

Classifications

EN ISO 26304-A
AWS A5.23

S 69 Z FB SZ1Ni11

F11AZ-EG-G / F10PZ-EG-G

Characteristics and typical fields of application

Union S 1 Ni 11 - UV 511 TT is a wire flux combination for submerged arc welding of cryogenic 9%Ni steel grades with matching wire composition.

The wire flux-combination has been designed to achieve good toughness properties of the weld metal at -196°C. It is suitable for cryogenic application such as manufacturing storage tanks and pipes.

UV 511 TT is an agglomerated fluoride-basic flux with high basicity with a neutral metallurgical behavior and is suitable for single (DC or AC). For information regarding this welding flux see our detailed data sheet.

Base materials

1.5662 - X8Ni9 , 1.5663 - X7Ni9

Typical analysis

| wt.-% | C | Si | Mn | Ni | S | P |
|----------------|------|-----|-----|------|---------|---------|
| wire | 0.04 | 0.3 | 0.8 | 11.5 | ≤ 0.010 | ≤ 0.010 |
| all-weld metal | 0.04 | 0.3 | 0.8 | 11.5 | | |

Mechanical properties of all-weld metal - typical values (min. values)

| Condition | Yield strength $R_{p0.2}$ | Tensile strength R_m | Elongation A ($L_0=5d_0$) | Impact energy ISO-V KV J |
|-----------|---------------------------|------------------------|-----------------------------|--------------------------|
| | MPa | MPa | % | -196°C |
| u | 780 (≥ 515) | 840 (≥ 690) | 16 (≥ 14) | 29 (≥ 27) |
| a1 | 730 (≥ 515) | 790 (≥ 690) | 18 (≥ 14) | 34 (≥ 27) |
| a2 | 700 (≥ 515) | 760 (≥ 690) | 20 (≥ 18) | ≥ 27 |

u untreated, as welded ; a1 annealed 1 hr 540°C ; a2 1 hr 780°C + air cooling + 1 hr 540°C + air cooling

Operating data

| | | | |
|--|-----------------|---------|---------------------|
|  | Polarity | DC (AC) | Dimension mm |
| | | | 2.4 |
| | | | 3.0 |

Approvals

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