

Supershield 16Mn-0

HIGH- Mn TYPE OPEN ARC WIRE

HYUNDAI WELDING CO., LTD.



Supershield 16Mn-O

❖ Specification

❖ Description & Applications

Supershield 16Mn-O is an open arc type wire. It is designed for the build-up and overlay of austenitic manganese steels undergoing severe impact. It produces an Austenitic weld deposit which has excellent work hardening properties.

(Crusher Hammer, Liners, Train rail, Bucket Teeth and Lips.)

❖ Welding Process

Open Arc Type

❖ Current Type

DC+

❖ Packing

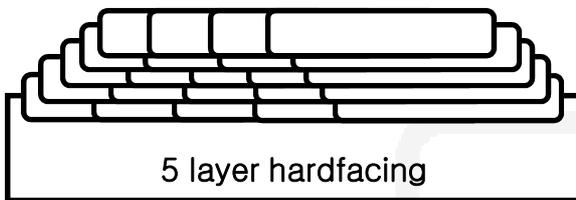
Supershield 16Mn-O	Dia.	2.4mm(3/32in) 2.8mm(7/64in)
	Coil	25kg(55lbs)
	Pailpack	150kg(330lbs), 250kg(551lbs)



Supershield 16Mn-O

Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions



5 layer hardfacing

Diameter	: 2.4mm(3/32in)
Welding Type	: Open Arc
Amp./ Volt.	: 380 / 28
Stick-Out	: 25~30mm(0.98~1.18in)
Pre-Heat	: 150~250℃(302~482°F)
Interpass Temp.	: 200~300℃(392~572°F)
Total layers	: ≥4 layer

❖ Chemical Analysis of All weld metal(wt%)

Consumable	C	Si	Mn	Cr
Supershield 16Mn-O	0.55	0.45	17.5	3.6

❖ Hardness test of All weld metal(HRc)

Consumable	Hardness(HRc)					Avg.
Supershield 16Mn-O (As Welded)	18	18	18	20	21	19
Supershield 16Mn-O (Work Hardening)	43	44	44	45	45	44

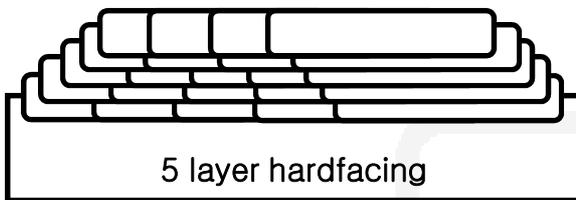
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Supershield 16Mn-O

Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions



Diameter	: 2.8mm(7/64in)
Welding Type	: Open Arc
Amp./ Volt.	: 380 / 29
Stick-Out	: 25~30mm(0.98~1.18in)
Pre-Heat	: 150~250℃(302~482°F)
Interpass Temp.	: 200~300℃(392~572°F)
Total layers	: ≥4 layer

❖ Chemical Analysis of All weld metal(wt%)

Consumable	C	Si	Mn	Cr
Supershield 16Mn-O	0.50	0.50	18.0	3.7

❖ Hardness test of All weld metal(HRc)

Consumable	Hardness(HRc)					Avg.
Supershield 16Mn-O (As Welded)	18	19	19	21	22	20
Supershield 16Mn-O (Work Hardening)	42	45	45	47	47	45

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Test Results

❖ BEAD APPEARANCE

Consumable	Supershield 16Mn-O
Amp.(A)	360~380
Volt.(V)	28~30
Carrige Speed	40~60cm/min(15.7~23.6in/min)
Welding Position	Flat(1G)



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