



HH W1030 HF BUILD-UP FOR CARBON STEEL

DC REVERSE POLARITY METAL CORED WELDING WIRE

General Characteristics

HH W1030 HF is a high hardness build-up wire with excellent compressive strength. It is recommended for any application for any application where the weld deposits must provide metal-to-metal wear resistance, and still be machinable as welded. It is for use on carbon and alloy steels only.

Procedure

Clean the welding zone free from oil, rust and other contaminants. Use DC reverse polarity at the following settings:

	SHORT ARC		SPRAY ARC	
Size:	.045	1/16	.045	1/16
Amps:	90-200	150-220	230-325	300-375
Volts:	15-21	18-21	27-30	27.30
Gas:	Ar/CO ₂	Ar/Co ₂	Ar/Ox	Ar/Ox
CFH:	25-30	25-30	40-45	40-45
Stick-out:	1/2"	3/4"	5/8"	3/4"

If welding out of position, we recommend the use of the lower ranges of voltage (16-19) and amperage (100-150).

Application

Due to its hardness and wear resistance, HH W1030 HF wire is intended as a build-up and final overlay for carbon and cast steel machine components, steel mill parts, undercarriage parts of earthmoving and mining equipment, gear teeth, key ways and carbon steel railroad track components.

Wire Type: Metal Cored, gas-shielded, slag free deposit, carbon steel build-up welding wire.

Hardness (RC) 33-38 as deposited

Maximum number of passes: Unlimited

Deposits are machinable with carbide tools

Deposits can be flame cut

Alloy Content: Carbon, Chromium, Manganese, Silicon, and Molybdenum.

Standard Packaging and Sizes: .045 x 25 lb. spools
1/16 x 25 lb. spools



HH W1040 HF BUILD-UP FOR MANGANESE STEEL

DC REVERSE POLARITY FLUX CORED WELDING WIRE

General Characteristics

HH W1040 HF build-up wire is an economical work-hardening austenitic manganese steel flux-cored open arc wire alloyed with chromium and nickle to improve weld deposit properties. It is designed for build-up and fabrication of manganese steel. Deposits are very tough, and work harden rapidly under high impact.

Procedure

Clean the welding zone free from oil, rust and other contaminants. Use DC reverse polarity at the following settings:

Size:	.045	1/16
Amps:	100-200	150-300
Volts:	21-27	28-32
Gas:	None	None
CFH:	N/A	N/A
Stick-out:	3/4"-1 1/4"	1" - 1 1/2"

If welding out of position, we recommend the use of the lower ranges of voltage (16-19) and amperage (100-150).

Application

Due to its hardness and wear resistance, HH W1040 HF wire is intended as a build-up and final overlay for machine components made of manganese steel. Items such as crusher jaws, crusher cones and rolls, gyrator crusher mantels, hammer mill hammers and impact breaker bars, as well as manganese railroad frog and switch points.

Tensile Strength 120,000 PSI

Wire Type: Flux Cored, open arc, manganese build-up welding wire.

Hardness (RC) 15-20 as deposited

Hardness (RC) 50-55 work hardened

Maximum number of passes: Unlimited

Deposits are non-machinable

Deposits can be flame cut

Alloy Content: Carbon, Manganese, Chromium, Nickle

Standard Packaging and Sizes: .045 x 25 lb. spools
1/16 x 25 lb. spools



HH W1063 HF HARDSURFACING WIRE

DC REVERSE POLARITY METAL CORED WELDING WIRE

General Characteristics

HH W1063 HF is a high hardness hardsurfacing well suited for applications involving high abrasion or abrasion combines with mild impact. Use on carbon steels, alloy steels, manganese steels and cast iron.

Procedure

Clean the welding zone free from oil, rust and other contaminants. Use DC reverse polarity and Argon C02 gas at the following settings:

	SHORT ARC		SPRAY ARC	
Size:	.045	1/16	.045	1/16
Amps:	100-250	160-300	300-350	350-400
Volts:	15-26	20-28	31-33	31-33
Gas:	no gas	no gas	Ar/Ox	Ar/Ox
CFH:	N/A	N/A	40-45	40-45
Stick-out:	3/4"	1"	5/8"	3/4"

If welding out of position, we recommend the use of the lower ranges of voltage (16-19) and amperage (100-150). If an external shielding gas is used with short-arc welding, amperages will go up by about 10% and the stick-out should be shortened.

Application

Due to its hardness and wear resistance, HH W1063 HF wire is intended as an overlay of items such as cultivator sweeps, bag packer screws, cement chutes, induced draft fans, feeder screws, brick augers and mixer paddles. Is is also good for hardsurfacing bulldozer blades, grader blades, paving machine screw conveyors, coal chutes, shovel buckets, bucket teeth, and undercutter bits.

Wire Type: Metal Cored, gas-shielded, slag free deposit, hardsurfacing welding wire.

Hardness (RC) 60-65 as deposited (2 passes)

Maximum number of passes: 2 layers

Good Hot-Hardness up to 1100° F

Deposits are non-machinable

Deposits will cross-check to relieve stresses.

Alloy Content: Carbon, Chromium, Molybdenum, Boron, Vanadium, Manganese and Silicon.

Standard Packaging and Sizes: .045 x 25 lb. spools
1/16 x 25 lb. spools



HH W1068AP HF HARDSURFACING WIRE

General Characteristics

HH W1068AP HF is a general purpose all position hardsurfacing wire. This product has a good balance of abrasion and impact resistance. It can be used for metal to metal wear as well as metal to earth abrasion wear.

Procedure

Use DC Reverse Polarity

.045 22-26 volts, 150-250 amps, 1/2" - 3/4" stick-out

1/16..... 24-28 volts, 175-350 amps, 1/2" - 1" stick-out

If a gas is used, Argon/CO₂ or 100% CO₂ is recommended. This will cause amperage to go up by about 10% and the stick-out should be shortened. When welding out of position, use the lower range of amperages and voltages. In addition, a gas cover may be useful, especially when using a constant current power source and voltage-sensing feeder.

Application

This alloy should be used for building up of shafts, idlers and metal to metal wear construction parts, as well as any out of position hardsurfacing on buckets. This product is one of the few wires that a 1/16 size wire can be successfully used out of position.

Welding Properties

Wire Type: Flux-Cored, Gas-Shielded Manganese, Silicon, Chromium, Molybdenum.

Hardness (RC) 55-58

Deposit Thickness: 2-3 layers recommended

Cannot be Flame Cut

Deposit will not cross check

Standard Packaging and Sizes: .045 x 25 lb. spools
1/16 x 25 lb. spools



HH W1067 HF HARDSURFACING WIRE

DC REVERSE POLARITY METAL CORED WELDING WIRE

General Characteristics

HH W1067 HF hardness wire is a general purpose hard overlay with good abrasion resistance and excellent toughness. The all weld metal properties are similar to H-13 tool steel. Deposits will retain their hardness up to 1100° F and will maintain a good cutting edge.

Procedure

Clean the welding zone free from oil, rust and other contaminants. Use DC reverse polarity at the following settings:

	SHORT ARC		SPRAY ARC	
Size:	.045	1/16	.045	1/16
Amps:	90-200	150-220	250-325	300-375
Volts:	15-21	18-21	27-30	27-30
Gas:	Ar/C02	Ar/C02	Ar/Ox	Ar/Ox
CFH:	25-30	25-30	40-45	40-45
Stick-out:	1/2"	3/4"	5/8"	3/4"

If welding out of position, we recommend the use of the lower ranges of voltage (16-19) and amperage (100-150).

Application

Due to its hardness and wear resistance, HH W1067 HF wire is intended as build-up and final overlay for hot shear blades, forging dies, and gripper dies. It is also excellent on earth abrasion applications such as tillage tools, dozer blades, bucket teeth, augers, and other moderate abrasion or heavy impact applications.

Wire Type: Metal Cored, gas-shielded, slag free deposit, hard overlay welding wire.

Hardness (RC) 55-59 as deposited

Maximum number of passes: 2-3 layers

Good Hot-Hardness up to 1100° F

Deposits are non-machinable, but may be flame cut.

Alloy Content: Carbon, Chromium, Manganese, Silicon, Molybdenum, and Vanadium.

Standard Packaging and Sizes: .045 x 25 lb. spools
1/16 x 25 lb. spools



HH W1610 HF HARDSURFACING WIRE

DC REVERSE POLARITY METAL CORED WELDING WIRE

General Characteristics

HH W1610 HF is an extra high carbon, chromium carbide hard overlay that is designed for extreme abrasion combined with mild impact. This alloyed hardsurfacing wire can be used on carbon, alloy, manganese, and stainless steels. It may be used without a gas coverage, however with .045 and 1/16 wire, shielding gas is recommended if out of position welding is desired. Shielding gas will cause the amperage to go up by about 10%.

Procedure

Clean the welding zone free from oil, rust and other contaminants. Use DC reverse polarity at the following settings:

Size:	.045	1/16	.045	1/16
Amps:	100-250	160-300	100-250	160-300
Volts:	15-26	20-28	15-26	20-28
Gas:	Ar/C02	Ar/C02	C02	C02
CFH:	25-30	25-30	25-30	25-30
Stick-out:	1"	1 1/2"	1"	1 1/2"

If welding out of position, we recommend the use of the lower ranges of voltage (16-19) and amperage (100-150). If an external shielding gas is used with short-arc welding, amperages will go up by about 10% and the stick-out should be shortened.

Application

Due to its hardness and wear resistance, HH W1610 HF wire is intended as an overlay of items such as scraper blades, road ripper teeth, bucket sides and bottoms, tillage tools, auger flights, and screw conveyors. It is also excellent on mixer blades, slag handling equipment, bucket teeth, fan blades, tamper tools, coal feeder screws, pug mill paddles, grizzly bars and chutes.

Wire Type: Metal Cored, open arc or gas-shielded, slag free deposit, hardsurfacing welding wire.

Hardness (RC) 58-62 as deposited (2 passes)

Maximum number of passes: 2 layers

Deposits are non-machinable, and cannot be flame cut.

Deposits will readily cross-check to relieve stresses.

Alloy Content: Carbon, Chromium, Manganese and Silicon

Standard Packaging and Sizes: .045 x 25 lb. spools

1/16 x 25 lb. spools



HH 1265 FCG HIGH STRENGTH JOINING WIRE

DC REVERSE POLARITY FLUX CORED WELDING WIRE

General Characteristics

HH 1265 FCG is a high strength, gas shielded, flux cored wire designated for all position welding of carbon and alloy steels, low alloy steels such as T-1, HY-90, SS-100, 400, 500 and 600 brinell wear plate. This wire is also excellent for cast steel. In addition to offering excellent physical properties, weld deposits are highly crack resistant and can be used on joints that are under high restraint. It demonstrated very good low temperature notch toughness. In some applications, preheating can be reduced or eliminated. Deposits can be flame cut, and the welds are smooth and spatter free. It deposits an X-ray quality weld, and can be used for single or multi-pass welding.

Procedure

Clean the welding zone free from oil, rust and other contaminants. Use DC reverse polarity with a spray transfer, with gas coverage of 75% Argon/25% CO₂ at the following settings:

	SPRAY ARC Flat		SPRAY ARC Verticle Up	
Size:	.045	1/16	.045	1/16
Amps:	125-235	200-400	150-250	150-275
Volts:	21-30	22-26	22-28	22-26
Gas:	Ar/CO ₂	Ar/CO ₂	Ar/CO ₂	Ar/CO ₂
CFH:	40-45	40-45	40-45	40-45
Stick-out:	1/2"-5/8"	1/2"-3/4"	1/2"-5/8"	1/2"-3/4"

Application

HH 1265 FCG can be used for fabricating structural parts such as "I" and "H" beams, channel plates and pipe. This wire is ideal for joining wear plates. Excellent for use on construction and mining equipment such as dozer blades, buckets, crane and shovel booms, as well as for welding truck and bus frames.

Wire Type: Flux Cored, gas shielded joining wire

Tensile Strength 106,000 PSI

Yield Strength 85,000 PSI

Elongation 23%

Charpy V Notch @ 0°F 55 ft. lbs.

Maximum number of passes: no limit

Deposits are machinable

Deposits can be flame cut

Welds are exceptionally smooth and spatter free and has outstanding weldability in all positions.

Standard Packaging and Sizes: .045 x 25 lb. spools