

Typical Functions & Composition Ranges of Constituents of Coverings on Mild Steel Arc Welding Electrode

Actual formulations differ from manufacture to manufacture- the following is only for guidance.

Constituent of Coating	Function of Constituents		Class						
	Primary	Secondary	Composition Range %						
			E6010 E6011	E6012 E6013	E6020	E6027	E7014	E7016	E7018
Cellulose	Shielding Gas	...	25to 40	2 to 12	1 to 5	0 to 5	2 to 6	...	...
Calcium Carbonate	Shielding Gas	Fluxing Agent	...	0 to 5	0 to 5	0 to 5	0 to 5	15 to 30	15 to 30
Flurospar	Slag Former	Fluxing Agent	...	...	...	...	...	15 to 30	15 to 30
Dolomite	Shielding Gas	Fluxing Agent	...	...	...	...	...	...	...
Rutile	Slag Former	Arc Stabiliser	10 to 20	30 to 55	0 to 5	0 to 5	20 to 35	15 to 30	0 to 5
Pottassium Titanate	Arc Stabiliser	Slag Former	(a)	(a)	...	...	...	...	0 to 5
Feldspar	Slag Former	Stabiliser	...	0 to 20	5 to 20	0 to 5	0 to 5	0 to 5	0 to 5
Mica	Extrusion	Stabiliser	...	0 to 15	0 to 10	...	0 to 5	...	...
Clay	Extrusion	Slag Former	..	0 to 10	0 to 5	0 to 5	0 to 5	...	...
Silica	Slag Former	...	...	...	5 to 20	...	...	...	...
Asbestos	Slag Former	Extrusion	10 to 20	...	...	...	...	...	...
Manganese dioxide	Slag Former	Alloying	...	...	0 to 20	0 to 15	...	...	...
Iron Oxide	Slag Former	...	...	...	15 to 45	5 to 20	...	...	...
Iron Powder	Depositon rate	Contact Welding	...	...	...	40 to 55	25 to 40	...	25 to 40
Ferro Silicon	Deoxidizer	...	...	...	0 to 5	0 to 10	0 to 5	5 to 10	5 to 10
Ferromanganese	Alloying	Deoxidizer	5 to 10	5 to 10	5 to 20	5 to15	5 to 10	2 to 6	2 to 6
Sodium Silicate	Binder	Fluxing Agent	20 to 30	5 to 10	5 to 15	5 to 10	0 to 10	0 to 5	0 to 5
Pottassium Silicate	Arc Stabiliser	Binder	(a)	5to15(a)	0 to 5	0 to 5	5 to 10	5 to 10	5 to 10

(a) Used in E6011 and E6013 electrodes to facilitate welding with Alternating Current