

Purus 42

Purus 42, AWS ER70S-6 wire, is specially formulated to reduce post-welding cleaning. The superior wire composition reduces silica islands and spatter. Purus has excellent arc start ignition, arc stability and significantly less spatter. In robotic and high volume operations, Purus can significantly reduce post welding cleaning time by reducing silica islands and unplanned downtime in multipass welding. It can also increase uptime with longer tip life. With exceptional control of wire composition and the manufacturing process, Purus maintains a stable process between batches.

Specifications

Classifications	EN ISO 14341-A: : G 3Si1 SFA/AWS A5:18: : ER70S-6
Approvals	CWB : CSA W48-14 VdTÜV : 19190 CE EN : 13479

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

Alloy Type	Carbon-manganese steel (Mn/Si-alloyed)
Shielding Gas	M20, M21, C1 (EN ISO 14175)

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
100% CO₂			
As Welded	430 MPa (62 ksi)	530 MPa (77 ksi)	24 %
80% Ar - 20% CO₂			
As Welded	470 MPa (68 ksi)	560 MPa (81 ksi)	25 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
100% CO₂		
As Welded	20 °C (68 °F)	110 J (81 ft-lb)
As Welded	-30 °C (-22 °F)	75 J (55 ft-lb)
As Welded	-40 °C (-40 °F)	65 J (48 ft-lb)
80% Ar - 20% CO₂		
As Welded	-40 °C (-40 °F)	80 J (59 ft-lb)
As Welded	-30 °C (-22 °F)	90 J (66 ft-lb)
As Welded	20 °C (68 °F)	130 J (96 ft-lb)

Typical Wire Composition %

C	Mn	Si	S	P
0.085	1.45	0.85	0.020	0.020

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate
1.6 mm (1/16 in.)	225-550 A	28-38 V	2.3-10 m/min (90-395 in./min)	2.1-9.4 kg/h (4.6-20.7 lbs/h)
1.4 mm (0.052 in.)	150-420 A	22-36 V	2.3-12 m/min (90-470 in./min)	1.6-8.7 kg/h (3.5-19.2 lbs/h)
1.2 mm (0.045 in.)	120-380 A	18-35 V	2.5-15 m/min (100-590 in./min)	1.3-8.0 kg/h (2.9-17.6 lbs/h)
1.0 mm (0.040 in.)	80-300 A	18-32 V	2.7-15 m/min (105-590 in./min)	1.0-5.5 kg/h (2.2-12.1 lbs/h)
0.9 mm (0.035 in.)	70-250 A	18-26 V	3.0-12 m/min (120-475 in./min)	0.9-3.5 kg/h (2.0-7.7 lbs/h)

MILD STEEL

MIG WIRES / TIG RODS (GMAW/GTAW)



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Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate
0.8 mm (0.030 in.)	60-200 A	18-24 V	3.2-10 m/min (125-395 in./min)	0.8-2.3 kg/h (1.8-5.1 lbs/h)