

## Classification

SAW Solid wire

**AWS A5.9**

ER316L

## Characteristics and typical fields of application

**Avesta S 316L S** is designed for submerged arc welding of austenitic stainless steel type 17 Cr 12 Ni 2.5 Mo or similar where high resistance to general and intercrystalline corrosion is required. The filler metal is also suitable for welding titanium and niobium stabilised steel such as ASTM 316Ti in cases where the construction will be used at temperatures not exceeding 400°C. For higher temperatures a niobium stabilised consumable such as Avesta 318/SKNb is required.

## Base Materials

ASTM 316, 316L, S31653, 316Ti  
EN 1.4436, 1.4432, 1.4429, 1.4571

## Typical analysis of solid wire (wt.-%)

|             | <b>C</b> | <b>Si</b> | <b>Mn</b> | <b>Cr</b> | <b>Ni</b> | <b>Mo</b> |
|-------------|----------|-----------|-----------|-----------|-----------|-----------|
| <b>Wire</b> | 0.02     | 0.30      | 1.70      | 18.7      | 11.2      | 2.2       |

## Typical mechanical properties of all-weld metal

| Avesta S 308L S<br>with flux<br>combination | Yield strength<br>R <sub>e</sub> N/mm <sup>2</sup> | Tensile strength<br>R <sub>m</sub> N/mm <sup>2</sup> | Elongation<br>(L <sub>0</sub> =5d <sub>0</sub> ) | Impact work<br>ISO-V KV J |       |        |
|---|--|--|--|---------------------------|-------|--------|
|   | MPa  | MPa  | %  | +20°C                     | -40°C | -196°C |
| Avesta 805                                  | 430  | 570  | 36   | 80                        | 70    | -      |
| Avesta C 807                                | 415  | 560  | 40   | 100                       | -     | 34     |
| Marathon 431                                | 430  | 570  | 36   | 80                        | -     | 32     |

## Welding Recommendation

Re-drying of sub arc Flux 250-300°C, for 2 hours

Intepass temperature : Max. 150°C  
Heat Input : Max. 2.0 KJ/mm

## Size and Packaging

| Size mm | Spooling      | Weight (Kg) |
|---------|---------------|-------------|
| 2.0     | Basket (K415) | 25          |
| 2.4     | Basket (K415) | 25          |
| 3.2     | Basket (K415) | 25          |
| 4.0     | Basket (K415) | 25          |