

# Stainless Steels

DATA SHEET

**B-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

## STAINLESS STEEL STRIP

### Alloy type

300 series stainless steel (308L, 347, 316L and 309L) for cladding applications.

### 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

Used for cladding to provide general corrosion resistance (308L, 347 and 316L) and buffer layers (309L).

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

### Microstructure

Overlays consist of austenite with controlled levels of ferrite depending on dilution and number of layers.

### 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	<b>EQ308L</b>	AWS EQ308L
	<b>EQ347</b>	AWS EQ347
	<b>EQ316L</b>	AWS EQ316L
	<b>EQ309L</b>	AWS EQ309L

## General Data for all Strip Electrodes

<b>Product description</b>	Solid strips for electroslag strip cladding.						
<b>ASME IX Qualification</b>	QW432 F-No 6, QW442 A-No 6						
<b>Typical operating parameters</b>	Electroslag Cladding						
	Shielding Current Width x thickness Parameters	ES200 or ES400 flux DC+ 60 x 0.5mm 1250A, 25V					
<b>Packaging data</b>	Width x thickness mm	Electroslag Strip					
	30 x 0.5	25-30kg coil					
	60 x 0.5	25-30kg coil					
	90 x 0.5	25-30kg coil					
	120 x 0.5	25-30kg coil					
<b>Fume data</b>	MIG fume composition (wt %) (Electroslag fume negligible)						
	Fe	Mn	Cr <sup>3</sup>	Ni	Mo	Cu	OES (mg/m <sup>3</sup> )
	32	12	20	11	1.5	< 0.5	3.3

## EQ308L

Solid strip for electroslag cladding

<b>Specifications</b>	<b>AWS A5.9</b> EQ308L <b>BS EN ISO 14343-A</b> B 19 9 L <b>BS EN ISO 14343-B</b> BS 308L									
<b>Composition (strip wt %)</b>		C	Mn	Si	S	P	Cr	Ni	Mo	Cu
	min	--	1.00	0.30	--	--	19.50	9.00	--	--
	max	0.030	2.50	0.65	0.020	0.030	21.00	11.00	0.50	0.50
	typ	0.02	1.7	0.4	0.005	0.015	20.5	10.0	0.1	0.1

## EQ347

Solid strip for electroslag cladding

<b>Specifications</b>	<b>AWS A5.9</b> EQ347 <b>BS EN ISO 14343-A</b> B 19 9 Nb <b>BS EN ISO 14343-B</b> BS 347									
<b>Composition (strip wt %)</b>		C	Mn	Si	S	P	Cr	Ni	Mo	Cu
	min	--	1.00	0.30	--	--	19.00	9.00	--	--
	max	0.080	2.50	0.65	0.020	0.030	21.00	11.00	0.50	0.50
	typ	0.02	1.7	0.4	0.005	0.015	20.5	10.0	0.1	0.1

## EQ316L

Solid strip for electroslag cladding

<b>Specifications</b>	<b>AWS A5.9</b> EQ316L <b>BS EN ISO 14343-A</b> B 19 12 3 L <b>BS EN ISO 14343-B</b> BS 316L									
<b>Composition (strip wt %)</b>		C	Mn	Si	S	P	Cr	Ni	Mo	Cu
	min	--	1.00	0.30	--	--	18.00	11.00	2.50	--
	max	0.030	2.50	0.65	0.020	0.030	20.00	14.00	3.00	0.50
	typ	0.02	1.7	0.4	0.005	0.015	20.5	10.0	0.1	0.1

## EQ309L

Solid strip for electroslag cladding

<b>Specifications</b>	<b>AWS A5.9</b> EQ309L <b>BS EN ISO 14343-A</b> B 23 12 L <b>BS EN ISO 14343-B</b> BS 309L									
<b>Composition (strip wt %)</b>		C	Mn	Si	S	P	Cr	Ni	Mo	Cu
	min	--	1.00	0.30	--	--	23.00	12.00	--	--
	max	0.030	2.50	0.65	0.020	0.030	25.00	14.00	0.50	0.50
	typ	0.02	1.7	0.4	0.005	0.015	20.5	10.0	0.1	0.1