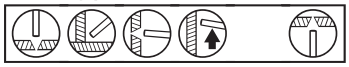
# Cromacore 316LT1

## FCAW - Flux cored arc welding
## Stainless Steel

**Description:**
Cromacore 316LT1 is a rutile flux cored wire intended for welding the 19% Cr / 12% Ni / 3% Mo type stainless steels. The wire has been specially designed for fully positional welding at high welding currents. Suitable also for related stabilised grades if service temperature is below 400°C. Cromacore 316LT1 operates with a very stable, spatter free arc and produces a bright, smooth weld bead surface and self-releasing slag. Ideal for high productivity welding in the vertical position.

**Welding positions:**



**Welding current:**
DC+

**Deposition efficiency:**
87%

**Shielding gas:**
M21, 80% Ar + 20% $CO_2$, 20-25 l/min

**Stick-out:**
15-20 mm

**Ferrite content:**
FN 9

**Chemical composition, wt.%**

| | C | Si | Mn | P | S | Cr | Ni |
|---|---|---|---|---|---|---|---|
| Min | | | 0,5 | | | 17,0 | 11,0 |
| Typical | 0,026 | 0,68 | 1,40 | 0,027 | 0,010 | 18,95 | 12,52 |
| Max | 0.04 | 1,0 | 2,0 | 0,030 | 0,025 | 20,0 | 13,0 |

| | Mo | Cu |
|---|---|---|
| Min | 2,50 | |
| Typical | 2,80 | |
| Max | 3,00 | 0,5 |

**Mechanical properties**

| | Specified | Typical |
|---|---|---|
| Yield strength, Rp0.2%: | | 497 MPa |
| Tensile Strength, Rm: | ≥ 510 MPa | 656 MPa |
| Elongation, A5 | ≥ 30% | 36% |
| Impact energy, CV: | | –20°C • 52 J |

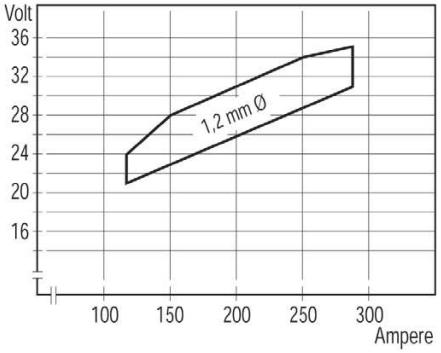
**Classification:**

| | |
|---|---|
| EN ISO 17633-A | T 19 12 3 L P M 1 |
| AWS A5.22 | E 316LT1-4 |

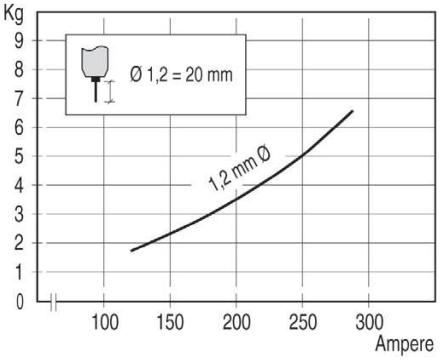
**Approvals:**

CE
TÜV
LR

**Recommended parameter range:**




**Deposition rate per hour:**




**Product data:**

| Diam.mm | Spool weight |
|---|---|
| 1,2 | 15 kg BS300 |
| 1,2 | 5 kg D200 |

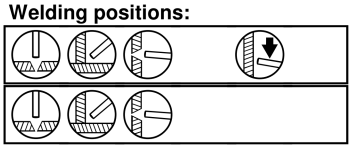
# Cromacore DW 316L

FCAW - Flux cored arc welding
Stainless Steel

| | |
|---|---|
| Date: | 2007-05-25 |
| Revision: | 13 |

**Description:**
Cromacore DW 316L is a rutile flux cored wire designed for welding the 19% Cr / 12% Ni / 3% Mo type stainless steels. Suitable also for related stabilised grades if service temperature is below 400°C. The wire operates with a very stable, spatter free arc producing a bright, smooth weld bead surface and self-releasing slag. Cromacore DW 316L is used mainly for downhand and horizontal-vertical welding and is ideal for standing fillets. Cromacore DW 316L, 0.9 mm is intended for use with material thicknesses less than 3.0 mm.

**Welding positions:**



**Welding current:**
DC+

**Deposition efficiency:**
87%

**Shielding gas:**
M21, 80% Ar + 20% CO2, 22-25 l/min
C1, 100% CO2, 22-25 l/min

**Stick-out:**
15-25 mm

**Ferrite content:**
FN 9

**Chemical composition, wt.%**

| | C | Si | Mn | P | S | Cr | Ni |
|---|---|---|---|---|---|---|---|
| Min | | | 0.5 | | | 17.0 | 11.0 |
| Typical | 0.03 | 0.7 | 1.2 | 0.025 | 0.009 | 18.3 | 12.1 |
| Max | 0.04 | 1.0 | 2.0 | 0.030 | 0.025 | 20.0 | 13.0 |

| | Mo | Cu | V | Nb |
|---|---|---|---|---|
| Min | 2.5 | | | |
| Typical | 2.8 | 0.11 | 0.1 | 0.08 |
| Max | 3.0 | 0.5 | 0.2 | 0.1 |

**Mechanical properties**

| | Specified | Typical |
|---|---|---|
| Yield strength, Rp0.2%: | | 410 MPa |
| Tensile Strength, Rm: | ≥ 510 MPa | 570 MPa |
| Elongation, A5 | ≥ 30% | 44% |
| Impact energy, CV: | | –20°C • 40 J |

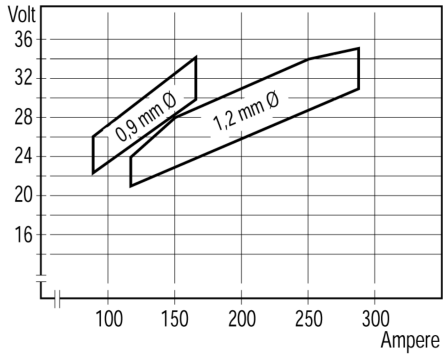
**Classification:**

| | |
|---|---|
| AWS A5.22 | E 316LT0-4/-1 |
| ISO 17633-A | T 19 12 3 L R M/C 3 |
| Werkstoff no. | 1.4430 |

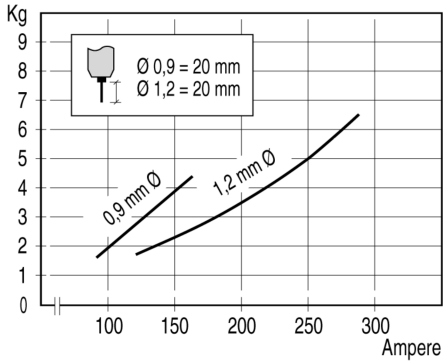
**Approvals:**

| | |
|---|---|
| LR | 316L S |
| DNV | 316L |
| TÜV | 07382.03 |
| DB | 43.042.09 |
| GL | 4571S |
| CE | |

**Recommended parameter range:**




**Deposition rate per hour:**




**Product data:**

| Diam.mm | Product code | Spool weight |
|---|---|---|
| 0,9 | 95712009 | 12,5 kg D300 |
| 1,2 | 95711012 | 15 kg BS300 |
| 1,2 | 95711112 | 5 kg BS200 |

**Note**

Strip:
S ≤ 0.03%
P ≤ 0.04%
N ≤ 0.06%

# Cromacore DW 309L

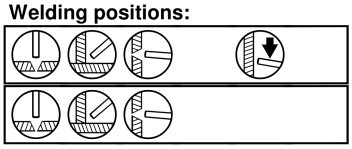
FCAW - Flux cored arc welding
Stainless Steel

Date: 2013-05-27
Revision: 13

**Description:**
Cromacore DW 309L is a rutile flux cored wire which deposits a low carbon 24% Cr / 13% Ni stainless steel weld metal with a ferrite content of about FN 14. The wire operates with a very stable, spatter free arc producing a bright, smooth weld bead surface and self-releasing slag. Cromacore DW 309L is used mainly for downhand and horizontal-vertical welding and is ideal for standing fillets.

**Applications:**
Dissimilar joints between stainless and mild or low alloy steels.
Buffer layers on mild and low alloy steels prior to overlaying with Cromacore DW 308L/LP or DW 347.
Interface runs on clad steel joints.
Welding of similar composition, 309 type, stainless steels.
Joining of ferritic-martensitic stainless steels.

**Welding positions:**



**Welding current:**
DC+

**Deposition efficiency:**
87%

**Shielding gas:**
M21, 80% Ar + 20% CO2, 22-25 l/min
C1, 100% CO2, 22-25 l/min

**Stick-out:**
15-25 mm

**Ferrite content:**
FN 14

**Chemical composition, wt.%**

| | C | Si | Mn | P | S | Cr | Ni |
|---|---|---|---|---|---|---|---|
| Min | | | 0.5 | | | 22.0 | 12.0 |
| Typical | 0.03 | 0.7 | 1.4 | 0.025 | 0.009 | 24.0 | 12.7 |
| Max | 0.04 | 1.0 | 2.5 | 0.030 | 0.025 | 25.0 | 14.0 |

| | Mo | Cu | V | Nb |
|---|---|---|---|---|
| Min | | | | |
| Typical | 0.1 | 0.15 | 0.1 | 0.08 |
| Max | 0.50 | 0.50 | 0.2 | 0.1 |

**Mechanical properties**

| | Specified | Typical |
|---|---|---|
| Yield strength, Rp0.2%: | | 460 MPa |
| Tensile Strength, Rm: | ≥ 520 MPa | 590 MPa |
| Elongation, A5 | ≥ 30% | 36% |
| Impact energy, CV: | | –20 °C • 38 J |

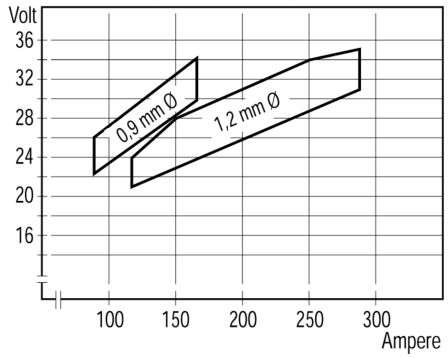
**Classification:**

| | |
|---|---|
| AWS A5.22 | E 309LT0-4/-1 |
| ISO 17633-A | T 23 12L R M/C 3 |

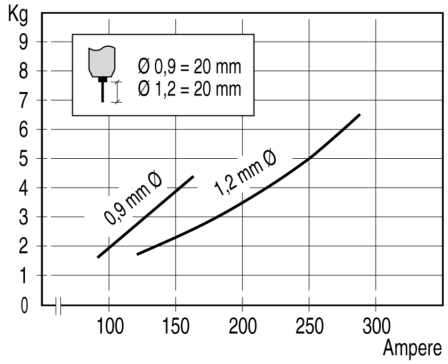
**Approvals:**

| | |
|---|---|
| GL | 4332S |
| LR | SS/CMn S, Dup/CMn |
| TÜV | 07381.02 |
| CE | |

**Recommended parameter range:**




**Deposition rate per hour:**




**Product data:**

| Diam.mm | Product code | Spool weight |
|---|---|---|
| 0,9 | 95722009 | 12,5 kg D300 |
| 1,2 | 95721012 | 15 kg BS300 |
| 1,2 | 95721112 | 5 kg BS200 |

**Note**

Strip:
S ≤ 0.03%
P ≤ 0.04%
N ≤ 0.06%