

AFM 300

AC/DC+ (Electrode Positive)
Rc 26-31

Description:

AFM 300 is a buildup and overlaying electrode for all ferrous metals subjected to moderate abrasion, severe impact and corrosion. Weld deposits of **AFM 300** are strong and tough, however with an average hardness of Rc 26-31, they do remain machinable.

Applications:

Typical applications include tractor rollers, sprockets, idlers, concrete mixer blades, bearing journals and other parts which require machinable weld deposits.

Procedures:

Clean the weld area. Use AC or DC+ polarity. Preheating is not required, although heavier sections should be preheated to 200-300°F. Maintain a medium arc length and use a weaving technique or stringer beads up to twice the diameter of the electrode. Avoid the buildup of heat at any one location on the base metal. Remove slag between passes and allow the base metal to air cool. If severe abrasion is encountered, a final pass of **AFM 800** should be considered.

Recommended Amperage (AC or DC+):

SIZE	1/8	5/32	3/16	1/4
MM	3.2	4.0	4.8	6.4
AMPS	60-130	120-180	170-240	240-300

Typical Chemical Composition:

C	Si	Mn	Cr
0.20	0.60	1.48	0.7

Packaging:

All sizes are packaged in 10 lb. containers-6 containers per 60 lb. master carton.

AFM CHROM-CARB

AC/DC+ (Electrode Positive)
Rc 58-62

Description:

AFM Chrom-carb is a chromium-tungsten flux-coated hardsurfacing electrode designed to produce extremely hard weld metal deposits on parts exposed to severe mineral abrasion with low impact. The extreme hardness of **AFM Chrom-carb** deposits is achieved through the formation of chromium and tungsten carbides within the matrix of the weld deposit.

Applications:

Typical applications include earth moving and rock crushing equipment, augers, asphalt feed screws, sand pumps, mixer blades and crushing or pulverizing mills.

Procedures:

Maintain a short arc length and hold the electrode vertical to the workpiece. **AFM Chrom-carb** can be used on both AC or DC machines. Excellent for hardfacing large surface areas using wide weave beads. **AFM Chrom-carb** has good operator appeal and yields a very smooth weld bead with superb adherence. Deposition is fast and the weld deposits will last a long time.

Recommended Amperage (AC or DC+):

SIZE	3/32	1/8	5/32	3/16
MM	2.4	3.2	4.0	4.8
AMPS	70-90	110-130	160-190	220-250

Typical Chemical Composition:

C	Cr	W
4.00	26.00	4.00

Packaging:

All sizes are packaged in 10 lb. containers-6 containers per 60 lb. master carton.

AFM 700

AC/DC+ (Electrode Positive)
Rc 58-62

Description:

AFM 700 is a severe abrasion and considerable impact hardfacing electrode. Weld deposits have a martensitic structure that resists wear even in metal-to-metal mild steel contact. When used in the flat and horizontal positions, this electrode will exhibit a stable arc and produce weld deposits that are very smooth and finely rippled.

Applications:

Typical applications for **AFM 700** include plowshares, cultivator shoes, bucket teeth and lips, well drilling bits, cement mixer blades, shovel tracks and screw conveyors.

Procedures:

Use AC or DC+. Preheating is generally not required. Using the weaving technique and keeping a short arc length, deposit up to 1/4" maximum. If more than two passes will be required, it is suggested that a "padding layer" of **AFM 300** be used prior to depositing **AFM 700**.

Recommended Amperage (AC or DC+):

SIZE	1/8	5/32	3/16	1/4
MM	3.2	4.0	4.8	6.4
AMPS	110-130	140-170	180-210	220-300

Typical Chemical Composition:

C	Si	Mn	Cr
0.48	0.80	1.45	4.40

Packaging:

All sizes are packaged in 10 lb. containers-6 containers in a 60 lb. master carton.

AFM 800

AC/DC+ (Electrode Positive)
Rc 62-65

Description:

AFM 800 is a hardsurfacing electrode used for severe abrasion, light impact, and corrosion resistance. This electrode produces an extremely hard martensite-structure weld deposit which is not machinable in the "as-welded" condition. **AFM 800** will lay down a smooth, corrosion resistant weld deposit which will remain extremely hard even at elevated temperatures.

Applications:

Typical applications for **AFM 800** include mill hammers, bucket teeth, valve seats, mixers, crusher rolls, tamper rollers, and other mild steel, carbon or alloy steels as well as manganese steels.

Procedures:

Use AC or DC+. Preheating is not required except on alloy steels. Using a short gap and a weaving technique, deposit two layers. If more than two passes are required, use **AFM 300** to provide a padding layer prior to using **AFM 800**.

Recommended Amperage (AC or DC+):

SIZE	1/8	5/32	3/16	1/4
MM	3.2	4.0	4.8	6.4
AMPS	90-130	140-170	190-240	220-300

Typical Chemical Composition:

C	Si	Mn	Cr
1.40	0.50	1.23	6.80

Packaging:

All sizes re packaged in 10 lb. containers-6 containers in a 60 lb. master carton.

AFM 900

AC/DC+ (Electrode Positive)
Rc 50-55 (after workhardening)

Description:

AFM 900 is a hardsurfacing overlay electrode used for the fabrication and build up of high manganese and alloy steels which are subjected to heavy impact and severe abrasion. The weld deposits have an austenitic structure and work harden although remaining extremely ductile. Weld deposits are machinable and forgeable.

Applications:

Typical applications of AFM 900 include repairing railroad switches, frogs and tracks, bucket teeth and lips, rock crushers, mill hammers and bulldozer parts.

Procedures:

When the base metal of 13% manganese steel is hardened, cut-off the hardened zone before welding. Welding should be done at the lowest possible temperature. Maintain a short to medium arc length using a slight weaving technique to make the deposit smooth and even. Water or air cool the weld metal during welding. Do not preheat manganese steels. Do not over-heat the base metal. Peening is recommended to relieve stresses.

Recommended Amperage (AC or DC+):

SIZE	1/8	5/32	3/16	1/4
MM	3.2	4.0	4.8	6.4
AMPS	75-130	125-190	175-240	230-380

Typical Chemical Composition:

C	Si	Mn
0.70	0.30	12.50

Packaging:

All sizes are packaged in 10 lb. containers-6 containers per 60 lb. master carton.

AFM SUGAR ROD

AC/DC+ (Electrode Positive)
Rc 57-61 (as welded)

Description:

AFM SUGAR ROD is designed for use on carbon and low alloy steels, manganese steels, and cast iron. Deposits take a high polish, which contributes to high frictional and abrasion wear qualities, especially small particle abrasion. Excellent on applications that need impact as well as abrasion resistance. Provides optimum resistance to this combination. Deposits well out of position.

Applications:

AFM SUGAR ROD is recommended for severe abrasion applications, along with moderate impact. This alloy has a good hot hardness up to approximately 1000°F. Especially designed for crusher applications. Used heavily in construction, mining, brick and clay industries on parts such as crusher rolls, jaw crushers, bucket teeth, edges, hammers, mill hammers, conveyor screws, etc.

Typical All-Weld-Metal Chemistry:

C	3.10	Ni	0.09
Mn	0.01	Cr	31.08
Si	0.95	Mo	0.02
S	.029	Cu	0.09
P	.021		

Recommended Amperage (AC or DC+):

SIZE	1/8	5/32	3/16
MM	3.2	4.0	4.8
AMPS	80-125	100-160	125-190

Packaging:

All sizes are packaged in 10 lb. containers-6 containers per 60 lb. master carton.