

Classification

AWS A5.17	ISO 14171-A
EH12K	S3Si

Characteristics and typical fields of application

Union S EH12K is a copper coated wire for submerged arc welding of unalloyed and low alloyed fine grain steel. It classification as high Mn electrodes with the Mn and Si balanced to enhance impact properties on applications that require high deposition rates or multiple arc procedures, or both, in both the as-welded and postweld heat-treated conditions.

Union S EH12K is universally applicable in shipbuilding, steel construction and in the fabrication of boilers and containers.

Base Materials

Steels up to a yield strength of 460 MPa.

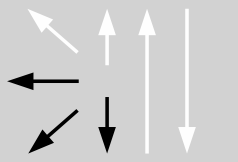
Typical analysis of the wire and of all-weld metal (wt.-%)

	C	Si	Mn	P	S
Wire	0.10	0.30	1.60	≤0.015	≤0.015

Mechanical properties of all-weld metal (As Welded)

Union S EH12K with flux combination	Yield strength R _e N/mm ²	Tensile strength R _m N/mm ²	Elongation (L ₀ =4d ₀)	Impact work ISO-V KV J	
	MPa	MPa	%	-50°C	-60°C
UV C 418TT (AW)	460	520	30	150	100

Welding Recommendation



SAW – Single wire process DCEP or AC
Interpass temp. 180 - 220°C, Preheat according to base material

Approval

ABS (4YM)

Size and Packaging

Size mm	Spooling	Weight (Kg)
1.6	Basket/Basketless	25
2.0	Basket/Basketless	25
2.4	Basket/Basketless	25
3.2	Basket/Basketless	25
4.0	Basket/Basketless	25