

AI-1701

Specifications

AWS/ASME SFA 5.21 ERC CoCRC
EN 14700 TZ Co3

Description and Applications

Cobalt-based Alloy 1 surfacing alloy particularly suited for surfacing parts subject to either the single or combined effects of abrasion, erosion, and metal-to-metal wear, with operating temperatures up to 800°C in corrosive media.

The exceptional wear resistance of **AI-1701** family of alloys is due mainly to the unique inherent characteristics of the hard carbide phase dispersed in a CoCr alloy matrix.

Applications include: rolling mill guides, pump bushes and spindles, agitators and mixers, steam turbine parts, extrusion dies, plastics extruder screws and scrapers. This alloy is well suited to applications involving extreme low-angle erosion and severe abrasion. However, **AI-1701** is more crack sensitive than the other cobalt alloy grades and as such care should be taken to minimize the cooling stresses experienced during the cladding process.

Typical Weldmetal Analysis

C	Mn	Si	Cr	Fe	W	Co
2.77	0.70	3.80	27.30	3.00	11.10	Bal

Mechanical Properties of Weldmetal

	As Welded
Shock Resistance	Low to Moderate
Metal-to-Metal Wear Resistance	Excellent
Abrasion Resistance	Very Good
High Temperature Resistance	Excellent
Thermal Shock Resistance	Moderate
Hardness	58-60HRc 37HRc (at 500°C)
Machineability	Grinding

Welding Parameters

Spray Transfer: 30V-250A
Pulse Arc: 25V-180A

Diameter (mm)	Current type	Amps
1.2	DC(+)	150-220
1.6	DC (+)	180-300



ALLOYS INTERNATIONAL PTY LTD

25 Raymond Road Laverton North Victoria 3026

Telephone: +61 3 8368 2222

ABN 53 112 712 286

sales@alloysint.com.au | www.alloysint.com.au

Available Forms

Bare/TIG Rod AI-061B

Coated Electrode AI-061E

Arc Spray Wire AI-1801

PTA / Laser Powder AI-2001

Flame spray powder AI-2101

Castings, Sleeves, Valve Seats, Bar, Sheet, HIP'ed castings

AI-1701 Can also be applied by Laser cladding

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



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