

Corrosion Guide

Buyers, metallurgists and engineers alike are continually faced with the question: "What material shall I use for this application?" This "Guide" is a helpful source of information in dealing with such questions.

It must be emphasized that while this guide provides useful basic information, it should not be regarded as the final word in choosing the best material for any given application. All environmental conditions should be carefully taken into account.

The input of most of the leading primary metal and plastic producers is reflected in this compilation. Where conflicting opinions were encountered, the lower corrosion rating has in each case been listed.

	Brass and Naval Bronze	Silicon Bronze	Monel Metal	Stainless Types 410, 416 and 430 (Magnetic)	Stainless Types 302, 303, 304 and 305 18-8 (A2)	Stainless Type 316 (A4)	Copper	Aluminum	Nylon
Acetate Solvents, Crude	Fair	Good	Good	Good	Excel	Excel	Good	Excel	Good
Acetate Solvents, Pure	Excel	Excel	Excel	Excel	Excel	Excel	Excel	Excel	Excel
Acetate Acid, Crude	Fair ¹	Good	Good	Poor ²	Good	Excel	Good	Good	Poor
Acetate Acid, Pure	Fair ¹	Good	Good	Poor ²	Good	Excel	Good	Excel	Poor
Acetic Acid Vapors	Poor	Good	Fair	Poor	Good	Excel	Good	Good	Poor
Acetic Anhydride	Poor	Good	Good	Poor	Good	Excel	Good	Excel	Poor
Acetone	Excel	Excel	Excel	Excel	Excel	Excel	Excel	Excel	Excel
Acetylene	³	Poor	Good	Excel	Excel	Excel	Poor	Excel	
Alcohols	Good	Excel	Excel	Excel	Excel	Excel	Excel	Good	Good
Aluminum Sulfate	Fair ¹	Good	Good	Poor	Fair	Good	Good	Fair	Poor
Alums	Fair ¹	Good	Good	Poor	Fair	Good	Good	Excel	Fair
Amonia Gas ⁴	Poor ^{5,6}	⁶	⁶	Excel	Excel	Excel	⁶	Excel	Good ³⁶
Ammonium Chloride	Fair ¹	Good	Excel	Fair	Fair	Excel	Good	Poor	Fair
Ammonium Hydroxide	Poor	Poor	Fair	Excel	Excel	Excel	Poor	Good	Good ³⁶
Ammonium Nitrate	Poor	Fair	Fair	Excel	Excel	Excel	Fair	Excel	Fair
Ammonium Phosphate (Ammoniacal)	Poor	Poor	Good	Excel	Excel	Excel	Poor	Poor	Good
Ammonium Phosphate (Neutral)	Fair	Fair	Good	Good	Excel	Excel	Fair	Fair	Excel
Ammonium Phosphate (Acid)	Fair ¹	Fair	Good	Fair	Good	Excel	Fair	Fair	Fair
Ammonium Sulfate	Fair ¹	Fair	Good	Good	Excel	Excel	Fair	Good ³⁵	Fair
Asphalt	Good	Excel	Excel	Good	Excel	Excel	Excel	Excel	Excel
Beer	Good	Good	Excel	⁷	Excel	Excel	Good	Excel	Excel
Beet Sugar Liquors	Good	Excel	Excel	Good	Excel	Excel	Excel	Excel	Good
Benzene or Benzol ⁸	Excel	Excel	Excel	Excel	Excel	Excel	Excel	Excel	Excel
Benzine ⁸	Excel	Excel	Excel	Excel	Excel	Excel	Excel	Excel	Excel
Borax	Good	Good	Excel	Excel	Excel	Excel	Good	Good	Good
Boric Acid	Fair ¹	Good	Excel	Fair	Good	Excel	Good	Excel	Good
Butane, Butylene, Butadiene ⁹	Excel ³⁴	Excel ³⁴	Excel	Excel ¹⁰	Excel ¹⁰	Excel ¹⁰	Excel ³⁴	Excel	Excel
Calcium Bisulfite	Poor	Good	Poor	Poor	Good	Excel	Good	Poor	Good
Calcium Hypochlorite	Fair	Fair	Fair	Poor	Fair	Good	Fair	Poor	Fair
Cane Sugar Liquors	Good	Excel	Excel	Good	Excel	Excel	Excel	Excel	Good
Carbon Dioxide (Dry)	Excel	Excel	Excel	Excel	Excel	Excel	Excel	Excel	Excel

Numerals refer to notes on page R18.
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