



P 51

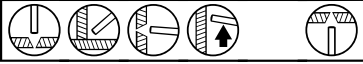
SMAW - (Stick) - MMA
Un-alloyed

Date: 2007-10-19
Revision: 28

Description:

P 51 is a basic-coated low hydrogen AC/DC electrode designed for welding mild and higher strength steels. It combines strength and toughness and is particularly suitable for heavily restrained sections where there can be risk of cracking due to weld stresses. With its excellent general operability and good positional welding characteristics P 51 is often used for pipe welding. It operates without difficulties on both primer-treated and rusty material. The electrode produces a finely rippled bead surface and smooth transition with the base material. This together with the exceptionally good slag detachability, even in root runs, gives P 51 superior radiographic quality.

Welding positions:



Coating type:

Basic

Welding current:

DC - (+), AC OCV ≥ 70 V

For root passes: DC -

Hydrogen content / 100 g weld metal

≤ 5 ml

Metal recovery:

120%

Redrying temperature:

350 °C, 2h

Chemical composition, wt.%

	C	Si	Mn	P	S	Cr	Ni
Min		0,30	1,10				
Typical	0,05	0,5	1,35	0,01	0,01		
Max	0,09	0,75	1,60	0,020	0,015	0,1	0,2

	Mo	Cu	V	Al	Nb
Min					
Typical					
Max	0,1	0,2	0,05	0,05	0,05

Mechanical properties

	Specified	Typical	PWHT Typical
Yield strength, Re:	≥ 460 MPa	560 MPa	520 MPa
Tensile Strength, Rm:	530-650 MPa	600 MPa	600 MPa
Elongation, A5	$\geq 22\%$	25%	26%
Impact energy, CV:	-46 °C • ≥ 27 J	-46 °C • 30 J	
	-40 °C • ≥ 47 J	-40 °C • 60 J	-40 °C • 60 J

Product data

Diam.mm	Length mm	Product code	Current A	Voltage V	Kg weld metal/kg electrodes	No. of electrodes/kg weld metal	Kg weld metal/hour arc time	Burn-off time/electrode (sec.)
2,5	350	71512500	70-110	23	0,68	60	1,0	55
3,2	450	71513200	110-150	24	0,68	30	1,3	82
3,2	350	71513235	110-150	24	0,68	38	1,3	64
4,0	450	71514000	140-200	24	0,72	19	1,8	94
4,0	350	71514035	140-200	24	0,72	25	1,8	74
5,0	450	71515000	200-270	24	0,72	13	2,6	100

Classification:

EN 499	E 46 4 B 32 H5
EN ISO 2560-A	E 46 4 B 32 H5
AWS A5.1	E 7018-1H8

Approvals:

CE	
TÜV	
GL	3YHH
DB	Kennbl. Nr 10.042.03
LR	3m, 3Ym, H5
BV	3, 3Y HH
DNV	3YH5
ABS	3, 3Y
MOD (Navy)	MS 25 mm, B & BX 12 mm

Note

PWHT 600 C, 1 h
Core wire:
S $\leq 0.015\%$
P $\leq 0.015\%$
N $\leq 0.008\%$