

# CARBOLOY Co

|                                |              |                    |
|--------------------------------|--------------|--------------------|
| <b>International standards</b> | Material No. | 2.4883             |
|                                | AWS A5.11    | E NiCrMo-5         |
|                                | DIN 8555     | E 23-UM-250-CKNPTZ |

**Approvals** ---

**Typical applications and characteristics** High alloyed nickel based AC electrode with 160 % recovery. The CARBOLOY Co type deposit has outstanding physical characteristics and is resistant to both, oxidation and reduction corrosion. It work hardens under impact and by machining to ca.400 HB – even at high temperatures – without deforming the deposit. Thick layers should be buffered with CARBO 29/9. CARBOLOY Co is used in general for surfacing of all work-pieces subject to mechanical stress combined with corrosion and/or to high temperatures (from 400 – 750°C)

**Operating temperature** Room temperature up to 400° C

**Base materials** Main applications: Surfacing of hot working tools as hot forging dies, hot shear blades, punches, swages, dies, press tools, milling rolls and valves, etc.

**Welding instructions** To achieve a crack-free overlay, the base material should be preheated to 300 – 400°C, depending on the alloy.

| <b>Mechanical properties of all-weld metal</b> | <b>Tensile strength</b>               | <b>Yield strength</b>                    | <b>Elongation</b>      | <b>Hardness (HB)</b> |                        |
|------------------------------------------------|---------------------------------------|------------------------------------------|------------------------|----------------------|------------------------|
|                                                | <b>R<sub>m</sub> N/mm<sup>2</sup></b> | <b>R<sub>p0,2</sub> N/mm<sup>2</sup></b> | <b>A<sub>5</sub> %</b> | <b>as welded</b>     | <b>/ work-hardened</b> |
| ( typical values)                              | 680                                   | 500                                      | > 10                   | ca. 220              | ca. 400                |

| <b>Weld metal analysis</b> | <b>C</b> | <b>Cr</b> | <b>Co</b> | <b>Mo</b> | <b>W</b> | <b>Fe</b> | <b>Ni</b> |
|----------------------------|----------|-----------|-----------|-----------|----------|-----------|-----------|
| (typical, wt. %)           | 0,06     | 15        | 2         | 16        | 4,0      | 5         | Bal.      |

**Current** = + / ~ 50 V

**Welding positions** PA, PB, PC, PD, PE, PF

**Rebaking** 1 h, 300 °C +/- 10 °C ( if required )

**Flux-cored wire equivalent** CARBOLLOY F-CO

| <b>Dia./Length</b> | <b>Amperage (A)</b> | <b>Pcs./ packet</b> | <b>Pcs./ carton</b> | <b>kg / 1000</b> | <b>kg / packet</b> | <b>kg / carton</b> |
|--------------------|---------------------|---------------------|---------------------|------------------|--------------------|--------------------|
| 2,5 x 350          | 90 - 110            | 138                 | 552                 | 36,2             | 5,0                | 20,0               |
| 3,2 x 350          | 120 - 140           | 84                  | 336                 | 59,3             | 5,0                | 20,0               |
| 4,0 x 350          | 160 - 180           | 54                  | 216                 | 92,7             | 5,0                | 20,0               |
| 5,0 x 450          | 190 - 210           | 32                  | 128                 | 186,3            | 6,0                | 24,0               |

Rev. 001

Statements on composition and application are just for the applier's information. Statements on mechanical properties always refer to the all-weld-metal according to valid standards. Carbo-Weld may change the characteristics of its products without notice. We recommend the applier to check our products for their special application autonomously.