Resistance of high-phos coatings - Ni-P(12) - in different media

Medium	Concentration weight %	Temperature ℃	Resistance
Acetone	100	54	A-B
Aluminium chloride	Saturated	RT	D
Aluminium sulphate	Saturated	RT	B
Formic acid	88	RT	B
Ammonium chloride	Saturated	RT	B
Ammonium hydroxyde	5-28	RT	C
Ammonium nitrate	Saturated	RT	B
Amyl alcohol	100	RT	A
Amyl chloride	100	RT	A
Malic acid	Saturated	RT	A
Ethyl alcohol	100	RT	A
Ethylene	100	RT	A
Ethylene dichloride	100	Boiling point	A
Ethylene glycol	100	RT	A
Barium chloride	2-40	RT	A
Barium hydroxide	2-50	60	A
Benzene	100	RT	A
Benzoic acid	Saturated	RT	D
Benzol	100	RT	A
Beer		10	A
Lead acetate	Saturated	RT	B
Lead nitrate	Saturated	RT	A
Borax	Saturated	RT	B
Boron fluoric acid	25	RT	D
Boron acid	Saturated	RT	C
Bromine	100	RT	B
Butadiene	100	25	A
Butyl alcohol	100	RT	A
Chlorine	100	RT	B
Chlorine gas, dry	100	RT	A
Chloroform	100	RT	A
Chloroform	100	Boiling point	B
Chromic acid	2-100	RT	D
Steam		425	A
Steam condensate	-	80	A
Dichloroethane	100	RT	A
Dimethylbenzene	100	RT	A
Iron chloride	Saturated	RT	D
Iron nitrate	Saturated	RT	D
Iron sulphate	Saturated	RT	D
Groundnut oil	100	RT	A
Crude oil	100	RT	A
Vinegar	100	RT	B
Ethanoic acid	0-70	RT	C-B
Fatty acids	100	RT	B
Aviation fuel	100	RT	A
Hydrofluoric acid	2-100	RT	D
Formaldehyde	37	RT	B

Fruit juices		RT	A

Medium	Concentration weight %	Temperature ℃	Resistance
Tanning solution	100	RT	A
Glucose	Saturated	RT	A
Glycerine	100	RT	A
Mine water, acidic	-	20-40	B
Urea	Saturated	RT	A
Fuel oil	100	RT	A
Coffee		Boiling point	A
Potassium carbonate	Saturated	RT	A
Potassium chloride	Saturated	RT	A
Potassium ferricyanide	Saturated	RT	B
Potassium hydroxyde	2-50	RT	A
Calcium chloride	Saturated	RT	A
Calcium hydroxyde	Saturated	60	A
Calcium nitrate	Saturated	RT	A
Kerosene	100	RT	A
Carbon dioxide	100	RT	B
Colophonium	100	Boiling point	A
Cresylic acid	Saturated	RT	A
Copper chloride	Saturated	RT	D
Copper nitrate	Saturated	RT	D
Copper sulphate	2-30	RT	C
Linseed oil	100	RT	A
Lithium chloride	Saturated	RT	A
Magnesium chloride	2-50	RT	A
Magnesium hydroxyde	2-100	RT	A
Molasses, raw		RT	A
Molasses, raw		100	B
Methyl alcohol	100	RT	A
Methyl ethyl ketone	100	RT	A
Methylene chloride	100	RT	C
Milk		RT	A
Latic acid	10-50	RT	C
Latic acid	85	RT	A
Petroleum	100	RT	A
Sodium hydrogen carbonate	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 sulphate	Saturated	RT	A
Sodium sulphide	Saturated	RT	A

Medium	Concentration weight %	Temperature ℃	Resistance
Natural resins	100	50	A
Nickel chloride	Saturated	RT	C
Nickel sulphate	Saturated	RT	C
Fuming sulphuric acid	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
Tetrachloroethylene	100	RT	A
Phenol	100	90	A
Phosphoric acid	0-100	RT <10-80% B	<0-100% C
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	conc.	RT	D
Sulphuric acid	10	RT	D
Sulphuric acid	20	RT	C
Sulphuric acid	30-40	RT	C
Sulphuric acid	50-70	RT	C
Sulphuric acid	80	RT	D
Sulphuric acid	90	RT	C
Sulphuric acid	100	RT	D
Hydrogen sulphide	100	RT	A
Sulphurous acid	2-60	RT	D
Seawater		RT	A
Suds		95	A
Stearic acid	Saturated	RT	A
Turpentine	100	RT	A
Carbon tetrachloride	100	Boiling point	A
Toluol	100	95	A
Trichloroethylene	100	95	A
Vinyl chloride	100	35	A
Water, distilled	-	RT	A
Water, deionised	-	80	A
Wine	100	RT	A
Whisky		RT	A
Zinc chloride	Saturated	RT	B
Zink nitrate	Saturated	RT	B
Citric acid	5	RT	A

Resistances of high-phos-coats – Ni-P (12)

Classification

A = Very satisfactory results, abrasion rate by corrosion always less than 2.5 µm/a

B = Useful results, abrasion rate by corrosion less than 12.5 µm/a

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

D = Use not reasonable for longer times, abrasion rate by corrosion greater than 25 µm/a