SUPERCORE 308LCF

FCAW

RUTILE ALL-POSITIONAL FLUX CORED WIRE FOR CRYOGENIC 304L APPLICATIONS

PRODUCT DESCRIPTION

Supercore 308LCF has a controlled composition and ferrite content designed for cryogenic service requiring >0.38mm lateral expansion at minus 130-196°C.

Supercore 308LCF is designed for all-positional welding including fixed pipework. Metal recovery is about 90% with respect to the wire.

CLASSIFICATIONS

AWS A5.22M	E308LT1-1/4J
ISO 17633-A	T 19 9 L P C/M 2
ISO 17633-B	TS308L-F C1/M21 1

ASME IX QUALIFICATION

QW432	F-No 6
QW442	A-No 8

CHEMICAL COMPOSITION (WELD METAL WT %)

	C	Mn	Si	S	P	Cr	Ni	Mo	Cu	FN
Min.	--	0.5	0.2	--	--	18.0	9.0	--	--	2
Max.	0.04	2.0	1.0	0.025	0.030	21.0	11.0	0.3	0.3	5
Typical	0.03	1.4	0.6	0.01	0.02	18.6	10.5	0.1	0.1	3

ALL-WELD MECHANICAL PROPERTIES

As welded		**Min.**	**Typical**
Tensile strength (MPa)		520	540
0.2% proof strength (MPa)		320	400
Elongation (%)	**4d**	30	50
	5d	30	46
Reduction of area %		--	50
Impact ISO-V(J)	**+20°C**	--	74
	-130°C	--	40
	-196°C	--	36
Lateral expansion * (mm)	**-196°C**	0.38	0.70

* Batch tested for Charpy lateral expansion >0.38mm at –196°C.

OPERATING PARAMETERS

Shielding gas: 80%Ar-20%CO_2 or 100% CO_2 at 20-25l/min. Proprietary gases may be used but argon should not exceed 85%.

Current: DC+ve ranges as below for Ar-20%CO_2. Welding with 100%CO_2 requires approx 3V higher:

Diameter (mm)	**amp-volt range**	**typical**	**stickout**
1.2	120 – 280A, 22 – 34V 150A, 25V (positional)	180A, 29V (downhand) 15 – 20mm	15 – 25mm

PACKAGING DATA

Diameter (mm)	**Weight (kg)**	**Packaging**	**Item number**
1.2	15	S300	SC308LCF-12

FUME DATA (WT % TYPICAL)

Fe	**Mn**	**Ni**	**Cr^3**	**Cr^6**	**Cu**	**F**	**OES (mg/m³)**
17	10	1.5	3	5	<1	5	1