

## GEN 617 Welding Wire and Rod

GEN 617 is used for welding nickel-chromium-cobalt-molybdenum base material using the gas tungsten arc (GTAW) and gas metal arc (GMAW) process. The weld metal provides a combination of excellent metallurgical stability and strength for high temperature service up 1100°C (2012°F). GEN 617 can also be used for overlay welding where similar chemical composition is desired.

### CONFORMANCES

|               |   |              |
|---------------|---|--------------|
| AWS A5.14     | : | ERNiCrCoMo-1 |
| ASME SFA-5.14 | : | ERNiCrCoMo-1 |
| UNS           | : | N06617       |

### AWS CHEMICAL COMPOSITION (TYPICAL)

| %C                  | %Cr                 | %Ni                 | %Mo                | %Al                 | %Fe               | %Mn              |
|---------------------|---------------------|---------------------|--------------------|---------------------|-------------------|------------------|
| 0.05 – 0.15<br>0.06 | 20.0 – 24.0<br>22.4 | rem.<br>Rem.        | 8.0 – 10.0<br>8.80 | 0.8 – 1.5<br>1.35   | 3.0 max.<br>0.51  | 1.0 max.<br>0.35 |
| %Si                 | %P                  | %S                  | %Cu                | %Co                 | %Ti               | Total Others     |
| 1.0 max.<br>0.80    | 0.03 max.<br>0.004  | 0.015 max.<br>0.001 | 0.50 max.<br>0.03  | 10.0 – 15.0<br>11.3 | 0.60 max.<br>0.36 | 0.50 max.        |

### TYPICAL WELD METAL MECHANICAL PROPERTIES

|                  |   |             |         |
|------------------|---|-------------|---------|
| Tensile Strength | : | 112,000 psi | 772 MPa |
| Yield Strength   | : | 88,000 psi  | 606 MPa |
| Elongation       | : | 27 %        |         |

### TYPICAL WELDING PARAMETERS\*

| Process    | Diameter |        | Voltage | Amperage  | Gas/Flux        |
|------------|----------|--------|---------|-----------|-----------------|
| TIG (GTAW) | 1/16"    | 1.6 mm | 14 – 19 | 90 – 130  | 100% Ar         |
|            | 3/32"    | 2.4 mm | 15 – 20 | 120 – 175 | 100% Ar         |
|            | 1/8"     | 3.2 mm | 15 – 20 | 150 – 225 | 100% Ar         |
| MIG (GMAW) | .035"    | 0.9 mm | 26 – 30 | 150 – 200 | 75% Ar – 25% He |
|            | .045"    | 1.1 mm | 28 – 32 | 170 – 220 | 75% Ar – 25% He |

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

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

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