

AFM 250

(Build-up)
Rc 20-26

Description:

AFM 250 is for building-up mild and low alloy steel parts to within 3/16"-3/8" of their original size. Weld deposits will be part ferritic-part martensitic in structure. **AFM 250** weld deposits have good compressive strength and resistance to plastic deformation. Weld deposits are easily machined in the "as welded" position. An excellent underlayment prior to hardsurfacing. Very good impact resistance; poor abrasion resistance.

Applications:

Underlaying for hardsurfacing, steelmill wobblers and pads, shafting, small rolls, pump parts.

Typical Chemical Composition:

Carbon (C)	0.07
Silicon (Si)	0.50
Manganese (Mn)	1.59
Chromium (Cr)	1.30
Iron Base (Fe)	BAL

Procedure:

Use DC Reverse Polarity (electrode positive). The shielding gas should be 100% CO² welding grade, however a 75% Argon/25% CO² mixture will increase the hardness slightly. Superior properties are achieved if an interpass temperature of 300°-480°F is maintained.

Wire Diameter	Electrode Stickout	AMPS	VOLTS*
.045 (1.2mm)	1/2"-3/4"	150-250	21-26
1/16 (1.6mm)	3/4"-1"	250-350	23-28

*Ideal procedure is to set the wire feed speed and find the voltage setting that will yield the smoothest performance.

Standard Diameters & Packaging:

.045 (1.2mm) x 25# spool
1/16 (1.6mm) x 25# spool
Other sizes and packaging are available.

AFM 300

(Build-up)
Rc 28-32

Description:

AFM 300 is similar to **AFM 250** in weld deposit structure and uses. **AFM 300** offers a slightly harder weld deposit than **AFM 250** and subsequently it is often used in applications where a hardsurfacing layer is not applied over the **AFM 300** deposit. Very good impact resistance; poor abrasion resistance.

Applications:

Build-up of power shovels and tractor parts, repairing battered rail, hammers.

Typical Chemical Composition:

Carbon (C)	0.09
Silicon (Si)	0.68
Manganese (Mn)	1.54
Chromium (Cr)	1.10
Iron Base (Fe)	BAL

Procedure:

Use DC Reverse Polarity (electrode positive). The shielding gas should be 100% CO² welding grade, however a 75% Argon/25% CO² mixture will increase the hardness slightly. Superior properties are achieved if an interpass temperature of 300°-480°F is maintained.

Wire Diameter	Electrode Stickout	AMPS	VOLTS*
.045 (1.2mm)	1/2"-3/4"	150-250	21-26
1/16 (1.6mm)	3/4"-1"	250-350	23-28

*Ideal procedure is to set the wire feed speed and find the voltage setting that will yield the smoothest performance.

Standard Diameters & Packaging:

.045 (1.2mm) x 25# spool
1/16 (1.6mm) x 25# spool
Other sizes and packaging are available.

AFM 350

(Build-up & Hardsurfacing)
Rc 34-39

Description:

AFM 350 has a low alloy deposit that is martensitic in structure. It is machinable and forgeable. A good balance of impact resistance and abrasion resistance as well as hardness make **AFM 350** an excellent choice where only one wire is desired for build-up and hardsurfacing. (Not to be used as an underlayment prior to subsequent hardsurfacing). Very good impact resistance; fair abrasion resistance.

Applications:

Overlaying carbon steel shafts, gear teeth, sprockets, steel shovel pads.

Typical Chemical Composition:

Carbon (C)	0.12
Silicon (Si)	0.45
Manganese (Mn)	1.37
Chromium (Cr)	1.30
Molybdenum (Mo)	0.20
Iron Base (Fe)	BAL

Procedure:

Use DC Reverse Polarity (electrode positive). The shielding gas should be 100% CO² welding grade, however a 75% Argon/25% CO² mixture will increase the hardness slightly. Superior properties are achieved if an interpass temperature of 300°-480°F is maintained.

Wire Diameter	Electrode Stickout	AMPS	VOLTS*
.045 (1.2mm)	1/2"-3/4"	150-250	21-26
1/16 (1.6mm)	3/4"-1"	250-350	23-28

*Ideal procedure is to set the wire feed speed and find the voltage setting that will yield the smoothest performance.

Standard Diameters & Packaging:

.045 (1.2mm) x 25# spool
1/16 (1.6mm) x 25# spool
Other sizes and packaging are available.

AFM 450

(Hardsurfacing)
Rc 43-48

Description:

AFM 450 is designed for metal to metal abrasion involving impact such as rolling or sliding parts in earth moving equipment where lubrication is not possible. The weld deposits of **AFM 450** are martensitic in structure. Very good impact resistance; good abrasion resistance.

Applications:

Mine car wheels, brake drums, tractor rollers, undercarriage parts, shovel idlers, rollers, and hook rolls.

Typical Chemical Composition:

Carbon (C)	0.24
Silicon (Si)	0.51
Manganese (Mn)	1.20
Chromium (Cr)	2.00
Molybdenum (Mo)	0.60
Iron Base (Fe)	BAL

Procedure:

Use DC Reverse Polarity (electrode positive). The shielding gas should be 100% CO² welding grade, however a 75% Argon/25% CO² mixture will increase the hardness slightly. Superior properties are achieved if an interpass temperature of 300°-480°F is maintained.

Wire Diameter	Electrode Stickout	AMPS	VOLTS*
.045 (1.2mm)	1/2"-3/4"	150-250	21-26
1/16 (1.6mm)	3/4"-1"	250-350	23-28

*Ideal procedure is to set the wire feed speed and find the voltage setting that will yield the smoothest performance.

Standard Diameters & Packaging:

.045 (1.2mm) x 25# spool
1/16 (1.6mm) x 25# spool
Other sizes and packaging are available.

AFM 600

(Hardsurfacing)
Rc 53-56

Description:

AFM 600 offers high abrasion and heavy impact resistance on carbon, low alloy and manganese steel. Weld deposits are martensitic and corrosion resistant. **AFM 600** is designed for metal to metal and metal to earth abrasion. Weld deposits will work harden when put to service. Excellent impact resistance; excellent abrasion resistance.

Applications:

Extruder screws, bucket lips, tamper feet, tillage tools, dredge parts, ore drag lines, muller tires, and wherever high abrasion and heavy pounding is encountered.

Typical Chemical Composition:

Carbon (C)	0.25
Silicon (Si)	2.18
Manganese (Mn)	0.36
Chromium (Cr)	6.50
Molybdenum (Mo)	0.03
Iron Base (Fe)	BAL

Procedure:

Use DC Reverse Polarity (electrode positive). The shielding gas should be 100% CO² welding grade, however a 75% Argon/25% CO² mixture will increase the hardness slightly. Superior properties are achieved if an interpass temperature of 300°-480°F is maintained.

Wire Diameter	Electrode Stickout	AMPS	VOLTS*
.045 (1.2mm)	1/2"-3/4"	150-250	21-26
1/16 (1.6mm)	3/4"-1"	250-350	23-28

*Ideal procedure is to set the wire feed speed and find the voltage setting that will yield the smoothest performance.

Standard Diameters & Packaging:

.045 (1.2mm) x 25# spool
1/16 (1.6mm) x 25# spool
Other sizes and packaging are available.

AFM 700

(Hardsurfacing)
Rc 58-61

Description:

AFM 700 offers a harder weld deposit than **AFM 600**, but lacks the corrosion resistance. Primarily used for high metal to metal abrasion. Weld deposits are martensitic in structure and will work harden when put into service. Excellent impact resistance; excellent abrasion resistance.

Applications:

Rollers, conveyor screws, crusher rolls, and mill hammers.

Typical Chemical Composition:

Carbon (C)	0.30
Silicon (Si)	2.40
Manganese (Mn)	0.50
Chromium (Cr)	7.00
Tungsten (W)	0.70
Iron Base (Fe)	BAL

Procedure:

Use DC Reverse Polarity (electrode positive). The shielding gas should be 100% CO² welding grade, however a 75% Argon/25% CO² mixture will increase the hardness slightly. Superior properties are achieved if an interpass temperature of 300°-480°F is maintained.

Wire Diameter	Electrode Stickout	AMPS	VOLTS*
.045 (1.2mm)	1/2"-3/4"	150-250	21-26
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*Ideal procedure is to set the wire feed speed and find the voltage setting that will yield the smoothest performance.

Standard Diameters & Packaging:

.045 (1.2mm) x 25# spool
1/16 (1.6mm) x 25# spool
Other sizes and packaging are available.