	Acrylic methyl ester		
	Acrylonitrile		
	Adiponitrile		
	Allyl alcohol		
	Allyl chloride		
	Aluminium sulphate @ 20°C	30	
	Amines		
	Ammonia 0.880 @ 20°C		
	Ammonia (aqueous solution) @ 20°C	40	
	Ammonium chloride @ 20°C	30	
	Ammonium nitrate @ 20°C	30	
	Amyl acetate (mixed isomers)		
	Aniline		
	Aromasol H		
B	Beer		
	Benzene		
	Benzyl alcohol		
	Benzyl chloride		
	Blood		
	Boric acid @ 20°C	20	
	Brine 30		
	Butanol		

Chemical	%	MasterCoat PR MF / DP
Butyl acetate		
Butyl acrylate		
Butyl benzyl phthalate		
Butyl ether		
Butyric acid		
Butyrolactone		
C	Calcium carbonate solution Saturated	
	Calcium hydroxide suspension 30	
	Caprolactam @ 20°C 20	
	Caprolactam @ 20°C 30	
	Caprolactam @ 20°C 50	
	Caprolactam @ 20°C 100	
	Carbon tetrachloride	
	Castor oil	
	Chicken fats	
	Chloride of lime solution @ 20°C 1	
	Chlorinated paraffin	
	Chlorobenzene	
	Chloroform	
	Chromic acid @ 20°C 1	
	Chromic acid @ 20°C 5	
	Chromic acid @ 20°C 10	
	Chromic acid @ 20°C 30	
	Ciopen A30	
	Ciopen A60	
	Citric acid @ 20°C 10	
	Citric acid @ 20°C 30	
	Cleaning agent for heavy duty vehicles 10	
	Cleaning agent for heavy duty vehicles Concentrate	
	Cleaning petrol	
	Coconut fatty acid	
	Coconut oil	
	Cod liver oil	
	Common salt solution @ 20°C 5	
	Common salt solution Saturated	

Chemical	%	MasterCoat PR MF / DP
Copper sulphate solution @ 20°C	30	
Cotton seed oil		
Creosote		
Cresylic acid		
Crotonaldehyde		
Crude oil		
Cyclohexane		
Cyclohexanol		
Cyclohexanone		
D	Decanol	
	Deionized water	
	Detergent solution 3	
	Diacetone alcohol	
	Dibutyl phthalate	
	Dichlorobenzene	
	Dichloroethane	
	Dichloroethylene	
	Dichloromethane	
	Dichloropropane	
	Dicyclopentadiene	
	Diesel oil	
	Diethanolamine	
	Diethylamine (aqueous solution) @ 20°C 50	
	Diethylamine (aqueous solution) @ 20°C 60	
	Diethylene glycol	
	Diethylene glycol monobutyl ether	
	Diethylene glycol monoethyl ether	
	Diethylene glycol monomethyl ether	
	Diethylene triamine @ 20°C 100	
	Diethylether	
	Di-isobutyl ketone	
	Dimethylamine (aqueous solution) @ 20°C 40	
	Dimethylamine (aqueous solution) @ 20°C 50	
	2-Diethylaminoethanol	
	Dimethyl formamide (DMF)	

	Chemical	%	MasterCoat PR MF / DP
	Di-n-butyl phthalate		
	Di-octyl phthalate		
	Dioxane		
	Dipentene		
	Di-propylene glycol		
	Dishwashing detergent	3	
	Dutrex 217 UK		
E	E Electrocoating		
	Epichlorohydrin		
	Ethanol @ 20°C	10	
	Ethanol @ 20°C	15	
	Ethanol @ 20°C	70	
	Ethanol @ 20°C	96	
	Ethanolamine		
	Ethyl acetate		
	Ethyl acrylate		
	Ethyl benzene		
	Ethylene diamine		
	Ethyl glycol		
	Ethylene glycol		
	Ethyl glycol acetate		
	Ethylene glycol monobutyl ether		
	Ethylene glycol monobutyl ether acetate		
	Ethylene glycol monoethyl ether		
	Ethylene glycol monoethyl ether acetate		
	Ethylene glycol monomethyl ether		
	2-Ethyl hexanol		
	2-Ethyl hexyl acrylate		
	Ethylene amine		
F	Fish oil		
	Formaldehyde @ 20°C	40	
	Formaldehyde @ 20°C	100	
	Formic acid @ 20°C	5	
	Formic acid @ 20°C	10	

	Chemical	%	MasterCoat PR MF / DP
	Formic acid @ 20°C	20	
	Formic acid @ 20°C	30	
	Formic acid @ 20°C	98	
	Furfural		
	Furfuryl alcohol		
	G Glycerol		
	Grape juice		
	Groundnut oil		
H	Heptane		
	Hexane		
	Hexylene glycol		
	Hydrazine hydrate		
	Hydrochloric acid @ 20°C	5	
	Hydrochloric acid @ 20°C	10	
	Hydrochloric acid @ 20°C	36	
	Hydrofluoric acid @ 20°C	20	
	Hydrogen peroxide @ 20°C	3	
	Hydrogen peroxide @ 20°C	30	
	Hydrogen sulphide		
I	Iso-amyl acetate		
	Iso-amyl alcohol		
	Iso-butanol		
	Iso-butyl acetate		
	Iso-butyl aldehyde		
	Iso-octanol		
	Iso-pentane		
	Iso-phorone		
	Iso-phorone diamine @ 20°C		
	Isoprene		
	Iso-propanol		
J	Jet fuel		
K	Kerosene		
L	Lactic acid @ 20°C	2	
	Lactic acid @ 20°C	5	
	Lactic acid @ 20°C	30	

	Chemical	%	MasterCoat PR MF / DP
M	Lactic acid @ 20°C	90	
	Lard		
	Lime juice		
	Linseed fatty acid		
	Linseed oil		
	Maleic acid @ 20°C	30	
	Methanol		
	Methyl acetate		
	Methyl acrylate		
	Methylene chloride		
	Meta cresol		
	Methyl ethyl ketone (MEK)		
	Methyl glycol acetate		
	Methyl isobutyl ketone (MIBK)		
	Methyl methacrylate		
	N-methyl pyrrolidone		
	Milk		
	Mineral oil		
	Molasses		
	Morpholine		
N	N-amino ethyl piperazine @ 20°C		
	Naphtha (petroleum)		
	Naphtha (solvent)		
	Naphthenic acid		
	N-butanol		
	N-butyl acetate		
	N-heptanol		
	N-hexanol		
	Nitric acid @ 20°C	1	
	Nitric acid @ 20°C	3	
	Nitric acid @ 20°C	5	
	Nitric acid @ 20°C	10	
	Nitric acid @ 20°C	30	
	Nitric acid @ 20°C	69	
	Nitrobenzene		

	Chemical	%	MasterCoat PR MF / DP
O	Nitro-ethane		
	Nitro-propane (mixed isomers)		
	Nonanol		
	Nonyl phenol		
	N-pentane		
	O Octanol		
	Oleic acid @ 20°C	100	
	Olive oil		
	Ortho cresol		
	Orthophosphoric acid @ 20°C	85	
	Oxalic acid @ 20°C	2	
	Oxalic acid @ 20°C	10	
P	Palm kernel oil		
	Para cresol (aqueous)		
	Paraffin		
	Paraffin wax		
	Pentane (mixed isomers)		
	Perchlorethylene		
	Perchloric acid @ 20°C	30	
	Petrol		
	Petroleum ether		
	Phenol		
	Phosphoric acid @ 20°C	5	
	Phosphoric acid @ 20°C	10	
	Phosphoric acid @ 20°C	20	
	Phosphoric acid @ 20°C	50	
	Photographic developer solution	10	
	Pine oil		
	Polypropylene glycol		
	Potassium dichromate @ 20°C	20	
	Potassium hydroxide solution @ 20°C	5	
	Potassium hydroxide solution @ 20°C	10	
	Potassium hydroxide solution @ 100°C	10	
	Potassium hydroxide solution @ 20°C	20	
	Potassium hydroxide solution @ 20°C	50	

	Chemical	%	MasterCoat PR MF / DP
S	Pyridine		
	Pyridine bases		
	Seawater		
	Sec-butanol		
	Shell rotella oil		
	Shellsol A		
	Shellsol T		
	Silicone oil		
	Skydrol A500		
	Soap solution		
	Soda solution (saturated)		
	Soda solution (dilute)		
	Sodium chloride	Saturated	
	Sodium dichromate aqueous solution @ 20°C	33	
	Sodium bicarbonate (aqueous)		
	Sodium hydroxide @ 20°C	5	
	Sodium hydroxide @ 20°C	20	
	Sodium hydroxide @ 20°C	50	
	Sodium hydroxide @ 60°C	50	
	Sodium hypochlorite solution 15% (available cl @ 20°C)		
	Sodium nitrate @ 20°C	20	
	Solvesso 150		
	Soya bean oil		
	Stannic chloride		
	Styrene		
	Succinic acid 10		
	Sugar solution @ 20°C	30	
	Sulphuric acid @ 20°C	5	
	Sulphuric acid @ 20°C	10	
	Sulphuric acid @ 100°C	10	
	Sulphuric acid @ 20°C	20	
	Sulphuric acid @ 20°C	30	
	Sulphuric acid @ 20°C	50	
	Sulphuric acid @ 20°C	98	
	Sunflower seed oil		

	Chemical	%	MasterCoat PR MF / DP
T	Tall oil		
	Tall oil fatty acid		
	Tallow		
	Tap water		
	Tartaric acid @ 20°C	5	
	Tartar solution @ 20°C	5	
	Teepol		
	Tert-butanol		
	Tetrachloroethylene		
	Tetrahydrofuran (THF)		
	Tetrahydronaphthalene		
	Titanium tetrachloride		
	Toluene		
	Toluene-di-isocyanate		
	Tributyl citrate		
	1,1,1 – Trichloroethane		
	Trichloroethylene		
	Tri cresyl phosphate		
	Triethanolamine		
	Triethylene glycol		
	Triethylene cetramine		
	Triolyl phosphate		
	Trixylyl phosphate		
	Urea @ 20°C	30	
	Vegetable juice		
W	Water @ 20°C 500%		
	Water, distilled @ 100°C		
	Whisky		
	White spirit		
	Wine		
	Xylene (mixed isomers)		

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Sancaktepe, İstanbul, Türkiye

Fabrika

Ferizli OSB Mah. 10. Cad.

No:2/1 54150 Ferizli, Sakarya

İç Anadolu Bölge Ofisi

Aşağı Öveçler Mah. 1314 Cad.

No:44 D:3 Çankaya, Ankara

Ege Bölge Ofisi

Adalet Mah. Manas Bulvarı No:47 Ofis:2202

Folkart Tower A Blok Bayraklı, İzmir

0 (216) 561 35 45

info@mbt-tech.tr

www.mbt-tech.tr

