SMITH®
CUSTOMER DRIVEN

CORROSION RESISTANCE DATA
CONSULT SMITH SALES ENGINEERING DEPARTMENT WHEN EXTRAORDINARY APPLICATIONS ARE ENCOUNTERED

TYPICAL CORROSION RESISTANCE OF STAINLESS STEELS TO VARIOUS MEDIA

CODE: a–Unaffected, b–Slightly attacked. c–Attacked. m–Complete details concerning the conditions of service must be evaluated.

MEDIUM	TYPE NUMBERS CF8 (304)	CF8M (316)
ORGANIC SUBSTANCES		
Acetone	a	a
Benzol	a	a
Carbon tetrachloride	c	c
Ethyl alcohol	a	a
Ethyl chloride	a	a
Ethyl ether	a	a
Food pastes	a	a
Fruit juices	a	a
Ink	m	m
Mustard	b	a
Paregoric cmpd	a	a
Quinine bisulfate	b	a
Quinine sulfate	a	a
Vinegar at 70° F	m	m
ACIDS		
Acetic	m	m
Benzoic	a	a
Boric	a	a
Carbolic	a	a
Chromic (50%)	c	c
Citric	a	a
Formic	c	m
Hydrobromic	c	c
Hydrocyanic	a	a
Hydrochloric	c	c
Hydrofluoric	c	c
Lactic	a	a
Nitric (conc.)	a	a
Nitric (conc. plus 2% HCl)	a	..
Nitrous (conc.)	a	a
Oxalic	m	m
Phosphoric	a	a
Phosphoric (10%)	a	a
Picric (conc.)	a	a
Phyrogallic (conc.)	a	a
Pyroligneus (conc.)	a	a
Stearic (conc.)	a	a
Succinic (molten)	c	..
Sulfuric (conc.)	a	a
Sulfuric (dil.)	m	m
Sulfuric 15% (plus 2% potassium dichromate)	a	a
Sulfurous (conc.)	b	a
Tannic (conc.)	a	a
Tartaric (conc.)	a	a
Trichloracetic acid (10%)	a	a
Uric (conc.)	a	a
SALTS		
Aluminum chloride	c	c
Aluminum fluoride	c	b
Aluminum sulfate	a	a
Ammonium alum	a	a
Ammonium bromide	c	a
Ammonium chloride	b	a
Ammonium hydroxide	a	a
Ammonium nitrate	a	a
Ammonium sulfate	a	a
Barium chloride	a	a
Bleaching powder	c	a
Calcium chloride	c	a
Calcium hydroxide or oxide	a	a
Copper chloride	c	c
Copper cyanide	a	a
Copper nitrate	a	a

MEDIUM	TYPE NUMBERS CF8 (304)	CF8M (316)
Copper sulfate (plus 2% sulfuric acid	a	a
Copper sulfate	a	a
Creosote	c	a
Creosote (plus 3% salt)	c	c
Hydrogen peroxide	b	a
Magnesium carbonate	a	a
Magnesium chloride	m	m
Magnesium sulfate	a	a
Magnesium hydroxide	a	a
Magnesium nitrate	a	a
Phosphorous trichloride	a	a
Potassium bromide	a	a
Potassium carbonate	a	a
Potassium chloride	m	m
Potassium chlorate	a	a
Potassium cyanide	a	a
Potassium dichromate	a	a
Potassium ferricyanide	a	a
Potassium ferricyanide (boiling)	a	a
Potassium hypochlorite	c	m
Potassium iodide	a	a
Potassium iodide (sat. plus 0.1% sodium carbonate evaporated to dryness)	a	a
Potassium hydrate	a	a
Potassium nitrate	a	a
Potassium oxalate	a	a
Potassium permanganate	a	a
Potassium sulfate	a	a
Silver nitrate	a	a
Silver cyanide	a	a
Sodium bicarbonate	a	a
Sodium borate	a	a
Sodium bromide	a	a
Sodium chloride (2% aerated)	a	a
Sodium citrate	a	a
Sodium fluoride	b	.
Sodium hydroxide	a	a
Sodium nitrate	a	a
Sodium peroxide (212° F)	a	a
Stannic chloride	c	c
Stannous chloride	b	.
Sulfar (molten) (500° F)	a	a
Sulfar chloride	b	.
Titanium tetrachloride	a	a
Zinc chloride	c	b
Zinc sulfate	a	a
MISCELLANEOUS		
Ammonia	a	a
Baking oven gases	a	a
Bromine	c	c
Carbonated beverages	a	a
Chlorine (wet and dry)	c	c
Glycerin	a	a
Hydrogen sulfide (400° F)	b	a
Iodine	c	a
Lead (molten)	c	c
Lysol	m	m
Mercury	a	a
Sauerkraut brine	c	a
Sea water	m	m
Sulfur dioxide	b	b
Vegetable juices	a	a
X-ray developing solution	b	a
Zinc (molten)	c	c