

Classifications

EN ISO 14341-A	AWS A5.28 / SFA-5.28
G 42 4 M21 Z3Ni1Cu	ER80S-G

Characteristics and typical fields of application

GMAW Ni-Cu-alloyed solid wire for weatherproof structural steels. The weld metal has the same corrosion properties as matching weatherproof structural steels. For use with CO₂ and gas mixture. Outstanding toughness of the weld metal at low temperatures. For use in steel framed structures, in bridge building and rail vehicle manufacture.

Base materials

Weather-resistant constructional steels, special grade constructional steels
 S235JRG2Cu, S235J2G4Cu, S235J0Cu, S235JRW, S355J0Cu, S355J2G3Cu, S355J0W, 235J2W-S355J2W, S355K2W
 ASTM A 588 Gr. A, B, C, K; A 618 Gr. II; 709 Gr. C

Typical analysis

	C	Si	Mn	Ni	Cu
wt.-%	0.1	0.5	1.1	0.9	0.4

Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength R _{p0.2}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact energy ISO-V KV J	
	MPa	MPa	%	20°C	-40°C
u	500 (≥ 47)	580 (≥ 500 – 670)	26 (≥ 20)	130	≥ 47
s	460	540	20	130	

u untreated, as welded – shielding gas Ar + 15 – 25 % CO₂ or 100 % CO₂
 s stress relieved, 600 °C/2h – shielding gas Ar + 15 – 25 % CO₂ or 100 % CO₂

Operating data

	Polarity	DC+	Dimension mm
	Shielding gas (EN ISO 14175)	M21 C1	0.8
			1.0
			1.2
			1.6

Approvals

DB (42.132.69), CE