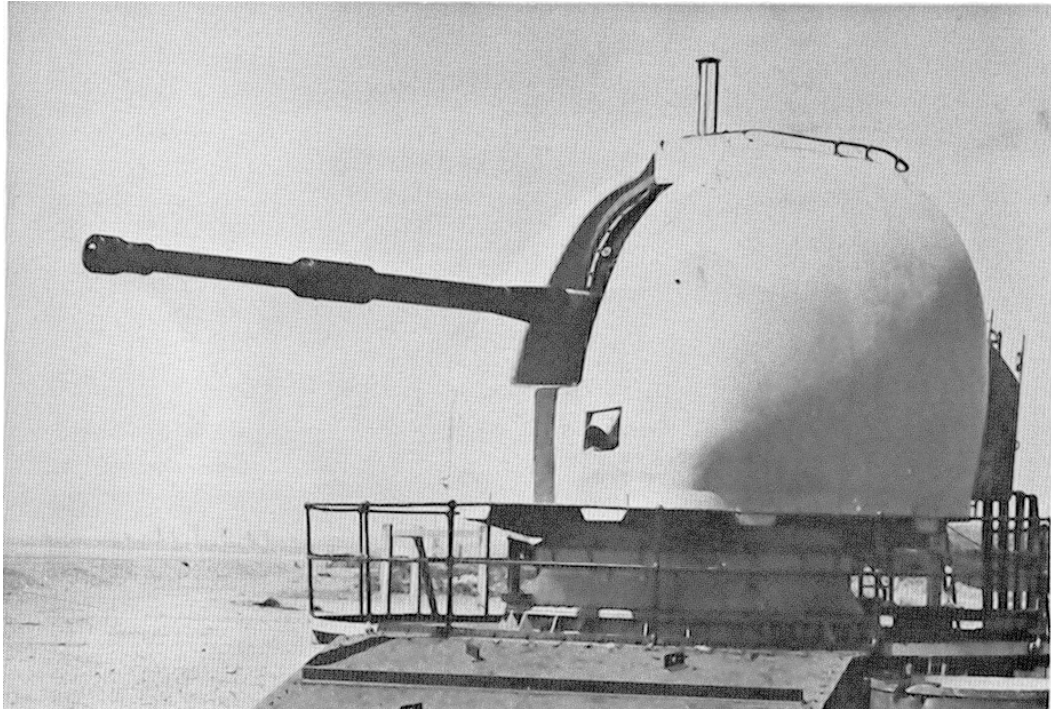


Metallisation Application Data Sheets



AC7 Anti-Corrosive



Surface Protection of a Naval weapon

The high rate of fire of the 4.5" (115mm) Naval Gun developed by R.A.R.D.E. combines with the marine atmosphere of the weapon's location to create a formidable anti-corrosive problem. There is a build up of an ammoniacal copper residue from the shell driving bands and the breakdown products of combustion from the propellant, plus a massive volume of flame impingement on the inside of the fume extracting device mounted along the barrel. The heat generated during firing also contributes to the corrosive problem as the temperature approaches 250°C.

Traditional methods of protecting the metal surfaces would be totally inadequate, and working in conjunction with Metallisation Ltd., R.A.R.D.E. has produced an anti-corrosive treatment to match the advanced nature of the gun itself.

The treatment is two-fold; the internal surfaces of the fume extractor are gritblasted and arcsprayed with aluminium to a thickness of between 200µm (0.008") and 250µm (0.010"). The surface is then burnished to remove irregularities, which could provide areas in which corrosive deposits could build up. Externally, the surface is gritblasted followed by a deposit of aluminium to a depth of 375µm (0.015"). A paint finish is then applied consisting of an etch primer, a chrome rich epoxy under-coating and a topcoat of two-part polyurethane paint.

This is a very sophisticated treatment, and although specialized in this particular context does have civil and industrial applications where equipment is operating under equally arduous conditions.