TIG welding rods
for low temperature service

WSG ER80S-Ni1

Classification DIN EN ISO | Classification AWS
636-A W 46 6 3Ni1 | A5.28 ER80S-Ni1

Approvals | Material No.
TÜV 10107, CE, DB 42.045.16, DNVGL | -

Characteristics and application
TIG/GTAW rod for steels where impact properties are required at -60°C. Applications include structural, oil and gas and offshore steelwork.

Base materials
For cryogenic construction steels and Ni bearing low temperature steels.
11MnNi5-3, 13MnNi6-3, S275NL-S460NL, S275ML-S460ML, P275NL2-P460NL2, P355ML2-P460ML2
ASTM: A333/A334 grades 1/6, A350 grades LF2/LF6, A352 grades LCB/LCC
API: 5L X65

Typical analysis in %

<table>
<thead>
<tr>
<th>C</th>
<th>Si</th>
<th>Mn</th>
<th>Ni</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,09</td>
<td>0,50</td>
<td>1,05</td>
<td>0,90</td>
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Typical heat treatment
Preheat and PWHT are often not necessary but actual requirements will depend on the grade and thickness of material being welded and any design codes that apply.

Mechanical properties of the pure weld metal

<table>
<thead>
<tr>
<th>Yield strength in Mpa</th>
<th>Tensile strength in Mpa</th>
<th>Elongation in %</th>
<th>Charpy-V-Value (ISO-V) in J</th>
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</table>
| ≥ 470                 | ≥ 550                   | 4d/5d: ≥24/20   | RT ≥ 100
|                       |                         | -60°C ≥ 47      |                           |