

## Classifications

|                       |                             |
|-----------------------|-----------------------------|
| <b>EN ISO 14171-A</b> | <b>AWS A5.23 / SFA 5.23</b> |
| S 46 4 AR TZ3Ni1Cu H5 | F8A5-ECG-H4                 |

## Characteristics and typical fields of application

**diamondspark S NiCu1 – UV 306** is a wire flux combination for submerged arc welding of weather resistant applications. The weld metal is alloyed with Ni and Cu to make the weld metal weather-resistant and to give its characteristic rusty brown colouring after exposure to weather conditions. It is mainly applied to clad facades, for bridges and other engineering structures. The basic-cored wire provides higher toughness properties and higher deposit rate compared to similar solid SAW wire.

**UV 306** is an aluminate-rutile flux and is recommended and applied for high welding speed and nice bead appearance. For more flux properties see separate datasheet of the flux.

## Base materials

Weather resistant constructional steels

S235JRG2Cu, S235J2G4Cu, S235J0Cu, S235JRW, S355J0Cu, S355J2G3Cu, S355J0W, 235J2W-S355J2W, S355K2W ASTM A 588 Gr. A, B, C, K; A 618 Gr. II; A 709 Gr. 50 WF3

## Typical analysis

| wt.-%          | C    | Si  | Mn  | Ni  | Cu   |
|----------------|------|-----|-----|-----|------|
| all-weld metal | 0.04 | 0.6 | 1.5 | 1.0 | 0.55 |

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

| Condition | Yield strength | Tensile strength | Elongation A | Impact energy ISO-V KV J |          |           |
|-----------|----------------|------------------|--------------|--------------------------|----------|-----------|
|           | $R_{p0.2}$     | $R_m$            | $(L_0=5d_0)$ | -46 °C                   | -40 °C   | -20 °C    |
|           | MPa            | MPa              | %            |                          |          |           |
| u, DC+    | 510 (≥470)     | 590 (550-680)    | 21 (≥20)     | 60 (≥27)                 | 80 (≥47) | 120 (≥47) |

u untreated, as welded

## Operating data

|  |                 |     |                     |
|--|-----------------|-----|---------------------|
|  | <b>Polarity</b> | DC+ | <b>Dimension mm</b> |
|  |                 |     | 2.4                 |
|  |                 |     | 3.2                 |
|  |                 |     | 4.0                 |

## Approvals

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