Dual Shield II 101H4M

Dual Shield II 101H4M is one of a series of low hydrogen flux cored electrodes introduced by ESAB. Each of the new Dual Shield II H4 wires is an all-position flux cored electrode that provides excellent low temperature toughness in both the as welded and/or stress relieved conditions (as applicable) when used with 75% Ar /25% CO_2. Each can produce diffusible hydrogen levels of < 4mL/100g deposited over a wide range of welding parameters. Dual Shield II 101H4M is especially designed to weld HY-80 and HSLA-100 steels typically used in shipbuilding. Suitable for single or multi-pass welding applications. This wire was developed to meet the stringent requirements of MIL-E-24403/2 and offshore welding, and it is an ideal choice for HSLA steels.

Specifications	
Classifications	ASME SFA 5.36 ASME SFA 5.29 AWS A5.36 : E91T-M21A6-K2H4 AWS A5.29 : E91T1-GM-H4
Approvals	ABS QPL-24403/2 : MIL-101TM
Industry	Ship/Barge Building Pipeline Mobile Equipment Industrial and General Fabrication

Approvals are based on factory location. Please contact ESAB for more information.

Tensile_Properties					
Testing Condition	**Conditional Statement**	**Yield Strength**	**Tensile Strength**	**Elongation**	**Reduction in Area**
75% Ar - 25% CO2					
As Welded	AWS A5.29 Requirement	640 MPa	705 MPa	23 %	67 %
As Welded	MIL-E-24403/2 Vertical-Up HY-80 Base Plate	598 MPa	680 MPa	27 %	68 %

Charpy Testing		
Testing Condition	**Testing Temp**	**Impact Value**
75% Ar - 25% CO2		
As Welded	-18 °C	95 J
As Welded	-50 °C	66 J

Typical Weld Metal Analysis %					
C	**Mn**	**Si**	**S**	**P**	**Ni**
75% Ar - 25% CO2					
0.059	1.37	0.36	0.010	0.012	2.09

Deposition Data							
Diameter	**Amps**	**Volts**	**Wire Feed Speed**	**Efficiency (Per)**	**Deposition Type**	**TTW Dist**	**Deposition Rate**
1.6 mm	365 A	33 V	762 cm/min	86 %			5.6 kg/h
1.4 mm	135-250 A	22-26 V	279-584 cm/min		Full Range	12.7-16 mm	
1.6 mm	285-340 A	27-30 V	508-762 cm/min		Full Range	19-25.4 mm	
1.4 mm	310 A	33 V	889 cm/min	85 %			4.6 kg/h
1.2 mm	290 A	33 V	1270 cm/min	87 %			4.8 kg/h
1.2 mm	210 A	29 V	762 cm/min	86 %			2.8 kg/h
1.6 mm	185-285 A	24-28 V	279-508 cm/min		Full Range	16-19 mm	
1.2 mm	150 A	28 V	508 cm/min	86 %			1.9 kg/h
1.6 mm	190 A	27 V	38 cm/min	87 %			2.8 kg/h

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1.6 mm	340-400 A	28-32 V	762-1067 cm /min		Full Range	25.4-31.75 mm	
1.4 mm	295-355 A	27-31 V	864-1194 cm /min		Full Range	19-25.4 mm	
1.4 mm	360 A	36 V	1143 cm/min	85 %			6.0 kg/h
1.6 mm	300 A	30 V	35 cm/min	87 %			4.6 kg/h
1.4 mm	155 A	25 V	381 cm/min	87 %			2.0 kg/h
1.4 mm	245 A	28 V	635 cm/min	86 %			3.3 kg/h
1.2 mm	200-225 A	24-27 V	660-965 cm/min		Full Range	12.7-19 mm	
1.6 mm	410 A	33 V	889 cm/min	88 %			6.4 kg/h
1.2 mm	130-200 A	22-26 V	381-660 cm/min		Full Range	9.5-12.7 mm	
1.2 mm	225-265 A	27-29 V	965-1321 cm /min		Full Range	19-25.4 mm	
1.4 mm	250-295 A	25-29 V	584-864 cm/min		Full Range	16-19 mm	
1.2 mm	250 A	30 V	1016 cm/min	87 %			3.9 kg/h
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