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DATA SHEET F-22

SS300 FLUX

Product description

Basic non-alloying agglomerated flux for submerged arc welding with a wide range of stainless steels. Basicity Index (according to Boniszewski) is ~1.6.

The low level of silica minimises pick-up of Si, and loss of Mn and Cr.

Specifications

BS EN 760 S A AF2 64 AC

ASME IX Qualification

QW432 F-No -, QW442 A-No -.

Materials to be welded

Suitable for most stainless steels including: 304L (data sheet B-30), 347 (data sheet B-31), and 316L (data sheet B-32); see wire data sheets for further information.

Applications

SS300 flux is designed for the butt welding of stainless steels, and also for surfacing/cladding applications involving stainless steel wires.

Welding guidelines

Specific guidelines will depend on the alloy being welded but for most alloys that SS300 flux is used with no preheat will be required. For austenitic stainless steels the maximum recommended interpass temperature is 250°C but this may be restricted to 100-150°C maximum for some applications.

Typical parameters

Designed for DC/AC with wires up to 4mm diameter and ~700A. However wires for the materials listed below would normally be 1.6, 2.4 or 3.2mm with a maximum of ~600A; see alloy data sheets for further information.

Typical parameters for 2.4mm wire are:
270-430A, 27-28V, 350-500mm/min travel speed.

Packaging data

Metrode SS300 flux is supplied in sealed moisture resistant 25kg metal drums.

Storage

Preferred conditions for open drums: <60%RH, >18°C. If flux has become damp or has been stored for a long period, it should be redried in the range 250-400°C for 1-3 hours.

Fume data

SAW fume is negligible.

Typical weld deposit analysis, wt%

Wire	C	Mn	Si	S	P	Cr	Ni	Mo	Cu	N	Other
308S92	0.02	1.4	0.6	0.01	0.02	19.7	10	-	0.1	-	-
347S96	0.03	1.2	0.6	0.01	0.02	19.2	10	-	0.1	-	0.5 Nb
316S92	0.02	1.2	0.6	0.01	0.02	18.2	12	2.6	0.1	-	-
309S92	0.03	1.5	0.6	0.01	0.02	23	12.5	-	0.1	-	-

Typical Mechanical properties

Wire	Tensile strength, MPa	0.2% proof stress, MPa	Elongation on 4d, %	Impact energy, J
308S92	570	425	40	50 at -100°C
347S96	630	450	35	30 at -75°C
316S92	570	425	40	45 at -100°C
309S92	600	450	35	60 at -50°C