

Sales Offices	Phone	Fax
Adelaide	08 8345 1033	08 8345 1044
Brisbane	07 3722 0800	07 3277 6799
Melbourne	03 9409 8500	03 9408 3946
Sydney	02 9827 0790	02 9757 4486
Perth	08 9258 2600	08 9358 6206

## PRODUCT DATA SHEET

## Inconel 82 Welding Filler Metal UNS N06082

## Nickel Alloy Welding Consumable

### Chemical Composition (Deposited weld metal)

Element	%	Element	%
Carbon	0.10 Max	Iron	3.00 Max
Manganese	2.50 - 3.50	Phosphorus	0.030 Max
Silicon	0.50 Max	Titanium	0.75 Max
Sulphur	0.015 Max	Chromium	18.00 - 22.00
Copper	0.50 Max	Niobium	2.00 - 3.00
		Nickel	67.00 Min

**Inconel Filler Metal 82** is suitable for moderate creep service. FM82 is used for GTAW(TIG), GMAW(MIG) and SAW of Inconel alloys 600, 601 and 690, Incoloy alloys 800 and 800HT, and alloy 330. It is also used for surfacing of steel for corrosion and oxidation resistance, and is available in strip form.

Submerged arc welding is done with INCOFLUX 4 Submerged arc flux. For submerged arc surfacing, INCOFLUX 6 Submerged arc flux is used, to a maximum of three layers.

Weld metal deposited by Filler Metal 82 has high strength and good corrosion resistance, including oxidation resistance and creep rupture strength at high temperatures. Dissimilar welding applications include joining of Inconel alloys, Incoloy alloys, and alloy 330 to nickel, Monel, stainless steel, and carbon steels. FM82 can also be used to join stainless steel to nickel alloys and carbon steel.

### Minimum Mechanical Properties (All weld metal, as welded)

Tensile Strength MPa	Elongation %
550	30

### Sizes and Welding Parameters

#### (a) GTAW (900 mm lengths)

Diameter, mm	1.6	2.4	3.2	4.0
Amps, DCEN	90 - 160	100 - 190	110 - 210	130 - 230
Gas cup size (inch)	3/8 - 5/8	3/8 - 5/8	1/2-5/8	1/2-5/8
Electrode diameter (inch)	1/16 - 3/32	1/16 - 3/32	3/32 - 1/8	3/32 - 1/8

#### (b) GMAW (13.6 kg spools)

Diameter, mm	0.9	1.2	1.6
Wire feed speed, mm/min	425 - 520	250 - 310	125 - 200
Voltage	26 - 32	26 - 32	27 - 33
Current, amps	180 - 260	225 - 300	250 - 330
Shielding gas	Argon or (Argon + 25% Helium)		

(c) **SAW wire** - 20-30 Kg coils of wire below 2.0mm, 20-45 Kg coils of wire above 2.0mm

(d) **Inconel FM82 Weldstrip** is nominally 60 x 0.5 mm

**Specifications**      AWS A5.14 ERNiCr-3