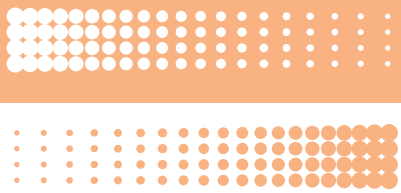
Hardfacing and Wear Resistant SMAW Electrodes



Welding Notes (SMAW Electrodes)

1. During welding, the arc starting point should be 1~2 cm behind the welding start point. Once the arc starts, pull it back to the welding start point to begin welding to avoid the occurrence of blow hole. This is known as the forehand & backhand arc starting technique.

2. Use short arc technique to prevent permeation of N_2 and O_2 into the arc creating blow hole and alloy elements burning loss.

3. If weaving is needed, the weaving width should not exceed 3 times the core wire diameter.

4. Consult the individual product notes for baking and cleaning requirement.

GH13M

JIS Z 3251 DFMA-250B

Product Features:
- Work hardening type covered electrode for austenite manganese steel.
- High toughness weld metal.
- High impact resistance subjected to severe abrasion conditions.

Applications:
- Suitable for welding of 13% manganese steel ; repair welding of crusher hammer, pliers and buckets; Build up repair of heavy machinery rail couplers subjected to severe impact.

Typical chemical composition of all-weld metal (wt%)			
C	Si	Mn	Cr
0.31	0.20	12.85	0.1

Typical hardness of weld metal	
As Welded HRC	After work hardening HRC
19	42

Size (mm) & recommended welding parameters(A)			
Diameter/ length	3.2/350	4.0/400	5.0/450
Flat position	100~140	140~190	180~230

◎ Note: 1. 200~250°C x 1 hr baking prior to use.
2. Keep lower welding current to avoid overheating.
3. Peening immediately after each welding bead finished.

HARDMANG 1

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Product Features:
- Work hardening type covered electrode for austenite manganese steel.
- High toughness weld metal to get fast hardening on high impact working condition.
- Suitable for buildup and repair welding of Mn steel.
- Welding of austenite Mn steel to Mn steel.

Applications:
- Suitable for repair welding of coned mining crusher, hammering crusher, impactor bars, rail frogs and crossings.

Typical chemical composition of all-weld metal (wt%)			
C	Si	Mn	Cr
0.79	0.58	14.18	2.92

Typical hardness of weld metal	
As welded HRC	After work hardening HRC
23	47

Size (mm) & recommended welding parameters(A)				
Diameter/ length	2.6/300	3.2/350	4.0/400	5.0/450
Flat position	50~80	100~140	140~190	180~230

◎ Note: 1. 300~350°C x 1 hr baking prior to use.
2. Inter pass temperature ≦ 260°C while multiple passes welding to avoid crack, not necessary for preheat and post heat.

HARDMANG 3

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Product Features:
- Work hardening type covered electrodes for austenite manganese steel.
- High toughness weld metal to get fast hardening on high impact work condition.
- Welding of Mn steel to carbon steels.

Applications:
- Suitable for repair welding of coned mining crusher, hammering crusher, impactor bars, rail frogs and crossings.

Typical chemical composition of all-weld metal (wt%)				
C	Si	Mn	Cr	Ni
0.32	0.43	16.24	16.99	0.01

Typical hardness of weld metal	
As welded HRC	After work hardening HRC
21	46

Size (mm) & recommended welding parameters(A)			
Diameter/ length	3.2/350	4.0/400	5.0/450
Flat position	100~140	140~190	180~230

◎ Note: 1. 300~350°C x 1 hr baking prior to use.
2. Inter pass temperature ≦ 260°C while multiple passes welding to avoid crack, not necessary for preheat and post heat.