



WELDING ELECTRODE, CO₂ PROCESS, COILED

ESB-M4A170-A

1. SCOPE

The material defined by this specification is a coiled, copper coated, silicon bearing, mild steel arc welding electrode.

2. APPLICATION

This specification was released originally for material used as a consumable electrode in combination with carbon dioxide (CO₂) gas shielding.

3. REQUIREMENTS

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.1 SIZE

These welding electrodes shall have a nominal diameter, as specified on the purchase order.

3.2 CHEMICAL COMPOSITION

Carbon	0.07 - 0.15
Manganese	1.40 - 1.85
Phosphorus	0.025 max
Sulfur	0.035 max
Silicon	0.80 - 1.15
Iron	Balance

3.3 GAS SHIELD

This material is used in conjunction with M-13899-B, Liquid Carbon Dioxide, which provides the gas shield.

3.4 SURFACE FINISH

Electrodes furnished to this specification shall have a smooth finish, free from drawing compounds or other materials detrimental to quality welds.

Date	Action	Revisions
2003 09 24	Revised	Para 3.0 inserted; para 3.7 and 4 deleted
1978 04 28		Metricated and Retyped, CAH1-RD572066-21
1970 09 01		Released, CAZ1-AF538364-1





3.5 PERFORMANCE REQUIREMENTS

- 3.5.1 Parts welded with these electrodes shall show smooth and uniform weld deposits free from porosity and cracks.
- 3.5.2 Parts welded with these electrodes shall meet all Engineering Drawing requirements, when the electrode is used under the conditions specified by the Manufacturing Engineering Department.

3.6 PRODUCTION APPLICATION QUALIFICATIONS

Electrodes which comply with the above requirements shall be given tentative approval pending the results of a minimum trial quantity of 2 production coils on the actual applications.