

# Outershield® 81Ni1-HSR

## Key Features

- All positional gas shielded 1.0% Ni, alloyed flux cored wire
- Exceptional mechanical properties (Impact properties >47J) at -50°C)
- Meets NACE MR-0175 requirements
- EN 10204 3.1 type certificates available
- Outstanding operator appeal

## Conformances

**AWS A5.29/A5.29M:** E81T1-Ni1M-J H4  
**AS/NZS ISO 17632-A:** T 50 5 1Ni P M 2 H5 T  
**AS/NZS ISO 17632-B:** T 55 5 T1-1 M AP N2 U H5

Also complies with

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

**Lloyds Register:** 4YSH5

**DNV:** IV YMSH5

## 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
- Specifically designed for stress relieved applications, excellent impact properties after PWHT

## Welding Positions



## Shielding Gas

- 75-85% Argon / 15-25% CO<sub>2</sub>
- 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	942719N	Spool S300 VFB 16kg	175-600	20-32	130-300	15-20

## Mechanical Properties - As required per AWS A5.29

	Yield Strength MPa	Tensile Strength MPa	Elongation %	Charpy V-Notch J @ -40°C
<b>Requirements</b> - AWS E81T1-Ni1M-J H4. As Welded with M21 gas	470 min	550-690	19 min	27 min
<b>Typical Results</b> - As Welded	530	600	24	90
<b>Typical Results</b> - Stress Relieved*	525	590	25	70 @ - 50°C

\*1Hr/600°C, 3G up - V45°

## Deposit Composition

	%C	%Mn	%Si	%S	%P	%Ni	Diffusible Hydrogen
<b>Typical Results</b> - As Welded	0.05	1.4	0.20	0.010	0.013	0.95	3 ml / 100 g