

## Technical datasheet

## ARCAP anticorrosion grades

ARCAP alloys are very corrosion resistant in the majority of chemical and physical environments. They are highly formable, non-magnetic and their electrical resistivity is stable over changing temperatures.

### Available products

Product form	UNS	Bar	Wire	Strip	Sheet
AP1D	C76390	X	X		
AP1		X	X	X	X
AP1C		X	X	X	X
AP14		X	X	X	X

### Chemical composition (%)

	Ni	Remainder	Zi	Cu
AP1	25	2.0	8.0	65.0
AP1D	25	2.5	11.5	61.0
AP1C	25	20	17.0	56.0
AP4M* / AP4*	45	1.5	-	53.5

\* Please indicate if required for electronic application

### Physical properties

	AP1, AP1D, AP1C	AP4, AP4M
Density g/cm <sup>3</sup>	8.80	8.91
Melting range °C	1150-1170	1225-1285
Coefficient of expansion, x10 <sup>-6</sup> /°C	16-17	16-17
Resistivity, μΩ-cm	35-40	49
Non-magnetism (Oersted)	10 <sup>-6</sup>	10 <sup>-6</sup>

### Key attributes

ARCAP alloys are very corrosion resistant in particular they have high resistance to scaling in hard water environments. They are highly non-magnetic - a detector sensitive to 1/10 nanotesla placed 1 mm from an ARCAP grade will not show any magnetic interference. These properties are maintained to cryogenic temperatures as are their mechanical properties. At low temperatures yield and tensile strength increase without any negative effect on elongation or impact properties.

ARCAP alloys are readily fabricated by a range of methods including forging, stamping, machining and deep drawing. They can be joined by welding or brazing and are also easily plated. The APD1 grade in particular has been developed specifically for optimum machinability and can be machined at cutting speeds up to 150m/minute.

### Applications

Connectors, sensors, sleeves	Marine and military
Electronics and electrical engineering	Watch industry
Ferrules and ferrule holders for fibre optics	Electron tube devices
Medical, screws for MRI	

All information is subject to change without notice. The properties correspond to the material in the heading. They may vary for other specifications. Please contact us for more details.