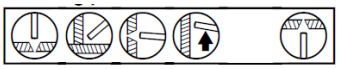
P 51

SMAW - (Stick) - MMA
Un-alloyed

Date: 2022-05-17
Revision: 32

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:	530-660 MPa	600 MPa	600 MPa
Elongation, A5	≥ 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
			600°C x1h

Classification:

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

Approvals:

CE	
TÜV	
DB	Kennbl. Nr 10.042.03
LR	3Ym H5
BV	3Y HH
DNV	3YH5
ABS	3Y

Note

Core wire:
S ≤ 0.015%
P ≤ 0.015%
N ≤ 0.008%

Produkt data:

Diam.mm	Length mm	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	70-110	23	0,68	60	1,0	55
3,2	450	110-150	24	0,68	30	1,3	82
3,2	350	110-150	24	0,68	38	1,3	64
4,0	450	140-200	24	0,72	19	1,8	94
4,0	350	140-200	24	0,72	25	1,8	74
5,0	450	200-270	24	0,72	13	2,6	100