# CARBO S-1.2713 <br> CARBO T-1.2713 

International standards

Typical applications and characteristics

Recommendations for welding and heat treatment

| S = solid wire | T = bare rod |  |
| :--- | :--- | :--- |
| Mat. No. |  |  |

CARBO T+S 1.2713 for high wear resistant hardfacings on hotand cold- working tools. The deposit has a crack-free $\mathrm{Cr}-\mathrm{Ni}-\mathrm{Mo}-\mathrm{Mn}-$ martensitic structure. With low carbon content. Particularly recommended for hardfacing hot- and cold-working trimming dies, pressing- and blanking dies, hot- and cold-shearblades like hot-billet-shears, blanking-,punching and coining tools, rotary-shear-knives, hot- and cold-forming- and drawing-dies.

For achieving optimal crack-free deposits preheating of the base material to 250-350 centigrade is essential.
Short runs are desirable using the step back technique.

| Base materials | 1.2713 | 55NiCrMoV6 | 1.2747 | 28NiMo17 |
| :--- | :--- | :--- | :--- | :--- |
|  | 1.2714 | 56NiCrMoV7 | 1.2764 | X19NiCrMo4 |
|  | 1.2740 | 28NiCrMoV10 | 1.2766 | 35NiCrMo16 |
|  | 1.2743 | 60NiCrMoV12-4 | 1.2767 | X45NiCrMo4 |
|  | 1.2744 | 57NiCrMoV7-7 |  |  |


| Mechanical properties <br> of all-weld metal | First layer <br> HB |
| :--- | :---: |
| ( typical values) | ca. 360-420 HB |

## Weld metal analysis

(typical, wt \%)

| $\mathbf{C}$ | $\mathbf{S i}$ | $\mathbf{M n}$ | $\mathbf{C r}$ | $\mathbf{N i}$ | $\mathbf{M o}$ | $\mathbf{V}$ | $\mathbf{F e}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0,25 | 0,30 | 0,5 | 1,45 | 3,60 | 0,40 | 0,2 | Base |

## Gas types EN 439

| Current |  | = + |  |  |  | = - |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Diameter | mm | 0,8 | 1,0 | 1,2 | 1,6 | 1,6 | 2,0 | 2,4 | 3,2 | 4,0 |
| Welding amps | (A) min. | 80 | 120 | 180 | 250 |  |  |  |  |  |
|  | (A) max. | 130 | 190 | 250 | 320 |  |  |  |  |  |

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\begin{array}{cc}
\mathbf{S}=\text { solid wire } & \mathbf{T}=\text { bare rod } \\
\mathrm{M} 2, \mathrm{C} 1 & \mathrm{I} 1
\end{array}
$$

