

**Standards**

|          |                   |
|----------|-------------------|
| DIN 8555 | MF 20-MF-350-CKTZ |
|----------|-------------------|

**Characteristics** The deposit of CARBO F- 21 gives a Cobalt-base alloy of high tenacity as well as extreme corrosion- and heat resistance. The weld metal is highly resistant to impact and is work-hardening up to 45 HRC. Welding temperature should be kept between 400° and 600°C, depending on base material and type of construction. Slow cooling, if necessary oven cooling, is recommended for low alloyed and austenitic steels. Subsequent heat treatment ( stress relief at 700°C approx.) is not necessary, except on large structures.

**Typical applications** Due to its above-mentioned characteristics CARBO F-S 21 is particularly recommended for use on all work pieces which are subject to corrosion, impact wear as well as high temperatures or thermal shocks.

**Working temperature** From room temperature up to + 300° C

| Hardness of all-weld metal<br>( typical values ) | At Rt.<br>HRC | + 300°C<br>HB | work<br>hardened<br>HRC | Melting-<br>point | Density<br>g/cm <sup>3</sup> |
|--|---------------|---------------|-------------------------|-------------------|------------------------------|
|  | ca. 30        | ca. 280       | ca. 45                  | 1250°C            | 8,3                          |

| Weld metal analysis<br>(typical, wt. %) | C   | Si  | Mn | Cr | Mo  | Ni | Co   | Fe |
|---|-----|-----|----|----|-----|----|------|----|
|   | 0,3 | 0,9 | 1  | 28 | 5,5 | 3  | Base | 3  |

**Gas types EN 439** M13: 99% Argon with 1% Oxygen

**Current** = +

| Current intensity | DIA (mm) | DIA (inch) | Volt    | Amps      | Delivering form |
|-------------------|----------|------------|---------|-----------|-----------------|
|                   | 1,2      | 3/64       | 19 - 22 | 120 - 220 | G               |
|                   | 1,6      | 1/16       | 20 - 26 | 160 - 260 | G               |
|                   | 2,0      | 5/64       | 22 - 27 | 220 - 280 | G               |
|                   | 2,4      | 3/32       | 24 - 28 | 260 - 340 | G               |
|                   | 2,8      | 7/64       | 25 - 29 | 300 - 400 | S               |

**Delivering form**  
**O = Flux cored wire self shielding**  
**G = Flux cored wire for shielded arc welding**  
**S = Flux cored wire for submerged arc welding**

**Coils, weight** B/BS 300 = 15 kg      B 450 = 30 kg      pay off pack = 150 / 300 kg

Rev. 000

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.