

Classifications

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| DIN 8555 | EN 14700 | AWS A5.13 |
| E 4-UM-60-ST | E Fe4 | EFe5-B (mod.) |

Characteristics and field of use

UTP 690 is used for repair and production of cutting tools, particularly for building-up cutting edges and working surfaces. The deposit is highly resistant to friction, compression and impact, also at elevated temperatures up to 550°C. The production of new tools by welding on non-alloy and low-alloy base metals is also possible (cladding of cutting edges).

UTP 690 has excellent welding properties, a smooth, finely rippled bead appearance and very easy slag removal due to the rutile coating. The weld deposit is equivalent to a high speed steel with increased Mo-content.

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|---|---------------------|
| Hardness of the pure weld metal | approx. 62 HRC |
| soft annealed 800 – 840°C | approx. 25 HRC |
| hardened 1180 – 1240°C and tempered 2 x 550°C | approx. 64 – 66 HRC |

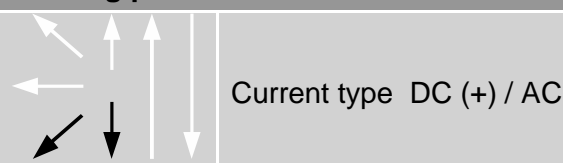
Typical analysis in %

| C | Si | Mn | Cr | Mo | V | W | Fe |
|-----|-----|-----|-----|-----|-----|-----|---------|
| 0.9 | 0.8 | 0.5 | 4.5 | 8.0 | 1.2 | 2.0 | balance |

Welding instruction

Clean the welding area and preheat high-speed steel tools to 400 – 600°C, maintain this temperature during the whole welding process, followed by slow cooling. Machining by grinding is possible. Hold stick electrode vertically and with a short arc. Redry stick electrodes that have got damp for 2h/300°C.

Welding positions



Recommended welding parameters

| | | | |
|-----------------------|-----------|-----------|-----------|
| Electrodes Ø x L [mm] | 2.5 x 350 | 3.2 x 350 | 4.0 x 450 |
| Amperage [A] | 70 – 90 | 90 – 110 | 110 – 130 |