

# CARBO 4502 B

|                                |              |              |
|--------------------------------|--------------|--------------|
| <b>International standards</b> | Material No. | 1.4502       |
|                                | EN 1600      | E 17 Ti B 22 |
|                                | DIN 8555     | E 6-UM-400-R |

**Approvals** ---

**Characteristics and typical applications** CARBO 4502 B is a basic coated electrode for plating and joining equal and similar ferritic Cr-steels and cast steels. Proper weldings are subject to the recommended heat treatment.  
The electrode is specially suitable for sealing surfaces on water-, steam- and gas-valves for working temperatures up to 450 °C.  
The deposit is scale resistant up to 800°C and can be tempered.

**Operating temperature** Room temperature up to 500° C

**Base materials** 1.4016 1.4057 1.4059 1.4510 1.4511 1.4740 1.4741 1.4742

**Recommendations for fabrication** Since ferritic steels tend to embrittlement caused by coarse grain development the heat input should be as low as possible.  
For hardfacing on low alloyed base materials a preheating of 150°C-350°C subject to the thickness (on materials with higher strength 350°C) should be done.  
Post weld treatment is not necessary but quench hardening to the desired hardness may be applied.

|   |   |  |                                       |                                 |
|---|---|--|---------------------------------------|---------------------------------|
| <b>Mechanical properties of all-weld metal (typical values)</b> | <b>Tensile strength</b><br>R <sub>m</sub> N/mm <sup>2</sup> | <b>Yield strength</b><br>R <sub>p0,2</sub> N/mm <sup>2</sup> | <b>Elongation</b><br>A <sub>5</sub> % | <b>Hardness as welded</b><br>HB |
|   | 640   | 400  | 8                                     | 300                             |

|  |          |           |           |           |           |           |
|--|----------|-----------|-----------|-----------|-----------|-----------|
| <b>Weld metal analysis % (typical)</b> | <b>C</b> | <b>Si</b> | <b>Mn</b> | <b>Cr</b> | <b>Ti</b> | <b>Fe</b> |
|  | 0,2      | 0,5       | 0,5       | 16        | +         | base      |

**Current** = +

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

**Rebaking** 1 h, 350° C + / - 10° C (if necessary)

| Dia./Length | Amperage (A) | Pcs./packet | Pcs./carton | kg/1000 | kg/packet | kg/ carton |
|-------------|--------------|-------------|-------------|---------|-----------|------------|
| 2,5 x 300   | 50 - 80      |             |             |         | 4,0       | 16,0       |
| 3,2 x 350   | 80 – 110     |             |             | 29,7    | 5,0       | 20,0       |
| 4,0 x 350   | 100 – 160    |             |             | 45,0    | 5,0       | 20,0       |
| 5,0 x 450   | 150 – 200    |             |             | 90,3    | 6,0       | 24,0       |

Rev. 000