

STOODITE® 21-M

Gas Metal Arc Welding Wire

AWS Classification A5.21:2011 ERCCoCr-E

Stoodite 21-M wire deposits a low carbon austenitic cobalt type alloy with excellent work hardenability, high temperature strength, and impact resistance. These deposits are quite stable during thermal cycling, making them a favorite for hot die materials. Resistance to galling (self-mated), corrosion, and cavitation erosion make Stoodite 21 a good choice for valve trim on steam and fluid control valve bodies and seats. It bonds well to all weldable steels, including stainless.

TYPICAL MECHANICAL PROPERTIES

Abrasion Resistance	Fair
Impact Resistance	Excellent
Corrosion Resistance	Good
Hardness (2 layers)	HRC 22 - 26
Work Hardened	HRC 40 - 45
Hot Hardness	Excellent
Magnetic	No
Deposit Layers	Unlimited
Surface Cross Check	No
Machinability	Use carbide tools

TYPICAL ALL WELD METAL COMPOSITION (WT%)

Carbon	0.3
Chromium	27.4
Iron	3.8
Manganese	0.7
Molybdenum	5.4
Nickel	2.0
Silicon	0.5
Tungsten	0.1
Cobalt	Balance

Note:

Chemical composition values are typical and were developed in accordance with AWS A5.21 procedures. Actual test results may vary depending on welding parameters, degree of dilution and base metal composition.

TYPICAL APPLICATIONS

- Steam valves
- Hot shears
- Chemical and petrochemical valves
- Hydro-turbine cavitation repair
- Forging dies
- Piercing plugs

OPERATIONAL CHARACTERISTICS/WELDING PARAMETERS (DCEP)

0.045" (1.2 mm)	
Current DCEP, amp	180 – 200
Voltage (volts)	25 – 27
Shielding Gas	Argon
Wire Extension, in (mm)	1/2" - 5/8" (12 - 16)
Position	Flat
1/16" (1.6 mm)	
Current DCEP, amp	280 – 300
Voltage (volts)	25 – 27
Shielding Gas	Argon
Wire Extension, in (mm)	5/8" - 3/4" (16 - 19)
Position	Flat

Note: Minimum preheat recommended is 400°F (204°C). Required preheat will depend on base material composition and component dimensions.

STANDARD SIZES & PACKAGING

Diameter	Packaging	Part #
0.045" (1.2 mm)	3 lb (1.36 kg) Spool	11881200
0.045" (1.2 mm)	25 lb (11.3 kg) Spool	812122182045
1/16" (1.6 mm)	3 lb (1.36 kg) Spool	11982500
1/16" (1.6 mm)	25 lb (11.3 kg) Spool	812122182062

Note: Level layer wound.

PDS-CO-W-005
Revision 6
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NOTICE - Failure to follow manufacturer's directions for use may result in equipment or material failure and void any applicable warranty. The data provided or referenced herein is provided for informational purposes only, without guarantee or warranty and represents "typical" results when Stoodie products are used in accordance with internal Stoodie procedures. Other tests and procedures may produce differing results. Stoodie expressly disclaims any liability resulting from reliance on this data.

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