



# Smoothcor 71T-1/T-12MJ

**CLASSIFICATIONS:** E71T-1C, E71T-1M, E71T-9C, E71T-9M, E71T-12C, E71T-12MJ per AWS A5.20, ASME SFA 5.20

**APPLICATIONS:** Smoothcor 71T-1/T-12MJ is designed for single and multiple pass welding of carbon steels in all positions. There are numerous applications for which Smoothcor 71T-1/T-12MJ is well suited, many of them previously reserved for EXX18 covered electrodes. This electrode excels in welding where requirements are stringent, such as offshore platforms and pipe systems, pressure vessels, oil and gas pipelines, petrochemical pipelines, structural steel, bridge fabrication and many others.

**DIAMETERS:** .035", .045", .052", 1/16", 5/64"

**SHIELDING GAS:** 100% CO<sub>2</sub>, 75-80% Ar / balance CO<sub>2</sub>, 35-50 cfh

**WELDING POSITIONS:** All positions

**CHARACTERISTICS:**

Excellent CVN toughness.  
 Low fume generation rates and diffusible hydrogen levels.  
 Exceptional resistance to moisture pickup.  
 Easily exceeds all "recommended requirements."

| TYPICAL MECHANICAL PROPERTIES   |                 |                                |
|---------------------------------|-----------------|--------------------------------|
|                                 | CO <sub>2</sub> | 75% Ar/<br>25% CO <sub>2</sub> |
| Ultimate Tensile Strength (psi) | 81,500          | 88,000                         |
| Yield Strength (psi)            | 66,700          | 76,000                         |
| Percent Elongation              | 28              | 28                             |
| CVN (ft-lb f) @ 0° F            | 110             | 101                            |
| @ -20° F                        | 95              | 85                             |
| @ -50° F                        | 37              | 40                             |

| TYPICAL DEPOSIT COMPOSITION |     |      |      |      |     |     |
|-----------------------------|-----|------|------|------|-----|-----|
| Wt%                         | C   | Mn   | P    | S    | Si  | Ni  |
| CO <sub>2</sub>             | .06 | 1.30 | .009 | .009 | .42 | .39 |
| 75 Ar/25 CO <sub>2</sub>    | .06 | 1.51 | .009 | .009 | .47 | .41 |

With CO<sub>2</sub> shielding gas. For 75Ar/25CO<sub>2</sub> decrease voltage by 1 to 1.5 volts.

| RECOMMENDED WELDING PARAMETERS * |             |         |       |     |         |       |
|----------------------------------|-------------|---------|-------|-----|---------|-------|
| Diam.                            | Position    | Optimum |       |     | Range   |       |
|                                  |             | Amps    | Volts | WFS | Amps    | Volts |
| 5/64"                            | Flat        | 390     | 29    | 250 | 240-430 | 26-33 |
|                                  | Overhead    | 250     | 26    | 135 | 240-300 | 25-28 |
|                                  | Vertical Up | 250     | 25    | 135 | 240-290 | 24-26 |
| 1/16"                            | Flat        | 350     | 29    | 300 | 150-400 | 22-34 |
|                                  | Overhead    | 225     | 26    | 160 | 150-310 | 22-28 |
|                                  | Vertical Up | 225     | 25    | 160 | 150-280 | 22-27 |
| .052"                            | Flat        | 300     | 28    | 360 | 100-330 | 19-32 |
|                                  | Overhead    | 225     | 26    | 245 | 150-310 | 21-28 |
|                                  | Vertical Up | 225     | 25    | 245 | 150-280 | 21-27 |
| .045"                            | Flat        | 250     | 28    | 282 | 100-300 | 21-32 |
|                                  | Overhead    | 200     | 26    | 265 | 150-280 | 21-29 |
|                                  | Vertical Up | 200     | 25    | 265 | 100-230 | 21-28 |
| .035"                            | Flat        | 175     | 26    | 511 | 100-250 | 21-30 |
|                                  | Overhead    | 150     | 24    | 490 | 100-175 | 21-26 |
|                                  | Vertical Up | 150     | 24    | 490 | 100-175 | 21-26 |

Notice: The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. Thus the results are not guarantees for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.