Resistance List

of high-phosphorus coatings – Ni-P (12) – in various media

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Resistance of high-phosphorus coatings – Ni-P (12) – in various media			
Medium	Concentration wt. %	Temperature °C	Resistance
Acetone	100	54	A-B
Aluminium chloride	saturated	RT	D
Aluminium sulfate	saturated	RT	B
Formic acid	88	RT	B
Ammonium chloride	saturated	RT	B
Ammonium hydroxide	5-28	RT	C
Ammonium nitrate	saturated	RT	B
Amyl alcohol	100	RT	A
Amyl chloride	100	RT	A
Malic acid	saturated	RT	A
Ethanol	100	RT	A
Ethylene	100	RT	A
Ethylene dichloride	100	boiling point	A
Ethyleneglykol	100	RT	A
Barium chloride	2-40	RT	A
Barium hydroxide	2-50	60	A
Gasoline	100	RT	A
Benzoic acid	saturated	RT	D
Benzene	100	RT	A
Beer		10	A
Lead acetate	saturated	RT	B
Lead nitrate	saturated	RT	A
Borax	saturated	RT	B
Fluoroboric acid	25	RT	D
Boric acid	saturated	RT	C
Bromine	100	RT	B
Butadiene	100	25	A
Butyl alcohol	100	RT	A
Chlorine	100	RT	B
Chlorinegas, trocken	100	RT	A
Chlorineoform	100	RT	A
Chlorineoform	100	boiling point	B
Chromic acid	2-100	RT	D
Steam		425	A
Steamkondensat	------	80	A
Dichloroethane	100	RT	A
Dimethylbenzene	100	RT	A

Medium	Concentration wt. %	Temperature °C	Resistance
Iron chloride	saturated	RT	D
Iron nitrate	saturated	RT	D
Iron sulfate	saturated	RT	D
Peanut oil	100	RT	A
Crude oil	100	RT	A
Vinegar	100	RT	B
Vinegarsäure	0-70	RT	C-B
Fatty acids	100	RT	B
Aviation gasoline	100	RT	A
Hydrofluoric acid	2-100	RT	D
Formaldehyde	37	RT	B
Fruit juices		RT	A
Tanning solution	100	RT	A
Glucose	saturated	RT	A
Glycerin	100	RT	A
Mine water, acidic	------	20-40	B
Urea	saturated	RT	A
Heating oil	100	RT	A
Coffee		boiling point	A
Potassium carbonate	saturated	RT	A
Potassium chloride	saturated	RT	A
Potassium ferricyanide	saturated	RT	B
Potassium hydroxide	2-50	RT	A
Calcium chloride	saturated	RT	A
Calcium hydroxide	saturated	60	A
Calcium nitrate	saturated	RT	A
Kerosene	100	RT	A
Carbon dioxide	100	RT	B
Rosin	100	boiling point	A
Cresylic acid	saturated	RT	A
Copper chloride	saturated	RT	D
Copper nitrate	saturated	RT	D
Copper sulfate	saturated	RT	C
Linseed oil	100	RT	A
Lithium chloride	saturated	RT	A
Magnesium chloride	2-50	RT	A
Magnesium hydroxide	2-100	RT	A
Molasses, crude		RT	A
Molasses, crude		100	B
Methanol	100	RT	A
Methyl ethyl ketone	100	RT	A
Methylene chloride	100	RT	C
Milk		RT	A
Milksäure	10-50	RT	C
Milksäure	85	RT	A
Mineral oil	100	RT	A

Medium	Concentration wt. %	Temperature °C	Resistance
Sodium bicarbonate	saturated	RT	B
Sodium carbonate	saturated	RT	B
Sodium chloride	saturated	RT	A
Sodium cyanide	5	RT	B
Sodium hydroxide	2-73	RT	A
Sodium nitrate	10	RT	A
Sodium phosphate	saturated	RT	A
Sodium sulfate	saturated	RT	A
Sodium sulfide	saturated	RT	A
Sodium resins	100	50	A
Nickel chloride	saturated	RT	C
Nickel sulfate	saturated	RT	C
Oleum	20	RT	D
Oleic acid	100	RT	A
Orange juice		RT	A
Oxalic acid	saturated	RT	A
Palm oil	100	RT	A
Paraffin	100	RT	A
Perchloroethylene	100	RT	A
Phenol	100	90	A
Phosphoric acid	0-100	RT	<0-10% C <10-80% B
Picric acid	100	RT	D
Polymers	100	20. . .200	A
Propane	100	RT	A
Mercury chloride	saturated	RT	D
Crude oil	100	RT	A
Nitric acid	2-100	RT	D
Hydrochloric acid	10	RT	D
Hydrochloric acid	20	RT	D
Hydrochloric acid	30	RT	D
Hydrochloric acid	concentrated	RT	D
Sulfuric acid	10	RT	D
Sulfuric acid	20	RT	C
Sulfuric acid	30-40	RT	C
Sulfuric acid	50-70	RT	C
Sulfuric acid	80	RT	D
Sulfuric acid	90	RT	C
Sulfuric acid	100	RT	D
Hydrogen sulfide	100	RT	A
Sulfurous acid	2-60	RT	D
Seawater		RT	A
Soap solution		95	A
Stearic acid	saturated	RT	A

Medium	Concentration wt. %	Temperature °C	Resistance
Turpentine	100	RT	A
Carbon tetrachloride	100	boiling point	A
Toluene	100	95	A
Trichloroethylene	100	95	A
Vinyl chloride	100	35	A
Water, distilled	------	RT	A
Water, deionized	------	80	A
Wine	100	RT	A
Whisky		RT	A
Zinc chloride	saturated	RT	B
Zinc nitrate	saturated	RT	B
Citric acid	5	RT	A

Classification of ratings:

A = very satisfactory results, corrosion rate always less than 2.5 µm/a

B = acceptable results, corrosion rate less than 12.5 µm/a

C = application to be decided on a case-by-case basis, corrosion rate less than 25 µm/a

D = not recommended for long-term application, corrosion rate greater than 25 µm/a