

Outershield® 81Ni1-H

Key Features

- All positional (except 2.0mm) gas shielded 1.0% Ni, alloyed flux cored wire
- Exceptional mechanical properties [Impact properties >47J @ -50°C]
- Meets NACE MR-0175 requirements
- EN 10204 3.1 type certificates available

Conformances

AWS A5.29/A5.29M: E81T1-Ni1M J H4 (not 2.0mm)

AS/NZS ISO 17632-A: T 50 5 1Ni P M 2 H5

AS/NZS ISO 17632-B: T 55 5 T1-1 M A N2 U H5

Also complies with

AS/NZS ISO 17632-B: T 55 5 T1-1 M A N1 U H5

Lloyds Register: 4Y46SH5

DNV: IV Y46MS(H5)

BV: SA4M, SA4YM H5

Typical Applications

- Welding prequalified procedures for steel group 8C according to AS/NZS 1554.1 Table 4.6.1.
- Suitable for offshore and similar applications
- Boiler and pressure vessels
- Low alloy high strength steels

Welding Positions



Shielding Gas

- 75-85% Argon / 15-25% CO₂
- Flow Rate: 15-25 L/min

Diameter / Packaging / Settings

Diameter mm	Part Number	Packaging	WFS in/min	Voltage volts	Current amps	CTWD mm
1.2	941378NE	Spool S300 VFB 16kg	175-600	20-32	130-300	15-20
1.2	942317	200kg Drum	175-600	20-32	130-300	15-20
1.6	941380NE	Spool S300 VFB 16kg	125-400	22-32	170-400	20-25
2.0	941381N	Spool S300 VFB 16kg	125-325	23-32	220-450	20-25

Mechanical Properties - As required per AWS A5.29

	Yield Strength MPa	Tensile Strength MPa	Elongation %	Charpy V-Notch J @ -40°C
Requirements - AWS E81T1-Ni1M-J H4. As Welded with M21 gas	470 min	550-690	19 min	27 min
Typical Results	530	600	24	90

Deposit Composition

	%C	%Mn	%Si	%S	%P	%Ni	Diffusible Hydrogen
Typical Results	0.05	1.4	0.20	0.010	0.013	0.92	4 ml / 100 g