AWS A5.28 ER110S-G

AK ER80CS

Characteristics and Applications: AK-ER80CS is an 800MPA grade gas shielded welding wire for low alloy and high strength steel. It adopts multi-element alloy strengthening method, strictly controls the content of impurities such as s and p in the welding wire, and obtains high strength, high toughness and high purity weld metal, excellent all-position welding process, beautiful weld molding. Both as-welded and as-heat-treated deposited metals have excellent low temperature ductility and crack resistance. Mainly used for welding of WSD690E high strength and high toughness penstock in pumped storage power station, it is also suitable for the thick plates such as volute and seat ring in the same strength hydraulic power generation equipment, and the WCF80, EQ70, E690, Q690E and ASTM A514GR in the marine engineering ships, oil platforms and oil pipelines. Q High-strength low-alloy steel welding.

NOTE:

1. protective gas Ar+ 20% CO2, the mixed gas, gas flow 15-20 L/min. Control arc length during welding to avoid welding defects such as blowhole.
2. When welding, it is advisable to control the length of dry extension of welding wire at 10-18mm. When the current is more than 250A, the dry elongation should be controlled in the range of 20-25mm
3. and the impurities such as rust, oil and water should be thoroughly removed from the welding place.
4. thin plate welding torch can be inclined to the side of the weld to reduce penetration to avoid penetration of the base metal.
5. When the wind speed is 1.5 m/s in outdoor construction, measures should be taken to prevent air hole and other defects.

Chemical composition of deposited metal (mass fraction) :

	C	Si	Mn	S	P	Ni	Cu	Mo	Cr
Actual Result	0.080	0.60	1.72	0.005	0.008	2.0	0.10	0.50	0.18

Mechanical properties of deposited metal:

	Tensile strength (MPa)	Yield strength (MPa)	Elongation (%)	Impact function(J)	Protective gas
Requirement	≥760	≥660	≥ 15	≥47J/-40℃	——
Actual Result	845	764	20	135	Ar+20% CO_2

Recommended parameters: (Polarity: DC)

Diameter/mm		1.0	1.2	1.6	——
Current(A)	F/H	100-240	120-280	150-350	——
	V/OH	70-160	80-180	——	——