

# Classification of MMAW Electrodes Of Stainless Steel As Per TS 2716 EN 1600-2002

E 19 9 Nb R 6 4														
Symbol Of Alloy	Chemical Composition (% 1) 2)								Mechanical Properties					
	C	Si	Mn	P	S	Cr	Ni	Mo	Other Elements	Yield Strength	Tensile Strength	Elongation%	Post weld Heat Treatment	
Martensitic / Ferritic	13	0.12	1.00	1.50	0.03	0.025	11.0-14.0	<0.60	<0.75	-	250	450	15	840-870°C/2 h/600°C/air
	13 4	0.06	1.00	1.50	0.03	0.025	11.0-14.5	3.0-5.0	0.4-1.0	-	500	750	15	580-620 °C/2 h /air
	17	0.12	1.00	1.50	0.03	0.025	16.0-18.0	<0.60	<0.75	-	300	450	15	760-790°C/2 h/600°C/air
	19 9	0.08	1.20	2.00	0.03	0.025	18.0-21.0	9.0-11.0	<0.75	-	350	550	30	None
Austenitic	19 9 L	0.04	1.20	2.00	0.03	0.025	18.0-21.0	9.0-11.0	<0.75	-	320	510	30	None
	19 9 Nb	0.08	1.20	2.00	0.03	0.025	18.0-21.0	9.0-11.0	<0.75	Nb min. 8% C, max. % 1.1	350	550	25	None
	19 12 2	0.08	1.20	2.00	0.03	0.025	17.0-20.0	10.0-13.0	2.0-3.0	-	350	550	25	None
	19 12 3 L	0.04	1.20	2.00	0.03	0.025	17.0-20.0	10.0-13.0	2.5-3.0	-	320	510	25	None
Austenitic-Ferritic High Corrosion Resistance	19 12 3 Nb	0.08	1.20	2.00	0.03	0.025	17.0-20.0	10.0-13.0	2.5-3.0	Nb min. 8% C, max. % 1.1	350	550	25	None
	19 13 4 N L	0.04	1.20	1.0-5.0	0.03	0.025	17.0-20.0	12.0-15.0	3.0-4.5	N 0.20	350	550	25	None
	22 9 3 N L	0.04	1.20	2.50	0.03	0.025	21.0-24.0	7.5-10.5	2.5-4.0	N 0.08-0.20	450	550	20	None
	25 7 2 N L	0.04	1.20	2.00	0.035	0.025	24.0-28.0	6.0-8.0	1.0-3.0	N 0.20	500	700	15	None
Austenitic-Ferritic High Corrosion Resistance	25 9 3 Cu N L	0.04	1.20	2.50	0.03	0.025	24.0-27.0	7.5-10.5	2.5-4.0	N 0.10-0.25; Cu 1.5-3.5	550	620	18	None
	25 9 4 N L	0.04	1.20	2.50	0.03	0.025	24.0-27.0	8.0-10.5	2.5-4.5	N 0.20-0.30; Cu 1.5; W 1.0	550	620	18	None
	18 15 3 L	0.04	1.20	1.0-4.0	0.03	0.025	16.5-19.5	14.0-17.0	2.5-3.5	-	300	480	25	None
	18 16 5 N L	0.04	1.20	1.0-4.0	0.035	0.025	17.0-20.0	15.5-19.0	3.5-5.0	N 0.20	300	480	25	None
Special Types	20 25 5 Cu N L	0.04	1.20	1.0-4.0	0.03	0.025	19.0-22.0	24.0-27.0	4.0-7.0	Cu 1.0-2.0; N 0.25	320	510	25	None
	20 16 3 Mn N L	0.04	1.20	5.0-8.0	0.035	0.025	18.0-21.0	15.0-18.0	2.5-3.5	N 0.20	320	510	25	None
	25 22 2 N L	0.04	1.20	1.0-5.0	0.03	0.025	24.0-27.0	20.0-23.0	2.0-3.0	N 0.20	320	510	25	None
	27 31 4 Cu N L	0.04	1.20	2.50	0.03	0.025	26.0-29.0	30.0-33.0	3.0-4.5	Cu 0.6-1.5	240	500	25	None
Heat Resisting Types	18 8 Mn	0.20	1.20	4.5-7.5	0.035	0.025	17.0-20.0	7.0-10.0	-	-	350	500	25	None
	18 9 Mn Mo	0.04-0.14	1.20	3.0-5.0	0.035	0.025	18.0-21.5	9.0-11.0	0.5-1.5	-	350	500	25	None
	20 10 3	0.10	1.20	2.50	0.03	0.025	18.0-21.0	9.0-12.0	1.5-3.5	-	400	620	20	None
	23 12 L	0.04	1.20	2.50	0.03	0.025	22.0-25.0	11.0-14.0	<0.75	-	320	510	25	None
Heat Resisting Types	23 12 Nb	0.10	1.20	2.50	0.03	0.025	22.0-25.0	11.0-14.0	<0.75	Nb min. 8% C, max. % 1.1	350	550	25	None
	23 12 2 L	0.04	1.20	2.50	0.03	0.025	22.0-25.0	11.0-14.0	2.0-3.0	-	350	550	25	None
	29 9	0.15	1.20	2.50	0.035	0.025	27.0-31.0	8.0-12.0	<0.75	-	450	650	15	None
	16 8 2	0.08	1.00	2.50	0.03	0.025	14.5-16.5	7.5-9.5	1.5-2.5	-	320	510	25	None
Heat Resisting Types	19 9 H	0.04-0.08	1.20	2.00	0.03	0.025	18.0-21.0	9.0-11.0	<0.75	-	350	550	30	None
	25 4	0.15	1.20	2.50	0.03	0.025	24.0-27.0	4.0-6.0	<0.75	-	400	600	15	None
	22 12	0.15	1.20	2.50	0.03	0.025	20.0-23.0	10.0-13.0	<0.75	-	350	550	25	None
	25 20	0.06-0.20	1.20	1.0-5.0	0.03	0.025	23.0-27.0	18.0-22.0	<0.75	-	350	550	20	None
Heat Resisting Types	25 20 H	0.35-0.45	1.20	2.50	0.03	0.025	23.0-27.0	18.0-22.0	<0.75	-	350	550	10	None
	18 36	0.25	1.20	2.50	0.03	0.025	14.0-18.0	33.0-37.0	<0.75	-	350	550	10	None

Symbol For Welding Position
2
3
4

Symbol For Weld Metal Recovery And Type Of Current (%)
1
2
3
4
5
6
7
8

Electrode Covering
R - Rutile
B - Basic

Production Type
G
O
E
S
T
W
F

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