

## 9CrMoV-N

MIG (GMAW)

## SOLID WIRE FOR MIG WELDING OF MODIFIED 9Cr-1Mo CREEP RESISTING STEELS

## PRODUCT DESCRIPTION

Solid wire, non-copper coated, for MIG welding of modified 9Cr-1Mo creep resisting steels

## CLASSIFICATIONS

AWS A5.28 ER90S-B91  
ISO 21952-A G CrMo91

## ASME IX QUALIFICATION

QW422 P-No 15E group 1  
QW432 F-No 6  
QW442 A-No 5

## CHEMICAL COMPOSITION [WIRE WT %]

|         | C    | Mn*  | Si   | S     | P     | Cr  | Ni*  | Mo   | Nb   | V    | N    | Cu   | Al    |
|---------|------|------|------|-------|-------|-----|------|------|------|------|------|------|-------|
| Min.    | 0.08 | 0.40 | 0.15 | --    | --    | 8.5 | 0.40 | 0.85 | 0.03 | 0.15 | 0.03 | --   | --    |
| Max.    | 0.13 | 0.80 | 0.50 | 0.010 | 0.010 | 9.5 | 0.80 | 1.10 | 0.08 | 0.25 | 0.07 | 0.10 | 0.04  |
| Typical | 0.10 | 0.45 | 0.35 | 0.004 | 0.008 | 9.2 | 0.45 | 1.0  | 0.05 | 0.2  | 0.05 | 0.03 | <0.01 |

\* Mn+Ni≤1.0%, typical 0.9%

For nickel below 0.4%, see 9CrMoV

## ALL-WELD MECHANICAL PROPERTIES

| Properties after PWHT     | Min. | Typical (760°C / 2h) |
|---------------------------|------|----------------------|
| Tensile strength [MPa]    | 620  | 750                  |
| 0.2% proof strength [MPa] | 415  | 600                  |
| Elongation (%) 4d         | 17   | 20                   |
| 5d                        | 17   | 19                   |
| Reduction of area [%]     | --   | --                   |
| Impact ISO-V(I) +20°C     | -- * | --                   |
| Hardness (HV) [mid]       | --   | 250                  |

\* Minimum impact required by ISO is 47 J.

## TYPICAL OPERATING PARAMETERS

| Shielding gas                                    | Current | Diameter (mm) | Parameters |
|--------------------------------------------------|---------|---------------|------------|
| Ar + 1-3%O <sub>2</sub> or 5-20% CO <sub>2</sub> | DC+     | 1.2           | 260A, 26V  |

## PACKAGING DATA

| Diameter (mm) | Weight (kg) | Packaging | Item number |
|---------------|-------------|-----------|-------------|
| 0.8           | 15          | BS300     | M9CRMOVN-08 |
| 0.9           | 15          | BS300     | M9CRMOVN-09 |
| 1.0           | 15          | BS300     | M9CRMOVN-10 |
| 1.2           | 15          | BS300     | M9CRMOVN-12 |

## FUME DATA [WT % TYPICAL]

| Fe | Mn | Ni   | Cr <sup>3</sup> | Cu    | Mo  | OES (mg/m <sup>3</sup> ) |
|----|----|------|-----------------|-------|-----|--------------------------|
| 50 | 4  | <0.4 | 6               | < 0.5 | 0.5 | 5                        |