

SUPERCORE 16.8.2 & SUPERCORE 16.8.2P

FCAW

RUTILE FLUX CORED WIRES FOR 3XXH STAINLESS STEEL

PRODUCT DESCRIPTION

These wires are made with an austenitic stainless steel sheath and rutile flux system with alloying controlled to maximise high temperature strength and resistance to service embrittlement.

Supercore 16.8.2 is made in 1.6mm only and is designed for applications primarily in the downhand and HV positions on plate and material of about 6mm thickness and above.

Supercore 16.8.2P is made in 1.2mm only and is designed for welding in all welding positions from ASME 1G/2G up to 5G/6G pipework, and also provides very good operability in the flat/HV position.

Metal recovery is about 90% with respect to wire.

CLASSIFICATIONS

	Supercore 16.8.2	Supercore 16.8.2P
AWS A5.22M	Non applicable	Non applicable
ISO 17633-B	[TS16-8-2-F C1/M21 0]	[TS16-8-2-F C1/M21 1]
	Nearest classification	

ASME IX QUALIFICATION

QW432	F-No --
QW442	A-No 8

CHEMICAL COMPOSITION (WELD METAL WT %)

	C	Mn	Si	S	P	Cr	Ni	Mo*	Cu	FN
Min.	0.04	0.5	--	--	--	14.5	7.5	1.0	--	1
Max.	0.08	2.0	0.70	0.03	0.04	17.0	10.0	2.0	0.5	8
Typical	0.05	1.2	0.5	0.01	0.02	16.2	9.2	1.1*	0.1	4

* Mo controlled around 1.0 – 1.3% unless requested otherwise.

ALL-WELD MECHANICAL PROPERTIES

As welded	Min.	Typical	High Temperature		
			650°C	732°C	816°C
Tensile strength (MPa)	560	620	290	224	160
0.2% proof strength (MPa)	--	410	207	180	134
Elongation (%)	4d	35	42	--	--
	5d	25	42	30	39
Reduction of area (%)	--	50	66	68	79
Impact ISO and LE*-V(J) (mm)	+20°C	--	100 [1.8]	--	--
	-130°C	--	50 [0.8]	--	--
	-196°C	--	45 [0.7]	--	--

* LE = Charpy lateral expansion, mm (0.38mm = 15 mils)

OPERATING PARAMETERS

Shielding gas: 80%Ar-20%CO₂ or 100% CO₂ at 20-25l/min. Proprietary gases may be used but argon should not exceed 85%.

Current: DC+ve ranges as below for Ar-20%CO₂. Welding with 100%CO₂ requires approx 3V higher:

Diameter (mm)	amp-volt range	typical	stickout
1.2	120A-22V to 280A-34V	180A-29V	12 – 20mm
1.2P	120A-22V to 280A-34V	150A-25V	12 – 20mm
1.6	200A-28V to 350A-34V	300A-30V	15 – 25mm

PACKAGING DATA

Diameter (mm)	Weight (kg)	Packaging	Item number
1.2	15	S300	SC1682P-12
1.6	15	S300	SC1682-16

FUME DATA (WT % TYPICAL)

Fe	Mn	Ni	Cr ³	Cr ⁶	Cu	F	OES (mg/m ³)
17	11	1.5	4	4	<1	5	1.2

All information in this data sheet is accurate to the best of our knowledge at the time of printing. Please refer to www.specialalloys.eu for any updated information.