# ArcStar 111K3

## Characteristics and Applications:

ArcStar 111K3 offers excellent arc stability and low spatter with $CO_2$ shielding gas. It also has a fast freezing slag for all-position welding. These features, along with relatively low diffusible hydrogen levels, excellent slag removal, good impact values and high strength levels, make ArcStar 111K3 a superior choice for welding quench and tempered low alloy steels, such as ASTM A514, S690QL1 (EN 10025-6) etc.

## Notes on usage:

1. Use (DC+) polarity.
2. Use 100%$CO_2$, 20~25 l/min shielding gas.
3. Control welding heat input is critical for getting essential impact value, since notch tough ness tends to decrease under excessive heat input.
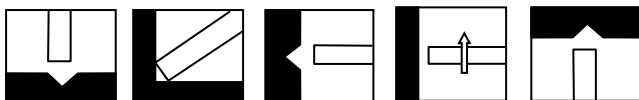4. Keep the product dry, while it is stored or delivered.

## Typical chemical composition of weld metal (wt%) :

|  | C | Mn | Si | P | S | Ni | Mo |
|---|---|---|---|---|---|---|---|
| AWS | $\leqq 0.15$ | 0.75-2.25 | $\leqq 0.80$ | $\leqq 0.030$ | $\leqq 0.030$ | 1.25-2.60 | 0.20-0.65 |
| Typical value | 0.04 | 1.65 | 0.40 | 0.019 | 0.002 | 2.37 | 0.48 |

## Typical mechanical properties of weld metal:

|  | Yield strength MPa(ksi) | Tensile strength MPa(ksi) | Elongation % | Charpy V-Notch J (ft-lbf) -40(-40°F) |
|---|---|---|---|---|
| AWS | $\geq 680(98)$ | 760-900(110-130) | $\geq 15$ | $\geqq 27(20)$ |
| Typical value | 735(107) | 790(115) | 22 | 50(37) |

## Welding position:



## Sizes and recommended parameter range (DC＜+＞) :
## Stick out: 15-25 (mm), gas flow rate: 20-25 (l/min):

| Position \ Diameter(mm) | 1.2 |
|---|---|
| F, HF | 160A-300A/22V-34V |
| VU, OH | 150A-220A/21V-26V |
| VD | 250A-300A/26V-34V |
| H | 200A-260A/23V-28V |

FLUX CORED WIRES