TRI-MARK®

METAL-CORED & SELF-SHIELDED FLUX-CORED WIRE WELDING PRODUCT GUIDE

THE TRUSTED LEADER IN CORED WIRES

Recognized worldwide as the "specialists in Cored wires," Tri-Mark features over 50 different Cored products for welding carbon and low alloy steels, in addition to special formulations for applications in the shipbuilding, infrastructure construction, offshore oil, and heavy equipment industries. Tri-Mark's commitment to product excellence is second to none.

METAL-CORED GAS-SHIELDED WIRES CARBON STEEL

METALLOY 70

Features:
- Outstanding welder appeal
- Low fume emission
- Smooth spray arc
- Almost non-existent spatter
- High deposit efficiency
- Welds with a wider penetration profile
- Better wetting action than solid wires

Applications:
- General fabrication
- Heavy equipment
- Structural steel

Specifications:
E70C-6M H4 per AWS A5.18, ASME SFA 5.18
ABS Grade 2SA, 2YSA

Shielding Gas:
75-95% Ar/bal CO_2, 35-50 cfh

Welding Positions:
CV Spray – flat, horizontal, vertical down
Pulse and short arc – all positions

METALLOY 71

Features:
- Almost non-existent spatter for superior operator appeal
- Essentially slag free welds
- Relatively low fume levels
- Good penetration
- Low hydrogen levels
- 94-97% efficiency
- Spray transfer with argon levels as low as 75%

Applications:
- General plate fabrication
- Heavy equipment

Specifications:
E70C-6M H4 per AWS A5.18, ASME SFA 5.18
DNV Grade III 40YMS
Lloyd's Register of Shipping, Grade 3S and 3YS H15
Bureau Veritas SA 3YM
CWB E491C-6M-H4
Germanischer Lloyd 3Y40H10S Lloyd
ABS Grade 3SA, 3YSA

Shielding Gas:
75-95% Ar/bal CO_2, 35-50 cfh

Welding Positions:
CV Spray – flat, horizontal, vertical down
Pulse and short arc – all positions

METALLOY 70X

Features:
- Lower fume generation rates
- Comparable to solid wires with higher deposition rates
- Arc characteristics improve with richer argon gases
- Lowest spatter rates of all Tri-Mark metal-cored wires

Applications:
- General fabrication
- Structural steel
- Heavy equipment

Specifications:
E70C-6M H4 per AWS A5.18, ASME SFA 5.18
E70C-6M H4

Shielding Gas:
75-92% Ar/bal CO_2, 35-50 cfh

Welding Positions:
CV Spray – flat, horizontal, vertical down
Pulse and short arc – all positions

METALLOY 76

Features:
- Higher manganese and silicon levels than Metalloy 70 with lower spatter and higher strength
- Wetting action better than solid wire
- Minimized cold lap on heavier steel sections

Applications:
- Mill scale, light rust
- Heavy equipment

Specifications:
E70C-6M H4 per AWS A5.18 ASME SFA 5.18
DNV Grade III Y40MS
CWB E491C-6M H4
Bureau Veritas SA 3YM
Lloyd's Register of Shipping, Grade 3S and 3Y40S H15
Germanischer Lloyd 3Y0H5S
ABS Grade 3SA, 3YSA

Shielding Gas:
75-90% Ar/bal CO_2, 35-50 cfh

Welding Positions:
CV Spray – flat, horizontal, vertical down
Pulse and short arc – all positions

METALLOY 70R

Features:
- Specially formulated to weld over mill scale, rust and foreign materials (primer, paint and oil)
- Smooth spray arc action
- Low smoke emission
- Virtually no spatter
- Shielding gas mixture of argon and carbon dioxide recommended (minimum of 75% argon)
- Optimum weldability, but in some applications welding with 100% carbon dioxide is acceptable.

Specifications:
E70C-6M H4 per AWS A5.18, ASME SFA 5.18
ABS Grade 2SA, 2YSA

Shielding Gas:
75% Ar/bal CO_2, 35-50 cfh

Welding Positions:
CV Spray – flat, horizontal, vertical down
Pulse and short arc – all positions

METALLOY VANTAGE™

Features:
- Fewer silicon islands than other metal-cored wires
- Recommended for single or multiple pass welding
- Arc characteristics improve with higher argon levels
- Lower spatter and fume levels

Applications:
- General fabrication
- Heavy equipment
- Railcar

Specifications:
E70C-6M H4 per AWS A5.18, ASME SFA 5.18 5-492C-6M H4
ABS 3SA, 3YSA, CWB 492C-6M H4

Shielding Gas:
75-95% Ar/bal CO_2, 35-50 cfh

Welding Positions:
CV Spray – flat, horizontal, vertical down
Pulse and short arc – all positions
ABS 3SA, 3Y SA

METALLOY X-CEL

Features:
- Specially formulated to maximize DCEN (straight) polarity
- Suited for high deposition, fast fill characteristics
- Ideal for semi-automatic, automatic and robotic welding on clean mild steel (thicknesses 1/4" or less)

Specifications:
E70C-6M H4
Maximum of 95% argon per AWS A5.18, ASME SFA 5.18

Shielding Gas:
75-95% Ar/bal CO_2, 35-50 cfh

Welding Positions:
Flat & horizontal

METAL-CORED GAS-SHIELDED WIRES LOW ALLOY

METALLOY 80B2

Features:
- Designed for single or multiple pass welding of chrome-moly steels

Applications:
- Castings and equipment

Specifications:
E80C-B2 per AWS A5.28

Shielding Gas:
98% Ar/2% CO_2, 75%Ar/ CO_2, 35-50 cfh

Welding Positions:
CV Spray – flat, horizontal, vertical down
Pulse and short arc – all positions

METALLOY 80D2

Features:
- Equivalent to ER80S-D2 solid wire
- Improved welding performance through higher deposition rates and better wet-in
- Developed for high-strength, low alloy steels

Applications:
- Heavy equipment
- Structural welding

Specifications:
E90C-D2 per AWS A5.28
ASME SFA 5.28

Shielding Gas:
98% Ar/2% CO_2, 90% Ar/10% CO_2, 35-50 cfh

Welding Positions:
CV Spray – flat, horizontal, vertical down
Pulse and short arc – all positions

METALLOY 80N1

Features:
- Designed for single or multiple pass nickel-molybdenum steels (1/2 Ni/1/4 Mo, 1 Ni/1/4 Mo and 1 1/2 Ni 1/4 Mo
- Ideal for casting equipment and sub-zero temperatures

Applications:
- Casting
- Low temperature applications

Specifications:
E80C-Ni1 per AWS A5.28
ABS Grade 3SA, 3YSA
CWB E8OC-Ni1 H8

Shielding Gas:
98% Ar/2% CO_2, 75% Ar/25% CO_2, 35-50 cfh

Welding Positions:
CV Spray – flat, horizontal, vertical down
Pulse and short arc – all positions

METALLOY VANTAGE™ NI1

Features:
- Designed for single or multiple pass nickel-molybdenum steels (1/2 Ni/1/4 Mo, 1 Ni/1/4 Mo and 1 1/2 Ni 1/4 Mo)
- Patent-pending formulation technology reduces silicon island formation
- Weld bead toes line virtually free of silicon deposits
- Ideal for casting equipment and sub-zero temperatures

Applications:
- Offshore oil platforms
- Light poles

Specifications:
E80C-Ni H4 per AWS A5.28, ASME SFA 5.28 CWB E80C-Nil H4

Shielding Gas:
98% Ar/2% CO_2, 75% Ar/25% CO_2, 35-50 cfh

Welding Positions:
CV Spray – flat, horizontal, vertical down
Pulse and short arc – all positions

METALLOY 80N2

Features:
- Designed for single and multiple pass welding
- Used where high Charpy-im pact values required at sub-zero temperatures
- Higher nickel alloy offers superior mechanical properties (when used with 98% Ar/2% CO_2 or 75% Ar/25% CO_2)

Applications:
- Offshore oil platforms
- Shipbuilding

Specifications:
E80C-Ni2 per AWS A5.28

Shielding Gas:
98% Ar/2% CO_2 or 75% Ar/25% CO_2, 35-50 cfh

Welding Positions:
CV Spray – flat, horizontal, vertical down
Pulse and short arc – all positions

METALLOY 90

Features:
- Designed for high-strength steels (especially those requiring toughness at sub-zero temperatures)

Applications:
- Castings
- Pressure vessels
- Shipbuilding
- Offshore platforms

Specifications:
E90C-K3 per AWS A5.28

Shielding Gas:
98% Ar/2% CO_2 or 75% Ar/25% CO_2, 35-50 cfh

Welding Positions:
CV Spray – flat, horizontal, vertical down
Pulse and short arc – all positions

METALLOY 100

Features:
- Designed to produce weld metal with a minimun of 100 ksi tensile strength.

Applications:
- Heavy equipment
- Offshore platforms
- Shipbuilding

Specifications:
E100C-K3 per AWS A5.28

Shielding Gas:
90% Ar/10% CO_2 and 95% Ar/5% CO_2, 35-50 C.F.H.

Welding Positions:
CV Spray—flat, horizontal, vertical down
Pulse and Short Arc—all positions

METALLOY 110

Features:
- Designed for single and multiple pass welding of quenched and tempered steels (T1-type, HY80 and HY 100)

Applications:
- Castings
- Heavy equipment
- Shipbuilding

Specifications:
E110C-K4 per AWS A5.28
CWB E11OC-G-H4

Shielding Gas:
75% Ar/25% CO_2, 35-50 cfh

Welding Positions:
CV Spray – flat, horizontal, vertical down
Pulse and short arc – all positions

FLUX-CORED SELF-SHIELDED WIRES CARBON STEEL

TM-44

Features:
- Produces weld beads with good appearance
- Low spatter
- Nearly self-removing slag
- High deposition rates with recom-mended 2 3/4" electrical stickout
- Basic slag de-sulfurizes weld metal, minimizing cracking tendencies
- Shallow penetration on DCEP (reverse polarity)
- Excellent choice where shielding gas is not practical (i.e. smoky, windy conditions)

Applications:
- Heavy machinery
- Large construction components
- Barge building

Specifications:
E70T-4 per AWS A5.20, ASME SFA 5.20

Shielding Gas:
None

Welding Positions:
Flat and Horizontal

TM-77

Features:
- Self-shielding tubular wire for improved operator appeal
- Better arc transfer and deposition
- Less smoke and spatter
- Improved arc stability
- Self-removing slag
- Excellent choice where shielding gas is not practical (i.e. smoky, windy conditions)

Applications:
- Heavy machinery
- Large construction components

Specifications:
E70T-7 per AWS A5.20, ASME SFA 5.20

Shielding Gas:
None

Welding Positions:
Flat and horizontal

TM-121

Features:
- Excellent operator appeal
- Smooth arc
- Low spatter emission
- Easy to handle
- Excellent choice for adverse or windy conditions or where mechanical properties are not critical
- Suited for butt, fillet and lap joints on steel from 16 gauge to 3/8" (not recommended for thicknesses greater than 3/4")

Applications:
- General purpose applications

Specifications:
E71T-11 per AWS A5.20, ASME SFA 5.20

Shielding Gas:
None

Welding Positions:
All positions

TM-123

Features:
- High operator appeal with thin gauge galvanized or carbon steels
- Smooth, stable arc action
- DCEN (straight polarity) operation facilitates welding on as thin as 18 gauge with little burn-through tendencies
- Excellent bead geometry and appearance with vertical down welding
- Low spatter levels
- Recommended for single pass welding

Applications:
- Sheet metal
- Galvanized steels

Specifications:
E71T-GS per AWS A5.20, ASME SFA 5.20

Shielding Gas:
None

Welding Positions:
All positions

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Our knowledgeable customer service team is available to assist customers with information concerning product use, diameter sizes, packaging, and technical information. Got a question about a Tri-Mark product? Call our service team at: **1.800.424.1543** or visit: **www.hobartbrothers.com**