

MIG / TIG 2209



MIG/TIG 2209 is used to weld duplex stainless steel pipe, plate, fittings and forgings have an approximate 50:50 microstructure of austenite with a ferrite matrix. This, coupled with general alloying level, confers:

- High strength compared with standard austenitic steels, e.g. type 316L.
- Good general corrosion resistance in a range of environments.

- High resistance to chloride induced stress corrosion cracking (CSCC).
- High resistance to pitting attack in chloride environments, e.g. sea water.

These alloys are finding widening application in the offshore oil/gas, chemical and petrochemical process industries, e.g. pipe-work systems, flow-lines, risers, manifolds etc.

MATERIALS TO BE WELDED

Standard duplex "2205" types of ferritic – austenitic stainless steels. Proprietary alloys include:- SAF 2205, A 903, SAF 2304, UR 35N

CLASSIFICATIONS

		TIG	MIG
AWS	A5.9	ER2209	ER2209
BS EN	12072	22 9 3 N L	22 9 3 N L

CHEMICAL ANALYSIS

% Carbon	0.015	% Chromium	23.00
% Manganese	1.600	% Nickel	8.200
% Silicon	0.500	% Molybdenum	3.200
% Sulphur	0.001	% Copper	0.100
% Phosphorus	0.015	% Nitrogen	0.17

**TYPICAL MECHANICAL PROPERTIES
ALL WELD METAL**

	TIG	MIG
Tensile Strength	820 MPa	800 - 835 MPa
0.2% Proof Stress	660 MPa	560 - 620 MPa
Elongation on 4d	32%	28 - 35%
Impact Energy -30°C	> 140J	> 70J
Impact Energy -50°C	> 120J	> 60J

Microstructure

Multipass welds in the as-welded condition contain about 25-50% ferrite depending on dilution and heat input/cooling rate conditions

PACKING DATA

MIG (DC+)

Diameter (mm)	Current (Pulsed)		Item Number	Pack Mass (Kg)
	Amps	Volts		
1.20	180	28	033-445	15

TIG (DC-)

Diameter (mm)	Current		Item Number	Pack Mass (Kg)
	Amps	Volts		
1.60	100	12	030-489	5
2.00	100	12	030-490	5
2.40	100	12	030-491	5

Suggested gas for welding : Stainshield, Stainshield Plus (MIG), AR/He/CO₂ (Pulse) Argon (TIG)

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