# 3Dprint AM 70

WAAM Solid Wire, low-alloyed, high strength

## Classifications

**Material Type**

S700 - 8MnNiMoCrSi7-6-5

## Characteristics and typical fields of application

WAAM solid wire designed for 3Dprinting of fine grained steel structures with high yield strength. Good low temperature toughness.

## Typical analysis

| | C | Si | Mn | Cr | Ni | Mo |
|---|---|---|---|---|---|---|
| wt.-% | 0.08 | 0.60 | 1.70 | 0.20 | 1.50 | 0.50 |

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

| Condition | Yield strength $R_{p0.2}$ | Tensile strength $R_m$ | Elongation A ($L_0$=5$d_0$) | Impact energy ISO-V KV J | | | |
|---|---|---|---|---|---|---|---|
| | MPa | MPa | % | 20°C | -20°C | -40°C | -60°C |
| u1 GMAW | 720 | 780 | 16 | 100 | - | 80 | >47 |
| s1 GMAW | 650 | 720 | 20 | 75 | - | >47 | - |
| s2 Plasma WAAM | >690 | 870 (770-940) | 20 (17) | - | > 47 | - | - |

u1 untreated, shielding gas M21, as welded (EN ISO 15792-1)
s1 stress relieved, shielding gas M21, 650°C / 4h (EN ISO 15792-1)
s2 stress relieved, shielding gas I1, 560°C / 2,5h

## Operating data

| Shielding gas (EN ISO 14175) | M21<br>I1 - I3 |
|---|---|

| Dimension mm | Current A |
|---|---|
| 1.2 GMAW (M21) | 350 A / 32 V |
| Plasma WAAM (I1) | 260 A / 24 V |

**Classification as welding consumable:**
EN ISO 14341-A: G 69 6 M21 Mn4Ni1,5CrMo
AWS A5.18: ER100S-G

**DNV Type Approval - Plasma WAAM:**
Grade: VL F-AM-SR-D690
Current: DC(-)
Approved diameter: 1,0 - 1,2 mm
Positions: PA (1G)
Remarks: Plasma WAAM of solid wire, deposited metal min. 47J at -20ºC
Product approved is accepted for installation on all vessels classed by DNV

## Approvals

DNV (TAW00004ZZ) Grade: VL F-AM-SR-D690