

#### **TECHNICAL DATA**

#### **CORROSION RESISTANCE TABLE**

For selection of suitable hose and fitting material you may refer this table for guideline which is accurate, however because of variables beyond our control, no guarantee of service generally can be given.

#### Rating Code:

- A Suitable
- B Limited service
- C Not suitable
- D No information

Service life is subject to following notes:-

- 1. Susceptible to intergranular corrosion.
- 2. May cause explosive reaction.
- 3. Susceptible to strees, corrosion, cracking.
- 4. Susceptible to pitting type corrosion
- 5. Discolours.
- Concentration over 50% and / or temperature over
   Deg. C refer to "Siflex" technical department.

	CARBON	S.S. 321	S.S. 316	TEFLON
Acetaldehyde	В	Α	Α	Α
Acetanilide	В	В	В	D
Acetic acid	С	B¹	A¹	Α
Acetic acid, glacial	D	В	В	Α
Acetic acid 30%	С	В	В	Α
Acetic anhydride	С	В	В	Α
Acetone	С	В	В	Α
Acetophenone	Α	В	В	D
Acetyl chloride	С	В	В	Α
Acetylene	Α	Α	Α	Α
Acrylates	В	В	В	D
Acrylic acid	С	В	В	Α
Acrylonitrile	A	Α	Α	Α
Alcohols	A <sup>5</sup>	Α	A	Α
Alum	С	В	В	Α
Alum acetate	D	Α	Α	A
Alumina	A	A	A	A
Aluminium acetate	С	В	В	Α
Aluminium bromide	С	В	В	Α
Aluminium chloride dry	В,	A	A	Α
Aluminium chloride-moist	C³	C <sup>3.4</sup>	C³	Α
Aluminium fluoride	В	С	С	Α
Aluminium hydroxide	В	Α	Α	Α
Aluminium nitrate	С	Α	Α	A
Aluminium salts	D	B -13	В	Α
Aluminium sulphate	С	B <sup>1.3</sup>	A³	A
Ammonia-dry	A	Α	Α	Α
Ammonia-moist	C³	Α	Α	A
Ammonium acetate	A	A	A	A
Ammonium bi carbonate (hot)	D	A	A	A
Ammonium bromide	C	C <sup>4</sup>	C <sup>4</sup>	D
Ammonium carbonate	A	Α	A	D
Ammonium chloride-dry	В	A C <sup>3.4</sup>	A 03	A
Ammonium chloride-moist	C		C³	A
Ammonium hydroxide	В	A	A	A
Ammonium meta phosphate	A	A	A	A
Ammonium nitrate	C°	A	A	A
Ammonium nitrite	D	A	A	D
Ammonium perchlorate (10%)	D	A	A	D
Ammonium persulphate	D	A	A	D
Ammonium phosphate	C	B	A	A
Ammonium sulphate	C	C1	B A	A
Ammonium Thiocyanate	A	A	A	A
Amyl acetate				A
Amyl alcohol	A B	A	A A	A
Amyl chloride-dry	_	A C <sup>3.4</sup>		Charles and the
Amyl chloride-moist	C		C³	A
Amyl chloronaphthalene	D	Α	Α	Α

	CARBON	S.S. 321	S.S. 316	TEFLON
Amyl naphthalene Aniline Aniline dyes	D C C	A B B	A B B	A A A
Aniline hydrochloride Animal fats Aqua regia Arsenic acid	A D B	A C D	A C A	A A A
Askarel Asphalt Atmosphere-industrial Atmosphere-marine	A C C	A B⁴ B⁴	A A⁴ B⁴	A A C
Atmosphere-rural Barium carbonate Barium chloride-dry Barium chloride-moist	C B A B	A B A C <sup>3.4</sup>	A B A C³	A A A
Barium hydroxide Barium nitrate-moist Barium sulphate Barium sulphide	B D B	B A B	A A B B	A A A
Beer Beet sugar syrups Benzaldehyde Benzene (Benzol)	C B C A	A A B A	A A B A	A A A
Benzene sulfonic acid Benzine Benzoic acid Benzlamine	C A C B	D A A B	B A A B	A A A
Benzyl alcohol  Benzyl benzonate  Benzyl chloride-dry  Benzyl chloride-moist	A A B C	A A A C <sup>3.4</sup>	A A C³	A A A
Bismuth Carbonate Blast furnace gas Black liquor, sulphate process Bleaching powder-dry	A A C	A A B A	A A B A	A C A
Bleaching powder-moist Borax Bordeaux mixture	C B B	C <sup>3.4</sup> A A	C <sup>3.4</sup> A A	A A A
Boric acid Boron trichloride-dry Boron trichloride-moist Boron trifluoride-dry	C A B A	A B C <sup>3.4</sup> B	A B C³ B	A A A D
Brines Bromic acid Bromic-dry Bromic-moist	000	C <sup>3.4</sup> C B C	C³ C B C	A D A A
Bunker oil Butter oil	A A	A A	A A	A A



### **CORROSION RESISTANCE TABLE**

	CARBON	S.S. 321	S.S. 316	TEFLON
Butadiene	Α	Α	Α	Α
Butane Butanol (Butyl alcohol)	A A <sup>5</sup>	A	A A	A
Butyl acetate	В	A	A	A
Butyl amine	Α	Α	Α	D
Butyl carbitol	A B⁵	A B	A B	A D
Butyl phenols Butyl mercaptan	D	A	A	A
Butyl stearate	A	Α	Α	Α
Butyaldehyde	D	D	D	Α
Butyric acid	A C	A B	A B	A
Cadmium chloride-moist	C	C <sup>3.4</sup>	C³	A
Cadmium chloride-dry	Α	Α	Α	Α
Cadmium sulphate	В	A	Α	Α
Calcium acetate	A B	A B¹ -	A B	A
Calcium bisulphite Calcium bromide	C	C³	C³	D
Calcium carbonate	A	A	A	A
Calcium chlorate	D	В	Α	D
Calcium chloride-moist	C	C <sup>3.4</sup>	C³	A
Calcium chloride-dry Calcium chloro hypochlorite	. A C	A B	A B	A
Calcium fluride	C	C	C	A
Calcium hydrochlorite	, D	С	В	Α
Calcium hydroxide	C	B 034	B 034	Α .
Calcium hypochlorite-moist Calcium hypochlorite-dry	C B	C <sup>3.4</sup>	C³⁴ A	A
Calcium nitrate	C¹	B <sup>1</sup>	В	A
Calcium oxide	A	A	A	A
Calcium silicate	Α	Α	Α	Α
Calcium sulphate	A A	A	A A	A
Calcium sulphide Camphor	D	A	A	A D
Cane sugar syrups	В	A	A	A
Carbolic acid (phenol)	С	В	A	Α
Carbon dioxide-dry	A	A	A	A
Carbon dioxide-moist Carbonate deverages	C	A	A A	A
Carbonated water	C	A	A	A
Carbon disulphide	В	В	В	D
Carbon tetrachloride-dry	В	A 03.4	A 04	A
Carbon tetrachloride-moist Carbon monoxide	CA	C <sup>3.4</sup>	C⁴ A	A
Carbonic acid	D	A	A	A
Castor oil	Α	Α	Α	Α
Caustic soda	В	A	A	Α
Cellosolve acetate Cellesolve butyl	A	A	A A	A
Cellulube	A	A	A	A
Chlorine-dry	В	Α .	Α	A
Chlorine-moist	C	C <sup>3,4</sup>	C³	A
Chlorine trifluoride Chloroacetic acid	C	D C <sup>3,4</sup>	D C³	D A
Chloric acid	C	C <sup>3</sup>	C <sub>3</sub>	A
Chlorinated water (saturated)	В	D	D	Ā
Chlorine dioxide-dry	В	A	A	Α
Chlorin Dioxide-moist	C	C <sup>3,4</sup>	C³	Α.
Chlorobenzene Chlorobromo methane	A	A	A A	A
O Chloronaphthalene	A	A	A	A
Chloro sulphonic acid dilute	С	Α	Α	Α
Chloro toluene	A	A	A	A
Chloroform-dry Chloroform-moist	A ·	A C <sup>3,4</sup>	A C³	A A
Chromic acid	C	C1,4	В	A
Chromic fluorides	C	C	C	D
Chromic hydroxide	В	В	В	D
Chromium sulphate	C	. В	В	D
Cider Citric acid	C	A B	A B	A
Cod liver oil	A	A	A	A
Coffee	С	Α	Α	Α
Coke oven gas	A	A	A	D
Copper acetate Copper chloride-dry	D B	A	A	A

	CARBON	S.S. 321	S.S. 316	TEFLON
Copper chloride-moist	С	C <sup>3,4</sup>	C³	Α
Copper cyanide Copper nitrate	C	A	A	A
Copper sulphate	C	B¹	В	A
Corn oil	A	Α	Α	Α
Corn syrup Cottonseed oil	A	A	A	A A
Creosole	Â	A	A	Ā
Cresote	В	A	A	A
Crude oil Crude wax	C A	C¹ A	B A	A A
Cutting oil	A	A	A	A
Cyanogen gas	D	A	A	D
Cyclohexane Cyclohexanone	B	B A	B A	A
Cymene	D	D	D	A
DDT Danalia	C	A	A	A
Decalin Denatured alcohol	D A	D A	D A	A A
Diancetone	A	Α	Α	A
Diacetone alcohol	A	A	A	A
Dibenzyl Ether Dibutyl Ether	A	A	A A	A
Dibutyl pthalate	Α	Α	Α	Α
Dibuty sebacate	D D	D A	D A	A A
Dichlorobenzene Dichloroethane-dry	A	A	A	A
Dichloroethane-moist	С	C⁴	C⁴	С
Dichloroethylene-dry Dichloroethlylene-moist	B	A C⁴	A C <sup>4</sup>	A A
Dichlorophenol	C	B <sup>3</sup>	B³	Ā
Diesel oil	Α	Α	Α	Α
Dirthylamine Diethyl Ether	C	D A	B A	A
Diethylene glycol	Â	Â	Ā	Â
Diethylene phthalate	D	Α	Α	Α
Diethyl sebacate Di-iso butylene	D	A	A A	A D
Di-iso proply keton	D	A	Ā	A
Dimethyl anline	D	D	D	Α
Dimethyl Formamide Dimethyl phthalate	A D	A D	A D	D A
Disocyanate	В	A	A	A
Dimethyl sulphate	В	В	В	D
Dioctyl phthalate Dioxane	A A	A	A A	A A
Dipentane	Α	Α	Α	A ·
Ephichorohydrin-dry	C <sup>4</sup>	A C <sup>3,4</sup>	A C³	A
Epichlorohydrib-moist Epsom Salt (mg sulphate)	D	A	A	D A
Ethane	Α	Α	Α	Α
Ethanol Ethanol Amine	CA	A A	A A	A A
Ethers	A	A	A	A .
Ethyl acetate	Α	Α	Α	Α
Ethyl aceto acetate Ethyl Acrvlate	A	A	A A	A D
Ethylene	A	A	A	A
Ethyl Cellulose	A	A	A	A
Ethyl benzene Ethyl chloride-dry	B	B³ A	B A	A
Ethyl chloride-moist	Ĉ	C <sup>3,4</sup>	C³	Ā
Ethyl ethers	В	A	A	A
Ethyl mrcaptan Ethyl pento chlorobenzene	B B	D A	D A	A .
Ethyl silicate	Α	Α	Α	Α
Ethylene Ethylene Chloride	A	A	A	A
Ethylene Chloride Ethylene chlorohydrin-dry	B B	A A	A A	A A
Ethylene chlorohydrin-moist	С	C <sup>4</sup>	C⁴	Α
Ethylene diamine	В	В	В	A
Ethylene glycol Ethylene oxide	A B	A	A A	A
Fatty acids	С	B <sup>1,4</sup>	Α	Α
Ferric Chloride moiet	В	A C <sup>1,3,4</sup>	A C³.⁴	A
Ferric Chloride-moist	C	C	C.	Α



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	CARBON	S.S. 321	S.S. 316	TEFLON
Ferric hydroxide Ferric nitrate Ferric sulphate Ferrous chloride-dry	D C C	A B B¹ A	A B A	A A A
Ferrous chlorid-moist Ferrous nitrate Ferrous sulphate Fluoroboric acid	C D C D	C <sup>3,4</sup> A B <sup>4</sup> A	C³ A B	A A A
Fluorine-dry Fluorine-moist Formaldehyde Formic acid	A C B <sup>5</sup>	A C B	A C B	A A A
Freon Fruit juices Fuel oil Fumaric acid	CCCD	A A A	A A A	B A A
Furan Furfuran Furfural Gallic acid Gasoline	A B C B	A A A	A A A	A A A
Gelatine Glauber's Salt Glucose	C A B	A A A	A A A	A D A
Glue Glutamic acid Glycerin (glycerol) Glycols	C C B <sup>5</sup>	A B <sup>3,4</sup> A A	A B <sup>3,4</sup> A A	A A A
Green sulphate liquor Heptane Hexachloroethane-dry Hexachlorethane-moist	A A B C	A A A C⁴	A A C⁴	A A A D
Hexal dehye Hexane Hexene Hexyl alcohol	A A A	A A A	A A A	A A A
Hydraulic oil Hydrazine Hydrobromic acid Hydrocarbon acid	A C C	A A C⁴ A	A C A	A A A
Hydrocarbons, pure Hydrochloric acid Hydrocyanic acid Hydrofluoric acid	A C C³ C	A C <sup>4</sup> C <sup>1,4</sup> C <sup>1,3</sup>	A C⁴ C³ C	A A A
Hydrofluorsilicic acid Hydrogen Hydrogen chloride-dry Hydrogen chloride-moist	C A B C	C A A C⁴	C A A C⁴	A A A
Hydrogen peroxide Hydrogen sulfide-dry Hydrogen sulfide-moist Hydroquinone	C B C³ B⁵	B A B <sup>4</sup> B	B A A B	A A D
Hypo Imol Ink Iodine	D A D	A A B C	A A D	A A D D
Isobutyl Alcohol Iso octane Isopropyl acetate Isopropyl alcohol	A A A	A A A	A A A	A A A
Isopropyl ether Kerosene Ketchup Ketones	A B D	A A A	A A A	A A A
Lacquers Lacquer solvents Lactic acid Lard	A A C A	A A B <sup>1,4</sup> A	A A B' A	A A A
Lead molten Lead acetate Lead nitrate Lime	C B A B	B A A	A A A	D A D A
Lime Bleach Lime-sulphur Linoleic acid Linseed oil	C C D B	B B D A	A B D A	D B A A
Lithium chloride-dry	В	Α	Α	Α

	CARBON STEEL	S. 321	S. 316	TEFLON
	SA	S	S.S.	2
Lithium chloride-moist	В	C <sup>3,4</sup>	C³	Α
Lithium hydroxide	В	В	В	Α
Lubricating oil	A	A	A	A
Magnesium chloride-dry  Magnesium chloride-moist	B C	A C <sup>3,4</sup>	A C³	A
Magnesium hydroxide	A	A	A	A
Magnesium sulphate	В	В	Α	Α
Maleic acid	В	B1	Α	Α
Mayonnaise	D	Α	A	Α
Mercuric chloride-dry	В	A C <sup>3,4</sup>	A C³	A
Mercuric chloride-moist Mercurous nitrate	СВ	В	В	A D
Mercury	В	В	В	A
Mesityl oxide	A	Α	Α	Α
Methane	Α	Α	Α	Α
Methyl acetate	Α	Α	Α	Α
Methyl acrylate	D	Α	A	D
Methyl alcohol Methyl bromide	A	A	A A	A A
Methyl butyl ketone	A	A	A	D
Methyl chloride-dry	A	A	A	A
Methyl chloride-moist	С	C <sup>3,4</sup>	C <sup>3</sup>	Α
Methylene chloride	Α	Α	Α	Α
Methyl ethyl ketone	В	В	В	Α
Methyl formate	A	A	A	A
Methyl isobutyn ketone Methyl methacrylate	A	A	A A	A A
Methyl methacrylate Methyl salicylate	A	A	A	A
Milk	C	A	A	A
Mine water	С	В	В	Α.
Mono chloro benzene	Α	Α	Α	Α
Mono ethanolamine	A	Α	Α	D
Morpholine	^ D	A	A A	A
Naphtha Naphthalene	B A	A	A	A
Naphthenic acid	D	В	A	A
Natural gas	Ā	A	Α	Α
Nickle acetate	Α	Α	Α	Α
Nickle chloride-dry	В	A	A	Α
Nickle chloride-moist	С	C <sup>3,4</sup>	C³	A
Niter cake Nitric acid	C	B B	A B	D A
Nitroluene	В	В	В	Ā
Nitrogen	A	A	A	Α
Nitrogen tetroxide	D	D	В	D
Nitro benzene	Α	Α	Α	A
Nitro ethane	Α	A	A	D
N-octane Octyl alcohol	. A .	A A	A A	A
Oils crude	A	A	A	A
Oils Vegetables	A	A	A	A
Oils minerals	Α	Α	Α	Α
Oleic Acid	C	B⁴	В	Α
Oleum (fuming H2so4)	B <sup>3</sup>	В	В	A
Oleum spirits Olive oil	В	D B	D A	A A
Onve on Oxalic Acid	С	C'	В'	A
Oxygen	A	A	A	A
Ozone	A	A	A	A
Paint	D	Α	Α	Α
Palmitic acid	С	A	A	A
Parafin	В	A	A A	A A
Paregoric compound Peanut oil	A	A	A	A
Pentane	В	В	В	A
Perchloric acid	D	В	A	A
Perchlore ethylene	Α	Α	Α	Α
Petroleum	Α	Α	Α	Α
Petroleum ether	D	A	A	A
Phenol (carbolic acid) Phorone	C	B A	A A .	A A
Phosphate esters	A	A	Α.	A
Phosphoric acid	C	C'	B <sup>1</sup>	A
Phthalic acid	С	B¹	В	Α
Pitric acid	C	В	В	Α
Pinene	Α	Α	Α	Α



# **CORROSION RESISTANCE TABLE**

	CARBON	S.S. 321	S.S. 316	TEFLON
Pine oil Plating solution Chrome Potassium acetate	A D D	A C A	A C A	A A A
Potassium bichromate Potassium bromide Potassium carbonate Potassium chloride-dry	B C B A	C A A	C A A	A A A
Potassium chloride-moist Potassium chromate Potassium cyanide Potassium dichromate	C C B	C <sup>3,4</sup> B B	C³ B B	A A A
Potassium ferricyanide Potassium fluoride Potassium hydroxide	C C B <sup>3</sup>	A C B <sup>3</sup>	A C A	A A A
Potassium iodide Potassium nitrate Potassium permanganate Potassium sulphate	B B C	A B B	A A B B	A A A
Progallic acid Propane Propyl acetate Propyl alcohol	B A A	A A A	A A A	D A D
Propylene Propylene oxide Propylene dichloride-dry	A C B	A A A	A A A	A A A
Propylene dichloride-moist Pyridine Pyrrolidine Quinine	C B⁵ B	C⁴ B B	C <sup>4</sup> B A B	A A A
Quinine sulphate-dry Rosin Rosin molten	C C⁵ C	A A A B	A A A	A A A
Red Oil Salicylic acid Sauerkraut Brine Sea water	D D C	A C A	A A A	D A A
Sewage Silicon greases Silicon oils Silver salts	B A A C	A A A B	A A A B	A D D
Silver nitrate Skydrol 500 & 7000 Soap solutions Sodium	C³ A B	B A A	A A A	A A A
Sodium acetate Sodium bicarbonate Sodium bisulphate Sodium bisulphite	B C C	B <sup>4</sup> A B <sup>1,4</sup> B	B A A B	A A A
Sodium borate Sodium bromide Sodium carbonate	A B B	A C A	A C A	A A A
Sodium chlorate-dry Sodium chlorate-moist Sodium chloride-dry Sodium chloride-moist	C B C	C <sup>3.4</sup> A C <sup>3.4</sup>	C³ A C³	A ~ A A
Sodium chromate Sodium citrate Sodium cyanide Sodium dichromate	В В В С	A B B A	A B B A	A A A
Sodium fluoride Sodium hydroxide Sodium hypochlorite-dry Sodium hypochlorite-most	B B³ B C	C⁴ B³ A C¹.4	C B³ A C⁴	A A A
Sodium metaphosphate Sodium metasilicate Sodium nitrate	C B B³	A A A	A A A	A A A
Sodium nitirite Sodium perborate Sodium peroxide Sodium phosphate	B C C	B A A A	B A A	A A A
Sodium silicate Sodium sulphate Sodium sulphide	B B C	A B³ B⁴	A B B	A A
Sodium sulphite Sodium thiosulphate Soya bean oil	C C A	B B A	B B A	A A A

	CARBON STEEL	S. 321	S. 316	TEFLON
	STS	S.S	S.6	里
Stannic chloride-dry	В	Α	Α	Α
Stannic chloride-moist	C	C <sup>3.4</sup>	C <sub>3</sub>	Α
Stannous chloride-dry	В	A C <sup>3.4</sup>	A	A
Stannous chloride-moist Starch Aqua Solution	C A	A	C³ A	A
Steam Solution	Č	A	A	A
Stearic acid	C⁵	В	В	A
Stoddard solvent	В	Α	Α	Α
Strontium nitrate	С	В	В	Α
Styrene	В	D	В	A
Sulphate black liquor Sulphate green liquor	B B	B B³	B B	A
Sugar solutions	В	A	A	A
Sucrose solution	A	A	A	A
Sulphur - dry	В	Α	Α	Α
Sulphur - molten	С	С	В	D ·
Sulphur chloride-dry	С	A 034	A	A
Sulphur dioxide day	C	C3.4	C <sup>3</sup>	A
Sulphur dioxide-dry Sulphur dioxide-moist	C	C¹ C¹	B B	A A
Sulphur trioxide-dry	C	A	A	A
Sulphuric acid, 95-100%	В	A	Ä	A
Sulphuric acid, 80-95%	С	В	В	Α
Sulphuric acid, 40-80%	С	C¹	C¹	Α
Sulphuric acid, 40%	С	C¹	C¹	Α
Sulfurous acid	С	C1.4	C1.4	A
Tail Oil Tannic acid	B C⁵	B B	B B	A
Tar Tarinic acid	В	A	. А	A
Tar bituminous	A	A	A	A
Tartaric acid	С	В	В	Α
Terpineol	D	D	D	Α
Tetraphosphoric acid	C	В	В	A
Tin molten Titanum Tetra chloride	B	B B	B B	D D
Toluene	В	A	A	A
Tolune Diisocyanate	D	D	D	D
Transformer oil	Α	Α	Α	Α
Transmission fluidtype	Α	Α	A	Α
Tributed phosphate	A	D	D ·	A
Tributyl phosphate Trichloro acetic acid	A C	D C <sup>3.4</sup>	D C <sup>4</sup>	A A
Trichloro acetic acid  Trichloroethane-dry	A	A	A	A
Trichloroethane-moist	Ĉ	C <sup>4</sup>	C <sup>4</sup>	Ā
Trichloroethylene-dry	A	Α	Α	Α
Trichloroethylene-moist	С	C⁴	C⁴	Α
Tricresyl phosphate	Α	D	В	Α
Turnontino	A	A	Α	A
Turpentine Uric acid	B B	A	A A	A A
Varnish	В	A	Ā	D
Vegetable juices	Č	A	A	A
Vegetable oil	Α	Α	Α	Α
Versilube	Α	Α	Α	Α
Vinegar	С	A	A	A
Cinyl chloride Water, potable	B C	A	A A	A A
Whisky	C	В	A	A
Wine	Č	В	Ä	A
Wood pulp	A	Α	Α	Α
Wort	Α	Α	A	Α
Xylene	В	В	В	A
Yeast Zinc acetate	A	A	A A	A A
Zinc acetate Zinc chloride-dry	A	A	A	A
Zinc chloride-dry Zinc chloride-moist	Ĉ	C <sup>3.4</sup>	C³	A
Zinc molten	c	С	C	D
Zinc sulphate	С	В	Α	Α