

## 9CrWV

## MIG (GMAW)

## SOLID WIRE FOR MIG WELDING OF P92 CREEP RESISTING STEELS

## PRODUCT DESCRIPTION

Solid wire for MIG welding of P92 creep resisting steels

## CLASSIFICATIONS

AWS A5.5 ER90S-G [92]  
ISO 21952-A G ZCrMoWVNb 9 0.5 1.5

## 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   | W    | Nb   | V    | N    | B      | Al    | Cu    |
|---------|------|------|------|-------|-------|-----|------|------|------|------|------|------|--------|-------|-------|
| min.    | 0.10 | 0.40 | 0.30 | 0.002 | --    | 8.0 | 0.20 | 0.30 | 1.50 | 0.04 | 0.18 | 0.04 | 0.0025 | --    | --    |
| max.    | 0.12 | 0.60 | 0.50 | 0.01  | 0.01  | 9.5 | 0.40 | 0.60 | 2.00 | 0.07 | 0.25 | 0.07 | 0.0060 | 0.01  | 0.10  |
| Typical | 0.11 | 0.5  | 0.40 | 0.003 | 0.004 | 9.2 | 0.35 | 0.45 | 1.8  | 0.05 | 0.2  | 0.05 | 0.0035 | <0.01 | <0.05 |

\* Mn + Ni ≤ 1.0%

## ALL-WELD MECHANICAL PROPERTIES

| Properties after PWHT     | min. | Typical (760°C / 2-4h) |
|---------------------------|------|------------------------|
| Tensile strength (MPa)    | 620  | 770                    |
| 0.2% proof strength (MPa) | 540  | 650                    |
| Elongation (%) 4d         | 16   | 18                     |
| 5d                        | --   | 16                     |
| Reduction of area %       | --   | 70                     |
| Impact ISO-V(J) + 20°C    | --   | 220                    |
| Hardness (HV)             | --   | 265                    |

## TYPICAL OPERATING PARAMETERS

| Shielding gas                                    | Current | Diameter (mm) | Typical 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          | S300      | M9CRWV-08   |
| 1.0           | 15          | S300      | M9CRWV-10   |
| 1.2           | 15          | S300      | M9CRWV-12   |

## FUME DATA (WT % TYPICAL)

| Fe | Mn | Ni    | Cr | Mo  | Cu    | OES (mg/m³) |
|----|----|-------|----|-----|-------|-------------|
| 50 | 4  | < 0.4 | 6  | 0.5 | < 0.5 | 5           |