

## CWR-420 Welding Wire and Rod

CWR-420 is generally used for surfacing applications requiring higher hardness as well as superior abrasion resistance. Pre-heat and inter-pass temperatures of not less than 400°F (204°C) followed by slow cooling is required. Post weld heat treatment is typically used to temper the weld deposit.

### CONFORMANCES

AWS A5.9/A5.9M : ER 420  
ASME SFA-A5.9 : ER 420

### AWS CHEMICAL COMPOSITION (TYPICAL)

| %C          | %Cr         | %Ni      | %Mo      | %Mn          |
|-------------|-------------|----------|----------|--------------|
| 0.25 – 0.40 | 12.0 – 14.0 | 0.60 max | 0.75 max | 0.60 max     |
| %Si         | %P          | %S       | %Cu      | Total Others |
| 0.50 max    | 0.03 max    | 0.03 max | 0.75 max | 0.50 max     |

### TYPICAL WELD METAL MECHANICAL PROPERTIES

Yield Strength : 95,000 psi  
Tensile Strength : 105,000 psi  
Elongation : 16 %

### TYPICAL WELDING PARAMETERS

| Process       | Diameter |        | Voltage | Amperage  | Gas/Flux                 |
|---------------|----------|--------|---------|-----------|--------------------------|
| TIG (GTAW)    | 1/16"    | 1.6 mm | 12 – 15 | 80 – 150  | 100% Ar                  |
|               | 3/32"    | 2.4 mm | 13 – 16 | 150 – 250 | 100% Ar                  |
|               | 1/8"     | 3.2 mm | 14 – 17 | 200 – 350 | 100% Ar                  |
| MIG (GMAW)    | .035"    | 0.9 mm | 24 – 29 | 150 – 220 | 98%Ar – 2%O <sub>2</sub> |
|               | .045"    | 1.1 mm | 25 – 30 | 160 – 260 | 98%Ar – 2%O <sub>2</sub> |
| Sub Arc (SAW) | .093"    | 2.4 mm | 28 – 33 | 250 – 450 |                          |
|               | .125"    | 3.2 mm | 29 – 34 | 300 – 500 |                          |

\*All parameters are suggested as basic guidelines only and will vary depending on joint design, number of passes and other factors.

|                                                                                                                                                                                                                     |
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| <p><b>IMPORTANT: SPECIAL VENTILATION AND/OR EXHAUST REQUIRED</b></p> <p>BEFORE USE, READ AND UNDERSTAND THE SAFETY DATA SHEET (SDS) FOR THIS PRODUCT AND SPECIFIC INFORMATION PRINTED ON THE PRODUCT CONTAINER.</p> |
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