

**B77** (DC+)**LOW ALLOY STEEL****DESCRIPTION**

Basic electrode with a deposit which is very resistant to cracks and has a high strength. The deposit contains Ni, Cr, Mo, Mn for welding similar fine grain steels (service temperatures : -40 to 842°F (450°C) Very good radiographic quality and very low diffusible hydrogen (3 ml H<sub>2</sub>/100g metal deposit ).soft fusion, stable arc, low spatters and good removal of the slag.

**CLASSIFICATION**

AWS A5.5: E11018-M ISO 18275-A: E 69 4 Mn2NiCrMo B 4 2 H5

**TYPICAL APPLICATIONS**

For low alloyed, tempered coated steels, pressure vessels, with a yield strength Re >100 076 psi (650 MPa).

**BASE MATERIALS**

Fine grain and cold tough steels:

NF A 36-204	E 500T*. E 620T*, E 690T*
DIN 17102	StE 590*. StE690*. TStE 500*. WStE 500*. 17MnCrMo 33, 11 NiMnCrMo 55, 16 NiCrMo 12, 12MnNiMo 55.
N° de Mat.	1.8928* - 1.7279* - 1.6780* - 1.6782* - 1.6343*
ASTM	A517 - A533GrA - A537 - A678 - A633Gr C bis E
Tubes aciers	API 5 LX: X70*. X75*. X80*
	N-A XTRA; N-A TRA70* (Thyssen).

(\*) with eventual pre- and post weld heat treatment (consult us)

**PROCEDURE**

Redrying at 662°F (350°C) /2h. Eventual preheating of the base metal depends on the thickness and the nature of the steel 122 à 266°F (50 to 130°C). Maintain an interpass temperature < 302°F (150°C).

**MECHANICAL PROPERTIES**, after heat treatment at 1292°F (700°C) /1h

Tensile strength: > 110 228 psi (> 760 MPa)  
 Yield strength: > 100 076 psi (> 690 MPa)  
 Elongation: > 20 %  
 Impact (Charpy V): > 120 J at 68°F (+20°C) and 60 J at -40°F (-40°C)

**TYPICAL WELD METAL COMPOSITION** (%)

C	Mn	Si	Cr	Mo	Ni
<0.10	1.5	0.4	0.4	0.5	2.1

**WELDING PARAMETERS**

Diameter: 4.0 mm (5/32") 3.2 mm (1/8") 2.5 mm (3/32")  
 Amperage: 150 A 115 A 80 A

**WELDING POSITIONS**

1G/PA



2F/PB



2G/PC



3G/PF



4G/PE

Rev.: 15\_03

*Specialized welding alloys and technology. For technical assistance or for ordering:*