



# Selectarc B691

*Basic coated Electrode  
For creep resisting steels*

## Classification

AWS A5.5 : E9015-B9  
AWS A5.5M : E6215-B9

EN 1599 : E CrMo91 B 4 2 H5  
ISO 3580-A : E CrMo91 B 4 2 H5

## Description & Applications

Low hydrogen basic coated electrode for welding creep resistant steels of similar chemical composition (known as P91) used at service temperatures up to 650°C. Deposit resisting to temperature and creep up to 650°C. Highly resistant to hot gas and overheated steam.

**Main applications:** For power plants, heat exchangers, tubes, steam boilers,...

### Base materials

#### Plates and pipes for boiler and pressure vessels

Mat. N°	EN	ASTM
1.7386	X12CrMo9-1	A187 Gr F9 ; A336 Gr F9; A335 Gr P9
1.7389	GX12CrMo10-1	A217 C12
1.4903	X10CrMoVNb9-1	Ã199 gr. T91 ; A335 gr. P91 ; A213 gr T91

## Typical Weld Metal Composition ( % )

C	Si	Mn	Cr	Ni	Mo	Cu	V	Nb	N	P	S
0.1	0.25	0.7	9.0	0.7	1.0	0.04	0.2	0.05	0.05	0.01	0.008

## All Weld Metal Mechanical Properties \*

R <sub>p0.2</sub> ( MPa )	R <sub>m</sub> ( MPa )	A <sub>5</sub> ( % )	KV ( J )
630	750	18	+20°C 60

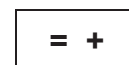
\* After heat treatment at 760°C/2h

## Welding Current & Instructions

Electrode	ØxL ( mm )	2,5x300	3,2x350	4,0x450
Current	( A )	80	115	150

Redrying: 1h at 300°C, if necessary. Preheating of joints to weld at 200°C. Interpass temperature: 200-300°C. Slow air cooling to a temperature below 80°C followed by an annealing at 760°C / 2-6h, then slow cooling. To achieve improved impact resistance, thin layers with about 2mm thickness should be welded.

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