



MITUSA INTERNATIONAL CORP.

626 Roberta Avenue
Dover, DE 19901-4612
web: www.mitusha.com

Tel: (302) 674-2977
Fax: (302) 678-9624
Email: sales@mitusha.com

Corrosion of Base Metals in Contact

The susceptibility of different base metals to corrosion while in contact, depends upon the difference between the contact potentials, or the electromotive voltages of the metals involved.

The greater the potential difference is, the greater is the tendency for corrosion. The metal with the higher potential forms the anode and is corroded.

Electromotive or Galvanic Series for Metals	
+ Anodic (least noble) corroded	Magnesium Magnesium alloys Zinc Berillium Aluminum 5052, 3004, 3003, 1100, 6053 Cadmium Aluminum 2117, 2017, 2024 Mild steel (1018), wrought iron Low alloy high strength steel, cast iron Chrome iron (active) 430 Stainless (active) 302, 303, 321, 347, 410, 416, stainless steel (active) Ni-resist 316, 317 stainless steel (active) Carpenter 20Cb-3 stainless (active) Aluminum bronze (CA 687) Hastelloy C (active) Inconel 625 (active) Titanium (active) Lead/Tin solder Lead Tin Inconel 600 (active) Nickel (active) 60 Ni-15 Cr (active) 80 Ni-20 Cr (active) Hastelloy B (active) Naval brass (CA 464), Yellow brass (CA 268) Red brass (CA 230), Admiralty brass (CA 443) Copper (CA 102) Maganese bronze (CA 675), Tin bronze (CA 903, 905) 410, 416 Stainless (passive) Phospher bronze (CA 521, 524) Silicon bronze (CA 651, 655) Nickel silver (CA 732, 735, 745, 752, 754, 757, 764, 770, 794) Cupro Ni 90-10 Cupro Ni 80-20 430 Stainless steel (passive) Cupro Ni 70-30 Nickel aluminum bronze (CA 630, 632) Monel 400, K500 Silver solder Nickel (passive) 60 Ni 15 Cr (passive) Inconel 600 (passive) 80 Ni 20 Cr (passive) Chrome iron (passive) 302, 303, 304, 321, 347 stainless stainless steel (passive) 316, 317 stainless steel (passive) Carpenter 20 Cb-3 stainless (passive), Incoloy 825 Silver Titanium (passive), Hastelloy C & C276 (passive), Inconel 625 (passive) Graphic Zirconium Gold Platinum
- Cathodic (most noble) protected	

Electric current flows from plus to minus
 Direction of attack

Table A1 — Electromotive or Galvanic Series for Metals