AK S100A
AK AF100SD

Characteristics and applications: AK-S100A is a submerged arc welding wire for low alloy high strength steel, AK-AF100SD is a fluorine-base type sintered flux, basic ity about 1.8. The combination of AK-S100A and AK-AF100SD has the advantages of good welding technology, stable arc, easy slag removal and good low temperature impact toughness and crack resistance of deposited metal. Suitable for B950CF high strength steel structure and pressure pipe welding, mainly used in Baosteel B950CF steel welding operations, but also used in other fields such as strength level welding operations.

Note:

1. before the use of flux must be 300 ~ 350 ° C baking 1 ~ 2 hours, welding wire should be dry before use, no oil, Rust State
2. welding should be strictly removed before the welding oil, rust, moisture and other impurities.
3. When Welding, preheat 100 ~ 200 ° C (depending on plate thickness and material) .
4. Recommended welding specification (taking Φ4.0 wire as an example) I = 500 ~ 550A, U = 28 ~ 32V, welding speed V = 30 ~ 50cm/min, inter-pass temperature 150 ~ 180 ° C.
5. After welding, it needs 200 ~ 250 ° C heat preservation for 2 ~ 4 hours to remove hydrogen.

Flux Quality Requirements:

1. Flux Water Content ≤0.10%
2. Mechanical inclusions ≤0.30.
3. Sulfur content of flux 0.050%
4. Phosphorus content ≤0.060%

Of flux deposited metal x-ray detection requirements: Grade I

Deposited metal diffusion hydrogen content: ≤ 5.0 ml/100g (mercury or thermal conductivity method)

Chemical composition of welding wires and deposited metals (mass fraction) :

	C	Si	Mn	S	P	Ni	Mo	Cr	Cu
Welding Wire Actual Result	0.064	0.30	1.64	0.006	0.005	3.15	0.52	0.49	0.18
Molten metal Actual Result	0.054	0.34	1.88	0.003	0.008	2.96	0.64	0.46	0.19

Mechanical properties of deposited metal:

	Tensile strength(MPa)	Yield strength(MPa)	Elongation (%)	Impact function(J)	Impact function(J)
Requirement	930-1130	≥790	≥ 12	——/-20℃	≥27J/-40℃
Actual Result	992	891	17	120	81