

# Outershield® 690-H

## Key Features

- All positional gas shielded flux cored wire for high strength steels
- Exceptional mechanical properties (Impact properties >50J @ -40°C)
- Outstanding operator appeal, excellent feeding
- EN 10204 3.1 type certificates available

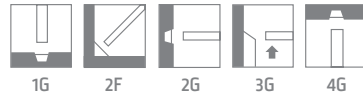
## Typical Applications

- Welding prequalified procedures for steel groups 9Q and 10Q according to AS/NZS 1554.4 Table 4.6.1.
- Ideal for Bisplate 80, Welten 80 etc.
- Where high strength weld metal is required
- Mining and heavy fabrications

## Conformances

**AWS A5.29/A5.29M:** E11T1-K3M-J H4  
**AS/NZS ISO 18276-A:** T 69 4 Z P M 2 H5  
**AS/NZS ISO 18276-B:** T 76 4 T1-1 M A N3M2 U H5  
**DNV-GL:** IV Y69MS H5 (diam 1.2mm)  
**ABS:** 4YQ690 H5 (diam 1.2mm)

## 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	942453EN	Spool S300 VFB 16kg	175-600	21-30	130-300	15-20
1.6	942447N	Spool S300 VFB 16kg	200-400	22-30	170-350	20-25

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

	Yield Strength MPa	Tensile Strength MPa	Elongation %	Charpy V-Notch J @ -30°C
Requirements - AWS E11T1-K3M-J H4 As Welded with M21 gas	680 min	760-900	15	27 min
Typical Results - As Welded	780	810	18	85

## Deposit Composition

	%C	%Mn	%Si	%S	%P	%Ni	%Mo	Diffusible Hydrogen
Typical Results - As Welded	0.06	1.5	0.20	0.010	0.015	2.0	0.30	3 ml / 100 g