

AI-1801

Description and Applications

AI-1801 Molybdenum Spray Wire is an essentially pure molybdenum wire manufactured exclusively for **flame spraying**. It bonds directly to clean metal surfaces without other preparation, forming an ideal surface for the application of another flame sprayed coating. Used by itself, it provides a hard, long-wearing surface particularly where thin coatings are required.

AI-1801 Molybdenum Spray Wire is certifiable as meeting Department of Defence specification MIL-W-6712B, Table II, Molybdenum.

AI-1801 Molybdenum Spray Wire can be sprayed with Alloys International (Australasia) Pty Ltd metallizing gun, using acetylene as the fuel gas.

Applications: The bond strength of **AI-1801 Molybdenum Spray Wire** is high on common steels, stainless steels, Monel™, nickel, chrome-nickel alloys, cast iron, cast steel, magnesium and most aluminium alloys. The bond to lead, tin, zinc and galvanized iron is fair. It will not bond properly to copper, brass, bronze, chrome plate, nitrided surfaces or Duriron.

AI-1801 Molybdenum Spray Wire fuses to the substrate. A very thin alloy layer is formed at the interface. It will bond to smooth, clean surfaces of most metals and alloys with the exceptions mentioned above. Only the first layer is fused; subsequent layers are bonded by mechanical interlock and oxide cementation.

AI-1801 Molybdenum Spray Wire coatings are cathodic to iron or steel. It provides corrosion protection for iron or steel only if a non-porous coating which protects the base mechanically is produced. For corrosive conditions, an appropriate sealer must be used. Molybdenum has reasonably good chemical resistance, but is attacked by many acids, sulphur compounds and caustics.

AI-1801 Molybdenum Spray Wire provides excellent journal surfaces. It is superior to any other metal on journals used with bronze bearings where abrasive conditions are severe. Use it for building up worn grinder spindles, worn surfaces of aluminium V pulleys and aluminium and iron brake drums on elevators and presses.

Use it to repair cracked engine blocks, heads and similar castings; damaged lathe ways; mold patterns and match plates.

AI-1801 Molybdenum Spray Wire is highly recommended for inside diameters and flat surfaces either by itself or as a bond coat.



Typical Analysis

Mo
99.90

Mechanical Properties

	As Sprayed
Melting Point	2,621°C
Coating Tensile Strength	51.7MPa
Macro-hardness	40 HRC
Density	8.86 gm/cm ³
Shrink	0.003 in./in.

Finish

Finish coatings of **AI-1801 Molybdenum Spray Wire** by grinding.

Spraying Properties

Spray Rate	5kg/hr/100amps (11lbs/hr/100amps)
Coverage	0.98kg/m ² /micron
Length of Wire	59m/kg (1.6mm diameter)

Disclaimer

All figures in this datasheet should be considered indicative only. No guarantee is made as to their accuracy. All figures subject to change without notice. Batch analysis is available for all products sold. Should you require any further information, please contact us at sales@alloysint.com.au

