



Cast Iron Wire and Electrodes

Unibrazed 99 Filler Metal

Specification: AWS SFA A5.15

Classification: ERNi-CI

UNS: N02215

Description: Unibrazed 99 is used for the buildup and repair welding of ductile, malleable, and gray cast irons to itself or to low-alloy or carbon steels. Unibrazed 99 is suitable for single layers and for filling small defects as the deposit remains highly machinable. Unibrazed 99 can be used in all positions.

Typical Chemistry, %

C	.15 max
Cu	.25 max
Fe	.40 min
Mn	.35 max
Ni+Co	99.0 min
S	.01 max
Si	.35 max
Others	1.0 max

Typical Mechanical Properties

Tensile Strength, psi	71,000
MPa	490
% Elongation	12

Unibrazed 55 Filler Metal

Specification: AWS SFA A5.15

Classification: ERNiFe-CI

Description: Unibrazed 55 is used for welding ductile, malleable, and gray cast iron components to themselves or to low-alloy or carbon steels. The weld metal is harder than Unibrazed 99. It can be machined by using carbide tipped tools. A preheat and interpass temperature of 350°F (175°C) minimum is recommended during welding to prevent the weld and heat affected zones from cracking. Unibrazed 55 can be used in all positions.

Typical Chemistry, %

Fe	Balance
Ni	55.0
Mn	.25 max
Si	.15 max
Ti	.20 max
Others	.10 max.

Typical Mechanical Properties

Tensile Strength, psi	89,500
MPa	620
% Elongation	35

Unibrazed 99 Welding Electrode

Specification: AWS SFA A5.15

Classification: ENi-CI

UNS: W82001

Description: Unibrazed 99 electrode is used for SMAW welding of gray, ductile, and malleable cast irons. It is used for joints between cast irons and carbon steel or low-alloy steel. Unibrazed 99 electrodes can be operated in all welding positions.

Power Supply: DCEP or AC.

Typical Chemistry, %

Al	1.0
C	2.0
Cu	.25
Fe	8.0
Mn	2.5
Ni	85 min
S	.03
Si	4.0
Others	1.0

Typical Mechanical Properties

Tensile Strength, psi	40,000
MPa	276
% Elongation	5

Unibrazed 55 Welding Electrode

Specification: AWS SFA A5.15

Classification: ENiFe-CI

UNS: W82002

Description: Unibrazed 55 electrode is used for SMAW welding of gray, ductile, and malleable cast irons. It is used for welding cast irons to wrought materials, including carbon steels, low-alloy steels and nickel alloys. Unibrazed 55 welding electrodes can be operated in all welding positions.

Power Supply: DCEP or AC.

Typical Chemistry, %

Al	1.0
C	2.0
Cu	2.5
Fe	Balance
Ni	45-60
Mn	2.5
Si	4.0
S	.03
Others	1.0

Typical Mechanical Properties

Tensile Strength, psi	65,000
MPa	580
% Elongation	8