

Mild Steel Electrodes

Pipemaster® Pro-60

AWS E6010

Pipemaster Pro-60 is a quick-starting, cellulosic mild steel electrode that provides you with out-standing arc stability, penetration and wash-in. It's ideal for welding in all positions and produces an X-ray quality weld with light slag that's easy to remove. Pipemaster Pro-60 can be used to weld the following API 5L steels: Grade A, B, X-42, X-46, X-52, X-56 and for the root pass on material up to X-80. It features enhanced weldability and increased physical properties. Earthtone grey coating.

Typical Applications:

- construction and shipbuilding
- general-purpose fabrication
- maintenance welding
- out-of-position X-ray welds
- pipe welding
- vertical and overhead plate welding

Typical Weld Metal Chemistry:

| | |
|-----------------|-------|
| Carbon | 0.13 |
| Manganese | 0.35 |
| Silicon | 0.10 |
| Chromium | 0.02 |
| Nickel..... | 0.02 |
| Molybdenum..... | 0.01 |
| Vanadium..... | <0.01 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 79,000 (542 MPa) |
| Yield Strength (psi) | 66,000 (456 MPa) |
| Elongation % in 2" (50mm) | 23% |

Typical Charpy V-notch Impact Values (AW):

| | |
|-----------------------|-----------------|
| Avg. at -20°F (-30°C) | 36 ft.lb. (49J) |
|-----------------------|-----------------|

Available diameter and

recommended operating ranges:

| | |
|----------------------|-------------|
| 3/32" (2.4 mm) | 40-70 amps |
| 1/8" (3.2 mm) | 65-130 amps |
| 5/32" (4.0 mm) | 90-175 amps |

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.1, E6010
- ASME SFA 5.1, E6010
- Lloyd's Grade 3m
- En 499, E383C21
- ABS E6010

Pipemaster® 60

AWS E6010

Use Pipemaster 60 for quick starting, excellent arc stability, superior arc drive (penetration), light slag and excellent wash-in. An all-position cellulosic mild steel electrode, it outdoes itself in producing X-ray quality welds. Earthtone grey coating.

Typical Applications:

- construction and shipbuilding
- general-purpose fabrication
- maintenance welding
- out-of-position X-ray welds
- pipe welding
- vertical and overhead plate welding

Typical Weld Metal Chemistry:

| | |
|-----------------|--------|
| Carbon | 0.11 |
| Manganese | 0.28 |
| Silicon | 0.14 |
| Chromium | 0.02 |
| Nickel..... | 0.02 |
| Molybdenum..... | < 0.01 |
| Vanadium..... | < 0.01 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 73,000 (504 MPa) |
| Yield Strength (psi) | 63,000 (432 MPa) |
| Elongation % in 2" (50mm) | 26% |

Typical Charpy V-notch Impact Values (AW):

| | |
|-----------------------|-----------------|
| Avg. at -20°F (-30°C) | 52 ft.lb. (70J) |
|-----------------------|-----------------|

Available diameter and

recommended operating ranges:

| | |
|----------------------|--------------|
| 3/32" (2.4 mm) | 40-70 amps |
| 1/8" (3.2 mm) | 65-130 amps |
| 5/32" (4.0 mm) | 90-175 amps |
| 3/16" (4.8 mm) | 140-225 amps |

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.1, E6010
- ASME SFA 5.1, E6010
- Lloyd's Grade 3m
- ABS E6010

Hobart® 610

AWS E6010

Hobart 610 is a mild steel cellulose electrode that gives outstanding arc stability, consistent arc control, quick starts and restarts with low spatter. Its excellent bead wash, penetration and tie-in, plus the all-positional capability, make it a preferred electrode for pipe welding applications or fabrication jobs

Typical Applications:

- pipe welding
- construction and shipbuilding
- general purpose fabrication
- maintenance applications

Typical Weld Metal Chemistry:

| | |
|------------------|-------|
| Carbon | 0.15 |
| Manganese | 0.52 |
| Silicon | 0.40 |
| Phosphorus | 0.007 |
| Sulphur | 0.015 |
| Chromium | 0.04 |
| Nickel..... | 0.06 |
| Molybdenum..... | 0.003 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 84,000 (576 MPa) |
| Yield Strength (psi) | 70,000 (479 MPa) |
| Elongation % in 2" (50mm) | 26% |

Typical Charpy V-notch Impact Values (AW):

| | |
|-----------------------|-----------------|
| Avg. at -20°F (-30°C) | 37 ft.lb. (50J) |
|-----------------------|-----------------|

Available diameter and

recommended operating ranges:

| | |
|----------------------|--------------|
| 1/8" (3.2 mm) | 80-120 amps |
| 5/32" (4.0 mm) | 100-160 amps |

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.1, E6010
- CWB E4310

Mild Steel Electrodes

Pipemaster® 70

AWS E7010-P1

The Pipemaster 70, an all-position cellulosic mild steel electrode, is excellent for producing X-ray quality welds. It's quick starting with excellent arc stability, superior penetration, light slag and excellent wash-in. Pipemaster 70 can also help you handle vertical-down welding on all passes on 5L, 5LX and X52 through X65 pipe.

Typical Applications:

- welding of high-yield pipe steels
- pipeline welding using downhill travel
- shipbuilding
- storage tanks
- drill platforms

Typical Weld Metal Chemistry:

| | |
|------------------|------|
| Carbon | 0.15 |
| Manganese | 0.54 |
| Silicon | 0.13 |
| Nickel..... | 0.72 |
| Molybdenum..... | 0.01 |
| Phosphorus | 0.01 |
| Sulphur | 0.02 |
| Chromium | 0.02 |
| Vanadium..... | 0.01 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 83,000 (570 MPa) |
| Yield Strength (psi) | 69,000 (475 MPa) |
| Elongation % in 2" (50mm) | 25% |

Typical Charpy V-notch Impact Values (AW):

| | |
|-----------------------|-----------------|
| Avg. at -20°F (-30°C) | 57 ft.lb. (78J) |
| Avg. at -40°F (-40°C) | 25 ft.lb. (34J) |

Available diameter and recommended operating ranges:

| | |
|----------------------|--------------|
| 1/8" (3.2 mm) | 70-140 amps |
| 5/32" (4.0 mm) | 80-190 amps |
| 3/16" (4.8 mm) | 120-230 amps |

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.5, E7010-P1
- ASME SFA 5.5, E7010-P1
- Lloyd's Grade 3m, 3Ym
- ABS E7010-P1

Pipemaster® 80

AWS E8010-P1

With features like quick starting, excellent arc stability, superior penetration, light slag and excellent wash-in, the Pipemaster 80 is great for a variety of jobs. This all-position cellulosic mild steel electrode gets a handle on vertical-down welding on all passes with X56 through X70 pipe. With good low-temperature impact properties, it can be used on pipe steels with relatively high silicon (up to .30).

Typical Applications:

- welding of high-yield pipe steels
- pipe welding using downhill travel
- shipbuilding
- storage tanks
- drill platforms

Typical Weld Metal Chemistry:

| | |
|------------------|-------|
| Carbon | 0.19 |
| Manganese | 0.84 |
| Silicon..... | 0.25 |
| Nickel..... | 0.87 |
| Molybdenum..... | 0.14 |
| Phosphorus | 0.008 |
| Sulphur | 0.015 |
| Chromium | 0.07 |
| Vanadium..... | 0.01 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 98,000 (672 MPa) |
| Yield Strength (psi) | 81,000 (560 MPa) |
| Elongation % in 2" (50mm) | 19% |

Typical Charpy V-notch Impact Values (AW):

| | |
|-----------------------|-----------------|
| Avg. at -20°F (-30°C) | 42 ft.lb. (57J) |
| Avg. at -50°F (-46°C) | 25 ft.lb. (34J) |

Available diameter and recommended operating ranges:

| | |
|----------------------|--------------|
| 1/8" (3.2 mm) | 70-140 amps |
| 5/32" (4.0 mm) | 80-190 amps |
| 3/16" (4.8 mm) | 130-240 amps |

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.5, E8010-P1
- ASME SFA 5.5, E8010-P1
- Lloyd's Grade 3m, 3Ym
- ABS E8010-P1

Pipemaster® 90

AWS E9010-G

Pipemaster 90 is designed for welding high-yield strength pipe, out-of-position applications and for use in harsh arctic and/or desert environments. Pipemaster 90 meets the requirements of AWS 5.5 low alloy electrode specifications and pipeline API Code 1104. It is recommended for welding any 5L material from X65 to X80 steel pipe. Pipemaster 90 has a smooth, yet forceful arc that provides good penetration and fusion with excellent control. Its superior wetting characteristics offer freedom from internal undercutting with practically no slag, which minimizes slag entrapment. Although Pipemaster 90 can be used in any welding position, it is especially outstanding in the vertical-down position for welding pipe joints. As with all Pipemaster electrodes, Pipemaster 90 has excellent operator appeal with low spatter levels and easy slag removal for quick cleanup.

Typical Applications:

- high-yield X65, X70 and X80 pipe steels
- drill platforms
- storage tanks
- shipbuilding and construction

Typical Weld Metal Chemistry:

| | |
|------------------|-------|
| Carbon..... | 0.25 |
| Manganese | 1.10 |
| Silicon..... | 0.24 |
| Nickel..... | 0.78 |
| Phosphorus | 0.005 |
| Sulphur | 0.01 |
| Molybdenum..... | 0.18 |
| Vanadium | 0.005 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|-------------------|
| Tensile Strength (psi) | 103,000 (713 MPa) |
| Yield Strength (psi) | 86,000 (590 MPa) |
| Elongation % in 2" (50mm) | 23% |

Typical Charpy V-notch Impact Values

Not required

Available diameter and recommended operating ranges:

| | |
|----------------------|--------------|
| 1/8" (3.2 mm) | 70-140 amps |
| 5/32" (4.0 mm) | 80-185 amps |
| 3/16" (4.8 mm) | 120-230 amps |

Type of Current: DCEP

Approvals and Conformances:

- AWS A5.5, E9010-G
- ASME SFA 5.5, E9010-G

Mild Steel Electrodes

Hobart® 335A

AWS E6011

The Hobart 335A offers a fine spray transfer that enhances operator appeal in all positions. Designed for use with AC power sources, this all-position, cellulose-based electrode provides stable arc characteristics and good penetration.

Typical Applications:

- galvanized steel work
- general-purpose fabrication
- railcar
- shipbuilding
- structural work

Typical Weld Metal Chemistry:

| | |
|------------------|------|
| Carbon | 0.12 |
| Manganese | 0.71 |
| Silicon | 0.29 |
| Nickel | 0.04 |
| Chromium | 0.06 |
| Molybdenum | 0.01 |
| Vanadium | 0.01 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 82,000 (565 MPa) |
| Yield Strength (psi) | 69,000 (478 MPa) |
| Elongation % in 2" (50mm) | 26% |

Typical Charpy V-notch Impact Values (AW):

| | |
|-----------------------|-----------------|
| Avg. at -20°F (-30°C) | 38 ft.lb. (52J) |
|-----------------------|-----------------|

Available diameter and

recommended operating ranges:

| | |
|----------------------|--------------|
| 3/32" (2.4 mm) | 60-90 amps |
| 1/8" (3.2 mm) | 80-125 amps |
| 5/32" (4.0 mm) | 130-160 amps |
| 3/16" (4.8 mm) | 160-190 amps |

Type of Current: AC or DCEP

Approvals and Conformances:

- AWS A5.1, E6011
- ASME SFA 5.1
- Lloyd's 2m, 2Ym
- CWB-E4311
- ABS E6011

Hobart® 335C

AWS E6011

The versatile soft-arc electrode Hobart 335C is designed for AC power sources, but it can also be used on DCEP or DCEN. With the ability to weld through paint, mill scale or rust, it is an all-position cellulosic electrode with the ultimate operator appeal.

Typical Applications:

- general construction
- light sheet metal fabrication
- maintenance and repair welding
- shipbuilding
- welding on galvanized steels
- welding through paint, mill scale or rust

Typical Weld Metal Chemistry:

| | |
|------------------|------|
| Carbon | 0.10 |
| Manganese | 0.59 |
| Silicon | 0.22 |
| Nickel | 0.07 |
| Chromium | 0.07 |
| Molybdenum | 0.01 |
| Vanadium | 0.01 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 83,000 (572 MPa) |
| Yield Strength (psi) | 72,000 (500 MPa) |
| Elongation % in 2" (50mm) | 27% |

Typical Charpy V-notch Impact Values (AW):

| | |
|-----------------------|-----------------|
| Avg. at -20°F (-30°C) | 41 ft.lb. (56J) |
|-----------------------|-----------------|

Available diameter and

recommended operating ranges:

| | |
|----------------------|--------------|
| 3/32" (2.4 mm) | 60-90 amps |
| 1/8" (3.2 mm) | 80-125 amps |
| 5/32" (4.0 mm) | 130-160 amps |

Type of Current: AC or DCEP

Approvals and Conformances:

- AWS A5.1, E6011
- ASME SFA 5.1
- Lloyd's 2m, 2Ym
- ABS E6011

Hobart® 447A

AWS E6013

A soft arc E6013 electrode, Hobart 447A. Whether put to use with AC or DC power sources, the 447A has a very stable arc and good bead appearance.

Typical Applications:

- general-purpose fabrication
- machine parts
- metal buildings and structures
- shaft buildup

Typical Weld Metal Chemistry:

| | |
|------------------|------|
| Carbon | 0.08 |
| Manganese | 0.39 |
| Silicon | 0.25 |
| Nickel | 0.04 |
| Chromium | 0.04 |
| Molybdenum | 0.01 |
| Vanadium | 0.01 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 74,000 (514 MPa) |
| Yield Strength (psi) | 67,000 (463 MPa) |
| Elongation % in 2" (50mm) | 30% |

Typical Charpy V-notch Impact Values:

Not required

Available diameter and recommended operating ranges:

| | |
|----------------------|--------------|
| 3/32" (2.4 mm) | 40-80 amps |
| 1/8" (3.2 mm) | 70-120 amps |
| 5/32" (4.0 mm) | 130-160 amps |
| 3/16" (4.8 mm) | 140-220 amps |

Type of Current: AC, DCEN or DCEP

Approvals and Conformances:

- AWS A5.1, E6013
- ASME SFA 5.1
- ABS E6013

Mild Steel Electrodes

Hobart® 447C

AWS E6013

A soft arc AWS 6013 electrode, Hobart 447C is the best way to take control of poor fit-up conditions. It has fast-freeze characteristics, giving it preferred operator appeal. Hobart 447C versatility extends its usage with AC or DC power sources and low open-circuit voltage AC machines.

Typical Applications:

- general-purpose fabrication
- machine parts
- metal buildings and structures
- shaft buildup

Typical Weld Metal Chemistry:

| | |
|------------------|------|
| Carbon | 0.08 |
| Manganese | 0.40 |
| Silicon | 0.25 |
| Nickel | 0.02 |
| Chromium | 0.03 |
| Molybdenum | 0.01 |
| Vanadium | 0.01 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 75,000 (520 MPa) |
| Yield Strength (psi) | 67,000 (465 MPa) |
| Elongation % in 2" (50mm) | 27% |

Typical Charpy V-notch Impact Values:

Not required

Available diameter and

recommended operating ranges:

| | |
|----------------------|--------------|
| 3/32" (2.4 mm) | 40-80 amps |
| 1/8" (3.2 mm) | 70-120 amps |
| 5/32" (4.0 mm) | 130-160 amps |

Type of Current: AC, DCEN or DCEP

Approvals and Conformances:

- AWS A5.1, E6013
- ASME SFA 5.1
- CWB E4313
- ABS E6013

Hobart® Deckmaster™ 1139 Hobart® 14A

AWS E6022

When you want to get a handle on roof decking, you can rely on this E6022 electrode. It is a very fluid electrode designed for welding roof decking to support beams with burn-through spot welds. You can also rely on the Deckmaster 1139 for rapid downhill welding when joining light-gauge materials.

Typical Applications:

- rapid downhill welding
- roof decking
- sheet metal

Typical Weld Metal Chemistry:

| | |
|------------------|-------|
| Carbon | 0.04 |
| Manganese | 1.17 |
| Silicon | 0.15 |
| Phosphorus | 0.013 |
| Sulphur | 0.013 |

Typical Mechanical Properties:

Transverse tensile strength exceeds
63,000 psi (435 MPa)

Typical Charpy V-notch Impact Values:

Not required

Available diameter and recommended operating ranges:

| | |
|----------------------|--------------|
| 1/8" (3.2 mm) | 110-150 amps |
| 5/32" (4.0 mm) | 150-180 amps |

Type of Current: DCEN, DCEP or AC

Approvals and Conformances:

- AWS A5.1, E6022

AWS E7014

When you are tackling jobs where higher deposition and speed of travel are needed, the Hobart 14A is the electrode to choose. An all-position electrode, Hobart 14A is equipped with a rutile base and iron powder addition to increase deposition rates and give operator appeal. This electrode offers outstanding slag removal and bead appearance and can be operated with AC, DCEP or DCEN power.

Typical Applications:

- frames
- heavy sheet metal
- machine bases

Typical Weld Metal Chemistry:

| | |
|------------------|-------|
| Carbon | 0.063 |
| Manganese | 0.42 |
| Silicon | 0.22 |
| Phosphorus | 0.013 |
| Sulphur | 0.014 |
| Nickel | 0.07 |
| Chromium | 0.06 |
| Molybdenum | 0.01 |
| Vanadium | 0.02 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 81,000 (561 MPa) |
| Yield Strength (psi) | 73,000 (505 MPa) |
| Elongation % in 2" (50mm) | 24% |

Typical Charpy V-notch Impact Values:

Not required

Available diameter and recommended operating ranges:

| | |
|----------------------|--------------|
| 3/32" (2.4 mm) | 70-90 amps |
| 1/8" (3.2 mm) | 120-145 amps |
| 5/32" (4.0 mm) | 140-210 amps |
| 3/16" (4.8 mm) | 180-280 amps |

Type of Current: AC, DCEP or DCEN

Approvals and Conformances:

- AWS A5.1, E7014
- ASME SFA 5.1, E7014
- CWB E4914
- ABS E7014

Mild Steel Electrodes

Hobart® Rocket® 7024

AWS E7024

The Rocket 7024 is engineered with outstanding "best in class" features including, complete slag removal, extremely low spatter and super smooth soft arc. This E7024 electrode is more forgiving than anything else on the market when it comes to welding material that is moderately rusty or not as clean as it should be. It is also exceptionally fast when used down hand in properly designed weld joints or in horizontal fillet welds and can be used in both single or multipass applications.

Typical Applications:

- plate fabrication
- tank fabrication
- barge construction
- construction and earthmoving equipment

Typical Weld Metal Chemistry:

| | |
|------------|------------|
| Carbon |0.05 |
| Manganese |0.74 |
| Silicon |0.45 |
| Phosphorus |0.009 |
| Sulphur |0.019 |
| Nickel |0.07 |
| Chromium |0.06 |
| Molybdenum |0.01 |
| Vanadium |0.02 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 82,000 (562 MPa) |
| Yield Strength (psi) | 70,000 (484 MPa) |
| Elongation % in 2" (50mm) | 26% |

Typical Charpy V-notch Impact Values

Not required

Available diameter and

recommended operating ranges:

| | |
|----------------|-------------------|
| 1/8" (3.2 mm) |130-170 amps |
| 5/32" (4.0 mm) |180-245 amps |
| 3/16" (4.8 mm) |200-300 amps |
| 7/32" (5.6 mm) |250-340 amps |
| 1/4" (6.4 mm) |300-380 amps |

Type of Current: DCEN, AC or DCEP

Approvals and Conformances:

- AWS A5.1, E7024
- ASME SFA 5.1, E7024
- ABS E7024

Hobart® 24

AWS E7024, E7024-1

If you want speed, the Hobart 24 high-speed electrode has it. Hobart 24 is exceptionally fast when used down hand in properly designed weld joints or in horizontal fillet welds where equal leg fillets are desired. It has excellent operation on either AC or DCEN power with a drag welding technique. It also meets AWS E7024-1 impact requirements.

Typical Applications:

- earthmoving equipment
- mining machinery
- plate fabrication
- railcar
- structural
- shipbuilding
- mobile trailers

Typical Weld Metal Chemistry:

| | |
|------------|------------|
| Carbon |0.06 |
| Manganese |0.77 |
| Silicon |0.37 |
| Phosphorus |0.008 |
| Sulphur |0.019 |
| Nickel |0.07 |
| Chromium |0.05 |
| Molybdenum |0.01 |
| Vanadium |0.03 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 79,000 (545 MPa) |
| Yield Strength (psi) | 71,000 (487 MPa) |
| Elongation % in 2" (50mm) | 26% |

Typical Charpy V-notch Impact Values

(AW) for E7024-1:

Avg. at 0°F (-20°C) 50 ft.lb. (68J)

Available diameter and

recommended operating ranges:

| | |
|----------------|-------------------|
| 1/8" (3.2 mm) |130-150 amps |
| 5/32" (4.0 mm) |180-225 amps |
| 3/16" (4.8 mm) |200-280 amps |
| 7/32" (5.6 mm) |250-320 amps |
| 1/4" (6.4 mm) |300-360 amps |

Type of Current: DCEN, AC, or DCEP

Approvals and Conformances:

- AWS A5.1, E7024, E7024-1
- ASME SFA 5.1, E7024
- ABS 3
- CWB E4924-1
- ABS E7024-1

Hobart® 418

AWS E7018 H4R, E7018-1 H4R

Hobart 418 gives you all the flexibility you need in a general-purpose, low-hydrogen, mild steel electrode. It also has good out-of-position welding capabilities and provides an X-ray quality deposit. This unique electrode is ideal for tacking prior to finish welding with Fabshield self-shielded, tubular wire, because the construction of the Hobart 418 allows removal of all the slag from the self-shielded wire.

Typical Applications:

- field erections, steel structures
- jobs where low-hydrogen weld metal in the tensile strength range of 70,000 psi is required
- low alloy structurals
- low-, medium- and high-carbon steels
- offshore rigs, power plants

Typical Weld Metal Chemistry:

| | |
|------------|--------------|
| Carbon |0.04 |
| Manganese |0.95 |
| Silicon |0.54 |
| Phosphorus |0.012 |
| Sulphur |0.014 |
| Nickel |0.07 |
| Chromium |0.07 |
| Molybdenum |0.03 |
| Vanadium | < 0.01 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 78,000 (541 MPa) |
| Yield Strength (psi) | 64,000 (441 MPa) |
| Elongation % in 2" (50mm) | 29% |

Typical Charpy V-notch Impact Values (AW):

Avg. at -50°F (-46°C) 86 ft.lb. (116J)

Available diameter and

recommended operating ranges:

| | |
|----------------|-------------------|
| 3/32" (2.4 mm) |80-100 amps |
| 1/8" (3.2 mm) |90-150 amps |
| 5/32" (4.0 mm) |110-230 amps |
| 3/16" (4.8 mm) |150-300 amps |
| 7/32" (5.6 mm) |220-350 amps |
| 1/4" (6.4 mm) |270-380 amps |

Type of Current: DCEP or AC

Approvals and Conformances:

- AWS A5.1, E7018 H4R, E7018-1 H4R
- ASME SFA 5.1, E7018
- ABS 3H5, 3Y
- Lloyd's BF3.3YH5
- CWB E4918-1 H4
- ABS E7018

Mild Steel Electrodes

Hobart® 718MC

AWS E7018 H4R, E7018(M)-1 H4R

You can take control with the electrode that's formulated and manufactured to give you excellent moisture resistance, good out-of-position welding capabilities and an X-ray quality deposit. The 718MC meets the requirements of military spec. Mil-E-22200/10, including moisture absorption limits of .10% max. as opened and .20% max. after 9 hrs. at 80°F and 80% relative humidity.

Typical Applications:

- barge offshore rigs, shipbuilding
- boiler code applications
- field erection, steel structures
- petrochemical plants, power plants
- railcar and locomotive construction
- welding of enameling steels; free machining steels; low alloy structurals; and low, medium or high carbon steels
- weldments in low-temperature environments where low-temperature impacts are important

Typical Weld Metal Chemistry:

| | |
|------------|------------|
| Carbon |0.04 |
| Manganese |0.92 |
| Silicon |0.25 |
| Phosphorus |0.011 |
| Sulphur |0.016 |
| Nickel |0.07 |
| Chromium |0.06 |
| Molybdenum |0.01 |
| Vanadium |0.01 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 80,000 (550 MPa) |
| Yield Strength (psi) | 69,000 (478 MPa) |
| Elongation % in 2" (50mm) | 28% |

Typical Charpy V-notch Impact Values (AW):

| | |
|-----------------------|-------------------|
| Avg. at -50°F (-46°C) | 106 ft.lb. (144J) |
|-----------------------|-------------------|

Available diameter and recommended operating ranges:

| | |
|----------------|-------------------|
| 3/32" (2.4 mm) |70-110 amps |
| 1/8" (3.2 mm) |90-165 amps |
| 5/32" (4.0 mm) |125-220 amps |
| 3/16" (4.8 mm) |160-300 amps |
| 7/32" (5.6 mm) |260-340 amps |
| 1/4" (6.4 mm) |270-380 amps |

Type of Current: DCEP or AC

Approvals and Conformances:

- AWS A5.1, E7018 H4R, E7018 -1H4R
- ABS 3H5, 3Y
- ASME SFA 5.1, E7018
- MIL-E-22200/10

Hobart® 7018XLM

AWS E7018 H4R, E7018-1 H4R

A high deposition rate, iron powder electrode for use with either AC or DCEP. The 7018XLM is known for its outstanding ease of welding in vertical or overhead positions. This electrode can be used for mild steel and joining mild steel to low alloy steels.

Typical Applications:

- field erections
- shipbuilding
- pipeline
- construction

Typical Weld Metal Chemistry

| | |
|------------|------------|
| Carbon |0.05 |
| Manganese |0.93 |
| Silicon |0.38 |
| Phosphorus |0.012 |
| Sulphur |0.009 |
| Nickel |0.04 |
| Chromium |0.05 |
| Molybdenum |0.01 |
| Vanadium |<0.01 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|-----------------|
| Tensile Strength (psi) | 77,000 (529MPa) |
| Yield Strength (psi) | 64,000 (441MPa) |
| Elongation % in 2" (50mm) | 32% |

Typical Charpy V-Notch Impact Values (AW):

| | |
|---------------------|------------------|
| Avg. @ -50°F (-46C) | 86 ft. lb (117J) |
|---------------------|------------------|

Available diameters and recommended operating ranges:

| | |
|---------------|-------------------|
| 3/32" (2.4mm) |80-110 amps |
| 1/8" (3.2mm) |90-160 amps |
| 5/32" (4.0mm) |110-230 amps |
| 3/16" (4.8mm) |190-300 amps |
| 7/32" (5.6mm) |240-340 amps |
| 1/4" (6.4mm) |310-390 amps |

Type of Current: DCEP or AC

Approvals or Conformances:

- AWS A5.1, E7018-1 H4R
- ASME SFA 5.1, E7018-1 H4R
- ABS E7018-1 H4R

Hobart® Soft-Arc™ 7018-1

AWS E7018 H4R, E7018-1 H4R

An electrode designed to give outstanding operator appeal in all positions. Features a quiet and stable arc, minimal spatter and easy slag removal, and very good low temperature impacts. Perfect for steels that require low hydrogen, x-ray quality welds.

Typical Applications:

- field erections
- shipbuilding
- pipeline
- construction

Typical Weld Metal Chemistry

| | |
|------------|------------|
| Carbon |0.04 |
| Manganese |1.02 |
| Silicon |0.46 |
| Phosphorus |0.009 |
| Sulphur |0.009 |
| Nickel |0.08 |
| Chromium |0.06 |
| Molybdenum |0.01 |
| Vanadium |0.01 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|-----------------|
| Tensile Strength (psi) | 81,000 (558MPa) |
| Yield Strength (psi) | 69,000 (476MPa) |
| Elongation % in 2" (50mm) | 29% |

Typical Charpy V-Notch Impact Values (AW):

| | |
|---------------------|-------------------|
| Avg. @ -50°F (-46C) | 108 ft. lb (147J) |
|---------------------|-------------------|

Available diameters and recommended operating ranges:

| | |
|---------------|-------------------|
| 3/32" (2.4mm) |80-110 amps |
| 1/8" (3.2mm) |90-150 amps |
| 5/32" (4.0mm) |110-230 amps |
| 3/16" (4.8mm) |150-300 amps |

Type of Current: DCEP or AC

Approvals or Conformances:

- AWS A5.1, E7018-1 H4R
- ASME SFA 5.1, E7018-1 H4R

Mild Steel Electrodes

Hobart® 18AC

AWS E7018 H8

Highly recommended for applications using small 208/230V, single phase AC welders, 18AC has good operator appeal, excellent re-striking characteristics and an extremely stable arc. 18AC is also an excellent choice for skip or tack welds. The slag is self-removing in most applications. 18AC will work well on all AC power sources and performs exceptionally well on utility-type welders.

Typical Applications:

- low-, medium- and high-carbon steels
- skip or tack welds
- shops, farms, hobbyist
- some high-strength low alloy steels

Typical Weld Metal Chemistry:

| | |
|------------------|-------|
| Carbon | 0.05 |
| Manganese | 0.77 |
| Silicon | 0.37 |
| Chromium | 0.07 |
| Molybdenum..... | 0.01 |
| Nickel..... | 0.07 |
| Vanadium..... | 0.02 |
| Phosphorus | 0.009 |
| Sulphur | 0.021 |

Typical Mechanical Properties (AW):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 87,000 (597 MPa) |
| Yield Strength (psi) | 75,000 (516 MPa) |
| Elongation % in 2" (50mm) | 30% |

Typical Charpy V-notch Impact Values (AW):

| | |
|-----------------------|-----------------|
| Avg. at -20°F (-30°C) | 54 ft.lb. (74J) |
|-----------------------|-----------------|

Available diameter and

recommended operating ranges:

| | |
|----------------------|--------------|
| 3/32" (2.4 mm) | 70-110 amps |
| 1/8" (3.2 mm) | 90-165 amps |
| 5/32" (4.0 mm) | 125-220 amps |

Type of Current: AC, DCEN or DCEP

Approvals and Conformances:

- AWS A5.1, E7018 H8
- ASME SFA 5.1, E7018

Boilermaker™ 18

E7018 H4R, E7018-1 H4R

Boilermaker electrodes were specifically designed to be used in the repair of water wall tubes in power generation facilities. Their unique chemistry and formulation construction create water clear x-rays. The excellent starts and re-starts, low spatter levels, easy slag removal, and smooth wash and bead tie-ins make this the choice electrode to use for those critical welds in boilers.

Typical Weld Metal Chemistry:

| | |
|------------------|-------|
| Carbon | 0.06 |
| Manganese | 0.80 |
| Phosphorus | 0.013 |
| Sulphur | 0.012 |
| Silicon | 0.49 |
| Nickel..... | 0.04 |
| Chromium | 0.05 |
| Molybdenum..... | 0.01 |
| Vanadium..... | 0.01 |

Typical Mechanical Properties (as welded):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 87,000 (601 MPa) |
| Yield Strength (psi) | 74,000 (510 MPa) |
| Elongation % in 2" (50mm) | 29% |

Typical Charpy V-notch Impact Values

| | |
|-----------------------|-------------------|
| Avg. at -20°F (-30°C) | 115 ft.lb. (156J) |
| Avg. at -50°F (-46°C) | 87 ft.lb. (118J) |

Available diameter and

recommended operating ranges:

| | |
|----------------------|-------------|
| 3/32" (2.4 mm) | 60-110 amps |
| 1/8" (3.2 mm) | 90-165 amps |

Type of Current: DCEP, AC

Approvals and Conformances:

- AWS A5.1, ASME SFA 5.1

Hoballoy® 7018A1

AWS E7018-A1 H4R

For pressure vessel applications, the Hoballoy 7018A1 is an outstanding choice. When welding .50% molybdenum steel and other low alloy steels, the Hoballoy 7018A1 offers resistance to moisture reabsorption. This important feature helps prevent hydrogen cracking and aids in the elimination of starting porosity.

Typical Applications:

- construction and maintenance of boilers
- piping
- tubing

Typical Weld Metal Chemistry:

| | |
|------------------|------|
| Carbon | 0.03 |
| Manganese | 0.77 |
| Silicon | 0.42 |
| Phosphorus | 0.02 |
| Sulphur | 0.01 |
| Molybdenum..... | 0.52 |

Typical Mechanical Properties

(stress relieve 1 hour @ 1150°F):

| | |
|---------------------------|------------------|
| Tensile Strength (psi) | 85,000 (587 MPa) |
| Yield Strength (psi) | 74,000 (507 MPa) |
| Elongation % in 2" (50mm) | 28% |

Typical Charpy V-notch Impact Values

Not required

Available diameter and

recommended operating ranges:

| | |
|----------------------|--------------|
| 3/32" (2.4 mm) | 70-110 amps |
| 1/8" (3.2 mm) | 90-160 amps |
| 5/32" (4.0 mm) | 130-220 amps |

Type of Current: DCEP or AC

Approvals and Conformances:

- AWS A5.5, E7018-A1 H4R
- ASME SFA 5.5, E7018-A1
- ABS E7018-A1