SUPERCORE 2205, 2205P

FLAT AND ALL-POSITIONAL FLUX CORED WIRES FOR 22%CR DUPLEX STEELS

PRODUCT DESCRIPTION

High performance rutile flux cored wires produced in the most versatile size of 1.2mm.
Supercore 2205 is suited to welding in the flat and horizontal-vertical positions (material > 6mm).
Supercore 2205P is optimised for positional welding, both vertical up and for fixed pipework qualified in the ASME 5G or 6G welding positions (pipe typically > 150mm diameter, > 15mm wall).
Made with an austenitic stainless steel sheath and rutile flux system.
Weld metal carbon content is typically <0.03% when using either 80%Ar-20%CO_2 or 100% CO_2 shielding gas.
Metal recovery about 90% with respect to the wire.

SPECIFICATIONS

	Supercore 2205	Supercore 2205P
AWS A5.22M	E2209T0-1/4	E2209T1-1/4
BS EN ISO 17633-A	T 22 9 3 N L R C/M 3	T 22 9 3 N L P C/M 2
BS EN ISO 17633-B	TS2209-FB0	TS2209-FB1
Approvals	DNV	LRS, DNV

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	N	PRE*
Min.	--	0.5	--	--	--	21.5	8.5	2.8	--	0.08	34
Max.	0.04	2.0	1.00	0.02	0.030	24.0	10.0	4.0	0.3	0.20	38
Typical	0.03	1.2	0.7	<0.01	0.02	23	9.2	3.1	0.1	0.12	35

* PRE (pitting resistance equivalent) = Cr + 3.3Mo + 16N

ALL-WELD MECHANICAL PROPERTIES

Typical values as welded		Min.	Supercore 2205P	Supercore 2205
Tensile strength (MPa)		690	800	800
0.2% proof strength (MPa)		480	630	610
Elongation (%)	4d	20	32	30
	5d	20	29	26
Reduction of area (%)		--	45	36
Impact ISO-V(J)	- 20°C	--	65	50
	- 50°C	--	45	40
	- 75°C	--	30	-
Hardness (HV)		--	270	270

OPERATING PARAMETERS

Shielding gas: Either 80%Ar-20%CO2 or 100% CO2 shielding gas at 20-25l/min. Proprietary gases may be used but argon should not exceed 85%. Gas mixtures without oxygen additions can be helpful for optimum weld metal toughness.
Fillet weld penetration and profile will be related to the skill level of the operator.

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	150A-25V to 280A-34V	200A-30V	15-20mm
1.6	200A-28V to 330A-34V	230A-30V	15-25mm
1.2 P	120A-22V to 250A-34V	150A-25V	15-20mm

PACKAGING DATA

Spools vacuum-sealed in barrier foil with cardboard carton: 15kg
The as-packed shelf life is virtually indefinite.
Resistance to moisture absorption is high, but to maintain the high integrity of the wire surface and prevent any possibility of porosity, it is advised that part-used spools are returned to polythene wrappers.
Where possible, preferred storage conditions are 60% RH max, 18°C min.

FUME DATA

Fume composition, wt %

Fe	Mn	Ni	Cr^3	Cr^6	Cu	F	OES (mg/m³)
11	6	1	9	1.5	0.1	12	0.9