## Applications

Welding of vehicles, machines and light structural steels. Surface dressing of heavy steel structure.

## Characteristics

CR-13 is a high titania type electrode, whose usability is excellent in all position welding. CR-13 is especially suitable for welding of light structural steels because arc stability, slag removal and bead appearance are good and its penetration is shallow.

## Notes on usage

(1) Pay attention not to exceed the range of proper currents. Welding with excessive current not only lowers X-ray soundness, but also causes increase of spatter, undercut and insufficient slag covering.
(2) Dry the electrodes at $70 \sim 100^{\circ} \mathrm{C}$ for $30 \sim 60$ minutes before use. Excessive moisture absorption lowers usability and may result in some porosities.

Typical chemical composition of weld metal (\%)

| C | Mn | Si | P | S |
| :---: | :---: | :---: | :---: | :---: |
| 0.08 | 0.38 | 0.28 | 0.017 | 0.011 |

Typical mechanical properties of weld metal

| YP | TS |  |
| :---: | :---: | :---: |
| $\mathrm{N} / \mathrm{mm}^{2}\left({\left.\mathrm{kgf} / \mathrm{mm}^{2}\right)}^{\mathrm{N} / \mathrm{mm}^{2}\left(\mathrm{kgf}^{2} \mathrm{~mm}^{2}\right)}\right.$ | EL |  |
| $430(44)$ | $480(49)$ | 29 |

## Size \& recommended current range ( AC or $\mathrm{DC} \pm$ )

| Dia. (mm) |  | 2.0 | 2.6 | 3.2 | 4.0 | 5.0 | 6.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{~L}(\mathrm{~mm})$ |  | 300 | 350 | 350 | 400 | 400 | 450 |
| Amp. | F | $35-65$ | $45-100$ | $60-130$ | $105-170$ | $150-220$ | $200-280$ |
|  | V\&OH | $30-65$ | $45-90$ | $60-110$ | $100-150$ | $125-190$ | - |

