

## Hardfacing and Wear Resistant Flux Cored Wire



## Welding Notes (Flux Cored Wire and SAW Composite Wire)

1. Use DC Electrode Positive (DCEP, DC+, DC Reverse Polarity).
2. Suitable shielding gas and flow rate : see below

shielding gas type	shielding gas flow rate L/min
CO <sub>2</sub> or 5~20%CO <sub>2</sub> + Ar	20~25
none	—

3. Recommended welding parameters (Self shield & gas shield flux cored wire)

wire diameter	1.2mm	1.6mm	2.4mm	2.8mm
polarity	DC+	DC+	DC+	DC+
welding current	150~250	175~350	200~400	230~450
welding voltage	24~30	26~32	30~35	32~38
wire extension	15~25mm	15~25mm	25~40mm	25~45mm
	gas shielded		self shielded	

Note: Consult individual product notes for details.

4. Welding parameters and related characteristics :

Description	
wire feed speed (current-Amp) ↑ increase	deposition rate ↑ penetration depth ↑ heat input ↑
welding voltage (V) ↑ increase	bead width ↑ surface flatness ↑ blow hole ↑
Wire extension ↑ increase	fusion rate ↑ weld spatter ↑ blow hole ↑

5. Recommended welding parameters ( for SAW)

wire diameter	2.8mm	3.2mm
polarity	DC+	DC+
welding current (A)	280~350	320~400
welding voltage (V)	28~32	30~36
wire extension (mm)	20~35	25~40
flux	neutral type flux	neutral type flux



# MXW MANG 1 | -

## Product Features:

- Work hardening type flux cored arc welding wire, austenite structure weld metal.
- Suitable for buildup and repair welding of Mn steel.
- High toughness weld metal to get very fast hardening on high impact working condition.

## 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
0.8	0.3	14.0	3.0	0.5

Typical characteristics of weld metal

Abrasion Resistance	Impact Resistance	machining	Flame Cutting	Welding layer	Hard facing stress crack	Tensile Strength N/mm <sup>2</sup>	Yield Strength N/mm <sup>2</sup>	Elongation %	Hardness HRC	
									As Welded	work hardening
normal	high	no good	Not Available	2 or more	Non	844	562	32	20	52

Size & recommended welding parameters

Diameter	1.2mm	1.6mm
Polarity	DC+	DC+
Ampere	170~230	250~300
Voltage	24~30	26~32
Wire extension	15~30mm	20~35mm
Shielding Gas	Self Shield (no gas shield) / CO <sub>2</sub> or Mixed Gas	Self Shield (no gas shield) / CO <sub>2</sub> or Mixed Gas

© Note: 1. Refer to page D6 welding notes (table 1) for preheat and inter pass temperature control while multiple passes welding.

2. All values listed on the table obtained from non-gas shielded welding test.

# MXW MANG 3 | -

## Product Features:

- Work hardening type flux cored arc welding wire, more Cr carbide content in austenite structure matrix than MANG1.
- Suitable for buildup and repair welding of Mn steel.
- High toughness weld metal to get very fast hardening on high impact condition.

## 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
0.29	0.15	17.3	16.9	0.8

Typical characteristics of weld metal

Abrasion Resistance	Impact Resistance	machining	Flame Cutting	Welding layer	Hard facing stress crack	Tensile Strength N/mm <sup>2</sup>	Yield Strength N/mm <sup>2</sup>	Elongation %	Hardness HRC	
									As Welded	work hardening
normal	high	no good	Not Available	2 or more	yes	834	565	40	20	53

Size & recommended welding parameters

Diameter	1.2mm	1.6mm
Polarity	DC+	DC+
Ampere	170~230	250~300
Voltage	24~30	26~32
Wire extension	15~30mm	20~35mm
Shielding Gas	Self Shield (no gas shield) / CO <sub>2</sub> or Mixed Gas	Self Shield (no gas shield) / CO <sub>2</sub> or Mixed Gas

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2. All values listed on the table obtained from non-gas shielded welding test.