

Nickel Base Alloys

DATA SHEET

D-85

METRODE PRODUCTS LTD
HANWORTH LANE, CHERTSEY
SURREY, KT16 9LL

Tel: +44(0)1932 566721
Fax: +44(0)1932 565168 Sales
Fax: +44(0)1932 569449 Technical
Fax: +44(0)1932 566199 Export
Email: info@metrode.com
Internet: http://www.metrode.com

625 STRIP

Alloy type

Strip matching the nickel base 625 alloy with typical composition of Ni-21%Cr-9%Mo-3.5%Nb.

Materials to be welded

Suitable for electroslag strip cladding with ES200 (data sheet F-50) and ES400 (data sheet F-52) flux.

Base materials being clad are most commonly those associated with pressure vessels eg. CMn boiler plate, CrMo and CrMoV.

Applications

Originally developed to give high temperature strength and structural stability, alloy 625 is also widely used for its resistance to general corrosion, pitting, crevice and stress corrosion cracking in severe chloride media. These properties are conferred by high levels of chromium, molybdenum and niobium, which also raise strength to the highest amongst standard nickel-base alloys.

Typical applications include **cladding** of vessels for the **petrochemical, refinery** and **chemical industries**.

Microstructure

In the as-welded condition this nickel base weld metal consists of solid-solution strengthened austenite with carbides.

Welding guidelines

Specific welding guidelines will depend on the alloy being clad so preheat, interpass and PWHT requirements should be applied for the material being clad.

Additional information

See data sheets F-50 (ES200 flux) and F-52 (ES400 flux) for additional information.

Products available

Process	Product	Specification
Strip	EQ62-50	AWS EQNiCrMo-3

General Data for all Strip Electrodes

Product description	Solid strip for electroslag strip cladding.						
ASME IX Qualification	QW432 F-No 43						
Typical operating parameters	Electroslag Cladding						
	Shielding Current	ES200 or ES400 flux DC+					
Packaging data	Width x thickness mm	Electroslag Strip					
	30 x 0.5	25-50kg coil					
Fume data	60 x 0.5	25-50kg coil					
	90 x 0.5	25-50kg coil					
	120 x 0.5	25-50kg coil					
	MIG fume composition (wt %) (Electroslag fume negligible)						
	Fe	Mn	Cr ³	Ni	Mo	Cu	OES (mg/m ³)
	1	1	17	50	9	< 0.5	1

EQ62-50

Solid strip for electroslag cladding

Specifications	AWS A5.14		EQNiCrMo-3											
	BS EN ISO 18274		B Ni6625											
Composition (strip wt %)		C	Mn	Si	S	P	Cr	Ni	Mo	Nb	Fe	Cu	Al	Ti
	min	--	--	--	--	--	20.0	58.0	8.0	3.15	--	--	--	--
	max	0.10	0.50	0.50	0.015	0.020	23.0	Bal	10.0	4.15	1.0	0.5	0.4	0.4
	typ	0.02	0.02	0.05	0.005	0.005	22	65	9	3.5	0.2	0.1	0.2	0.2