Tri-Mark’s flux-cored carbon steel self-shielded wires are known throughout the world for their high quality and performance. The flux ingredients, formulated to protect the molten weld pool from the atmosphere, provides maximum deoxidation and denitrification of the weld metal. In addition, welders have come to rely on Tri-Mark’s self-shielded wires for their outstanding welding capacity in drafty conditions, especially outdoors in high winds, and in locations where space restrictions won’t allow the use of shielding gas.

### TM-44

TM-44 produces weld beads with good appearance, low spatter, and nearly self-removing slag. High deposition rates are achievable, assisted by the use of a recommended 2-3/4” electrical stickout. The highly basic slag desulfurizes weld metal, minimizing cracking tendencies on higher sulfur steels. Penetration is shallow on DCEP (reverse polarity), allowing the use of this product on applications with poor flux. TM-44 is a good choice for weldments where the use of shielding gas is not practical, as in windy conditions or where smoke extraction equipment causes shielding problems. Typical applications include the welding of heavy machinery, large construction components where appropriate, and stiffeners in barge building. This wire is intended for semi-automatic and automatic, single and multiple pass welding in the flat and horizontal positions. The use of any external shielding gas is not recommended.

**Specifications:**
- E70T-4 per AWS A5.20, ASME SFA 5.20
- Shielding Gas: None
- Welding Positions: Flat and horizontal
- Standard Diameters: 5/64”, 3/32”, .120”

**Characteristics:**
- Extremely high deposition rates can be achieved.
- More tolerance than E70T-1 wires on higher sulfur steel.
- Self-shielded to facilitate welding outdoors.
- Uses DCEP (reverse polarity).

**Undiluted Weld Metal Chemistry:**

<table>
<thead>
<tr>
<th>C</th>
<th>Mn</th>
<th>Si</th>
<th>P</th>
<th>S</th>
<th>Al</th>
</tr>
</thead>
<tbody>
<tr>
<td>.28</td>
<td>.45</td>
<td>.13</td>
<td>.008</td>
<td>.004</td>
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</tbody>
</table>

**Mechanical Properties:**
- Tensile Strength: 92,000 psi
- Yield Strength: 69,000 psi
- Elongation: 22%

For additional information, see Tri-Mark data sheet TM44-060821.

### TM-121

TM-121 is a versatile wire with excellent operator appeal because of its smooth arc, low spatter emission and overall ease of handling. With no shielding gas needed, it is a good choice for welding in hard-to-reach locations or where the provision of gas cylinders is not practical. It is a good wire for applications where windy or other adverse conditions prevail and where mechanical properties are of less concern. TM-121 has little tendency to burn through and is well suited for butt, fillet, and lap joints on steel thicknesses from 16 gauge to 3/8”. It is not recommended for welding steel thicknesses greater than 3/4”. When welding on steels in the 3/8” to 3/4” thickness range, a preheat temperature of 325°F is advisable. This wire is recommended for single pass and limited multiple pass welding in all positions, using no shielding gas.

**Specifications:**
- E71T-11 per AWS A5.20, ASME SFA 5.20
- Shielding Gas: None
- Welding Positions: All positions
- Standard Diameters: 1/16”, 5/64”

**Characteristics:**
- Limited multiple pass, all-position wire.
- Can be used on up to 3/4” thick steel.
- Can be used with CC power sources* and voltage sensing wire feeders.
- Uses DCEN polarity.
- Smooth arc and low spatter emission.

**Undiluted Weld Metal Chemistry:**

<table>
<thead>
<tr>
<th>C</th>
<th>Mn</th>
<th>Si</th>
<th>P</th>
<th>S</th>
<th>Al</th>
</tr>
</thead>
<tbody>
<tr>
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<td>.49</td>
<td>.15</td>
<td>.009</td>
<td>.003</td>
<td>1.18</td>
</tr>
</tbody>
</table>

**Mechanical Properties:**
- Tensile Strength: 91,000 psi
- Yield Strength: 64,000 psi
- Elongation: 21%

* providing that the power source can produce a low voltage range between 14-19 volts.

For additional information, see Tri-Mark data sheet TM121-060812.
TM-123

TM-123 offers extremely high operator appeal in applications involving thin gauge galvanized or carbon steels. Arc action is smooth, stable, and excellent at low welding currents. DCEN (straight polarity) operation facilitates the welding of sections as thin as 18 gauge with little tendency for burn through. Good wetting action makes TM-123 well suited for the lap and butt joint welds encountered in body panel and sheet metal duct work. With vertical down welding, bead geometry and appearance are excellent; and spatter levels are low. TM-123 is very well suited for use in portable welding systems, as the small diameters perform well on portable 110 volt input welding machines. It is recommended only for single pass welding and can be used in all positions using no shielding gas.

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

**Shielding Gas:**
None

**Welding Positions:**
All positions

**Standard Diameters:**
.030", .035", .045"

**Characteristics:**
- Uses DCEN (straight polarity), minimizing burn-through.
- Designed specifically for welding thin gauge galvanized steels.
- Single pass weldments on galvanized and carbon steel sheet metal from 18 gauge up to 3/16".
- Very smooth arc, minimal spatter when applied to carbon steel.

**Mechanical Properties:**
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transverse Tensile</td>
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<tr>
<td>Longitudinal Guide</td>
<td>Satisfactory</td>
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For additional information, see Tri-Mark data sheet TM123-060414.