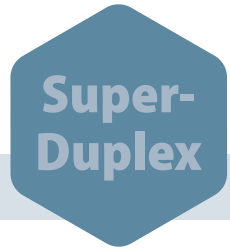




Langley Alloys



Ferralium® 255 - SD50 Welding Wire

Specifications:

AWS 5.4 E2553-XX W39553

Key Features:

- Ferralium® 255 - SD50 weld wire is available for GTAW and GMAW welding processes
- Available in diameters 1.2mm, 1.6mm (1/16"), 2.4mm (3/32") and 3.2mm (1/8")
- Over-alloyed in Nickel to ensure correct phase balance is maintained when welding with standard shielding and backing gases.

Chemical composition:

	Cr	Ni	Mo	Co	Nb (+Ta)	Ti	V	W	Cu	C	Mn	N	Si	P	S	Fe	Al
Min	24.00	6.50	2.90						1.50		0.50	0.10	0.30				
Max	27.00	8.50	3.90						2.50	0.06	1.50	0.25	0.70	0.04	0.03		

Note: 1. PREN >40

Mechanical Properties:

	Minimum	Typical
Tensile strength, N/mm ² (ksi)	750 (109)	940 (136)
0.2% Yield strength, N/mm ² (ksi)	550 (80)	760 (110)
Elongation 5.65√So, %	20	24
Hardness (Vickers)		300
Impact strength @ -46°C (-50F), J (ft-lb)	45 (33)	70 (52)

Dimensions:

Welding process	Weld wire diameter	Product form
GTAW	1.6mm (1/16")	Bare wire cut in 1m (39.4") lengths, in tube packs of 5.0kg. Individually coin stamped at one end with FER 255-SD50. Batch number printed on labels.
	2.4mm (3/32")	
	3.2mm (1/8")	
GMAW	1.2mm (3/64")	Wound on spools (DIN 300 standard) of 12.5kg weight.
	1.6mm (1/16")	Labelled and marked with FERRALIUM 255-SD50.

Welding Parameters:

	GTAW (TIG) welding	GMAW (MIG) welding
Shielding gas	Argon	
Maximum interpass temperature	100°C (212°F)	100°C (212°F)
Current	DC	DC
Diameter	1.6 - 3.2mm (1/16 - 1/8")	1.2 - 1.6mm (3/64 - 1/16")
Voltage	100A / 10V	180A / 28V

Qualification:

ASME IX: Group P10H

BS EN ISO 15614:1 Group 10.1

Fume and Safety Data:

Fume composition (wt %)

Fe	Mn	Ni	Cr	Cu	Mo	V	F	OES (mg/m ³)
28	10	8	22	1.5	2	<0.1	16	2.3

When welding it is important to work safely, the welding practices and safety guidelines outlined in the Welding Manufacturers Association leaflets 236 and 237 should be strictly adhered to.

Production route:

All starting material shall be melted electric arc and/or electric induction furnace process and refined by Argon Oxygen Decarbonization (AOD) or Vacuum Arc Decarbonization (VAD). Subsequent further refining by Electric Slag Refining (ESR) is preferred. This material is manufactured in accordance with AWS 5.4 E2553-XX UNS W39553 although the product is a solid wire rather than a flux-coated wire.

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