

WIRES - TECHNICAL & APPLICATION DATA

Technical Data Sheet 01E

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APPLICATIONS

Used to provide protective coatings against atmospheric, chemical and high temperature corrosion, aluminium is also used to produce electrically and thermally conductive coatings and to reclaim mis-machined aluminium surfaces.

WIRE DETAILS

Wire Size : 1.6mm, 2.0mm, 2.3mm (11g B&S), 3.17mm (1/8"), 4.76mm (3/16")
Composition : Aluminium 99.5% min purity

PHYSICAL PROPERTIES OF COATING*

Adhesion : Arc: Up to 13.78 MPa (2000 psi) on blasted surface
Gas: Up to 5.52 MPa (800 psi) on blasted surface

Specific Electrical Resistance: $4-6 \times 10^{-6}$ ohm-cm

Density : 2.41 gm/cc
Melting Point : 660°C (1220°F)
Hardness : 55 Knoop 100, 25-30 HB

* The physical properties shown above are given as a guide only. In practice, the values achieved are dependent on the spraying parameters, the equipment used, surface preparation etc.

TYPICAL PERFORMANCE FIGURES*

PERFORMANCE	FLAME SPRAYING	ARC SPRAYING
Throughput	1 - 7.5 Kg/Hr	2.7 Kg/Hr/100A
Efficiency	85% Approx	65% Approx
Weight of Wire Required	0.28 Kg/m ² /100μ	0.35 Kg/m ² /100μ

* The above data is given as a general guide only. Reference should be made to the Operating Equipment Manual for greater detail.

TYPICAL SPRAYING PARAMETERS

(See Equipment Manuals for details)

a) Combustion Gas Spraying Metallisation Mark 73, 61 and 66E Pistols

FUEL GAS	MIXING BLOCK NOZZLE AIR NIPPLE	GAS PRESSURE	OXYGEN PRESSURE	FLOWMETER SETTINGS	AIR PRESSURE
Propane	Ref Pistol Manual	1.7 bar	2.7 bar	Ref Pistol Manual	3.8 bar
Acetylene	Ref Pistol Manual	1.03 bar	1.9 bar	Ref Pistol Manual	3.8 bar

Propane is the recommended fuel gas. However if supplies are limited, acetylene can be used successfully.

b) Electric Arc Spraying

Metallisation Arc Spray Pistols : 140, 340, 701, 170 and 528E

Main Build Coating Settings

Atomising Air Pressure : 5.5 Bar
 Spray Distance : 125 to 175mm
 Voltage Setting : 26-28V
 Current : Dependent upon the Energizer used and Wire Diameter.

FINISHING

One step main-build coatings can be turned or ground to an excellent surface finish

To comply with Health and Safety Legislation you are recommended to consult the MSDS referring to this material.