HYUNDAI WELDING

Rev. 01

Supershield AP-O

HIGH- Mn TYPE OPEN ARC WIRE

HYUNDAI WELDING CO., LTD.

Supershield AP-O

❖ Specification

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❖ Description & Applications

Supershield AP-O is an open arc type wire and suitable for the build up on the part which has high impact and weight or joining build up. It produces an Austenitic weld deposit which has excellent work hardening properties.

(Crusher Rolls & Components, Hammers, Bucket Teeth and Lips.)

❖ Welding Process

Open Arc Type

❖ Current Type

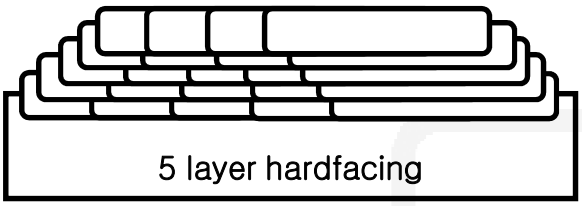
DC+

❖ Packing

Supershield AP-O	**Dia.**	1.6mm(1/16in)	2.4mm(3/32in) 2.8mm(7/64in)
	Spool	15kg(33lbs) 20kg(44lbs)	-
	Coil	-	25kg(55lbs)
	Pailpack	-	150kg(330lbs), 250kg(551lbs)

Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions



Diameter	:	1.6mm(1/16in)
Welding Type	:	Open Arc
Amp./ Volt.	:	270 / 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 the weld metal(wt%)

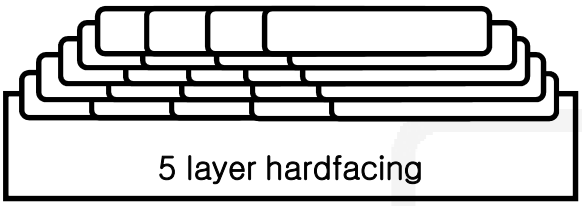
Consumable	C	Si	Mn	Cr
Supershield AP-O	0.45	0.30	17.5	14.0

❖ Hardness test of the weld metal(HRc)

Consumable	Hardness(HRc)					Avg.
Supershield AP-O (As Welded)	22	22	23	23	24	23
Supershield AP-O (Work Hardening)	42	44	45	47	47	45

Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions



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%)

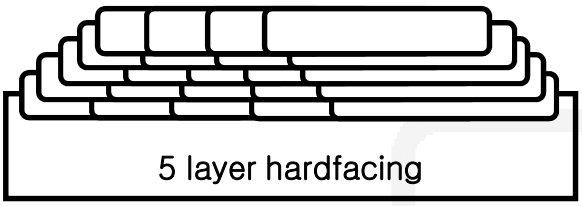
Consumable	C	Si	Mn	Cr
Supershield AP-O	0.48	0.48	18.5	14.3

❖ Hardness test of All weld metal(HRc)

Consumable	Hardness(HRc)					Avg.
Supershield AP-O (As Welded)	22	22	23	24	24	23
Supershield AP-O (Work Hardening)	43	43	44	47	48	45

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 AP-O	0.50	0.45	18.2	14.0

❖ Hardness test of All weld metal(HRc)

Consumable	Hardness(HRc)					Avg.
Supershield AP-O (As Welded)	22	23	23	23	25	23
Supershield AP-O (Work Hardening)	45	45	47	46	48	46

Test Results

❖ BEAD APPEARANCE

Consumable	Supershield AP-O (1.6mm, 1/16in)
Amp.(A)	260~280
Volt.(V)	28~30
Carrige Speed	40~60cm/min(15.7~23.6in/min)
Welding Position	Flat(1G)

Consumable	Supershield AP-O (2.8mm, 7/64in)
Amp.(A)	370~390
Volt.(V)	27~29
Carrige Speed	40~60cm/min(15.7~23.6in/min)
Welding Position	Flat(1G)