

# **S - 308L.16N**

SHIELDED METAL ARC WELDING CONSUMABLE  
FOR WELDING OF 18% Cr-8% Ni STAINLESS STEEL

2020.12

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**HYUNDAI WELDING CO., LTD.**



## S -308L.16N

### ❖ Specification

**AWS A5.4** E308L-16

**JIS Z 3221** ES308L-16

**EN ISO 3581-A** E 19 9 L R

### ❖ Applications

S-308L.16N is designed for welding of 18%Cr-8%Ni stainless steels. (Petrochemical processing, textile industries etc.)

### ❖ Characteristics on Usage

S-308L.16N is a lime- titania type electrode for extra-low carbon 18%Cr - 8% Ni steel with good usability. It is quite efficient because its burn-off rate and deposition rate are high because comparatively High amperage can be used.

### ❖ Note on Usage

1. it is mostly effective to proceed with welding. Keeping the arc as short as possible in flat position.
2. Remove dirt such as oil and dust from the groove.
3. Dry the electrode at 350°C (662°F) for 60 minutes before use.

### ❖ Type of Current

AC or DC+

### ❖ Packing

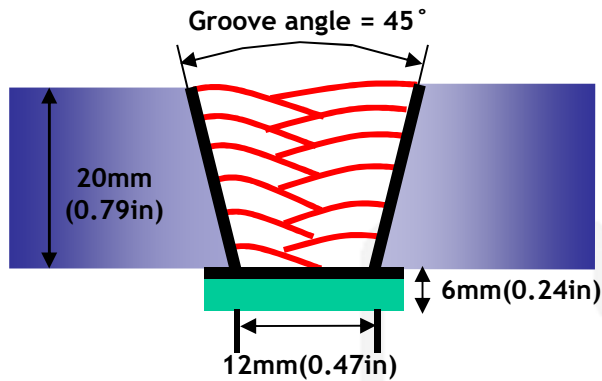
|               |                                 |
|---------------|---------------------------------|
| <b>Packet</b> | 2.5kg(5.5lbs)                   |
| <b>Carton</b> | 2.5kg(5.5lbs) X 4 : 10kg(22lbs) |



**Mechanical Properties & Chemical Composition of All Weld Metal**

❖ **Welding Conditions**

Method by AWS Spec.



|                 |                     |
|-----------------|---------------------|
| Diameter        | : 4.0mm(5/32in)     |
| Amp./ Volt.     | : 140/25            |
| Travel speed    | : 13~18(Cm/min)     |
| Pre-Heat        | : R.T .             |
| Interpass Temp. | : 150±15℃(302±59°F) |
| Position        | : Flat              |
| Polarity        | : AC or DC+         |

[ Joint Preparation & Layer Details ]

❖ **Mechanical Properties of All weld metal**

| Consumable           | Tensile Test                     |       | CVN Impact Test<br>Joule(ft·lbs) |
|----------------------|----------------------------------|-------|----------------------------------|
|                      | TS<br>MPa (lbs/in <sup>2</sup> ) | El(%) | -60℃(-76°F)                      |
| S-308L.16N           | 561(81,000)                      | 44.0  | 43(38)                           |
| AWS A5.4<br>E308L-XX | ≥520(75,000)                     | ≥ 35  | Not Specified                    |

❖ **Chemical Analysis of All weld metal(wt%)**

| Consumable           | Chemical Composition (%) |      |             |       |       |              |               |       |       |
|----------------------|--------------------------|------|-------------|-------|-------|--------------|---------------|-------|-------|
|                      | C                        | Si   | Mn          | P     | S     | Ni           | Cr            | Mo    | Cu    |
| S-308L.16N           | 0.02                     | 0.67 | 0.87        | 0.028 | 0.018 | 10.0         | 19.2          | 0.14  | 0.12  |
| AWS A5.4<br>E308L-XX | ≤0.04                    | ≤1.0 | 0.5~<br>2.5 | ≤0.04 | ≤0.03 | 9.0<br>~11.0 | 18.0<br>~21.0 | ≤0.75 | ≤0.75 |

This information is provided solely for the purpose of confirming product conformance with applicable standards. The serviceability of a product or structure utilizing this type of information is and must be the sole responsibility of the builder/user. Many variables beyond the control of HYUNDAI WELDING CO., LTD. affect the results obtained in applying this type of information. These variables include, but are not limited to, welding procedure, shielding gas, plate chemistry and temperature, weldment design, fabrication methods and service requirements.

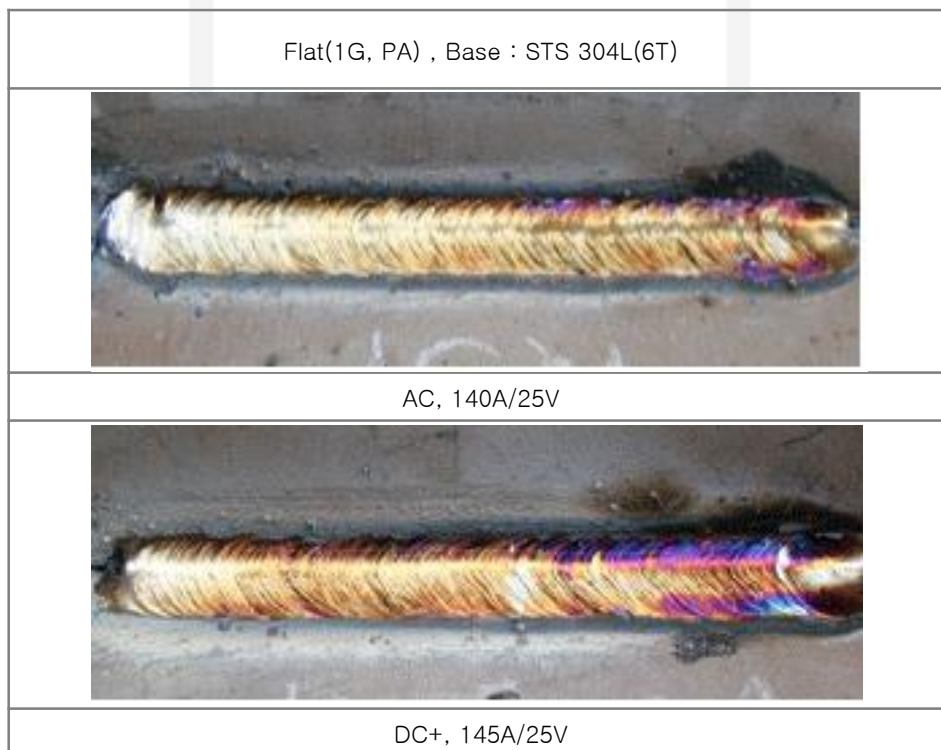


## Mechanical Properties & Chemical Composition of All Weld Metal

### ❖ $\delta$ – Ferrite No.

| Consumable | Diagram    |        |           | FERITSCOPE MP-30 *<br>(FISCHER) |
|------------|------------|--------|-----------|---------------------------------|
|            | Schaeffler | DeLong | WRC(1992) |                                 |
| S-308L.16N | 10.6       | 9.3    | 6.6       | 5~6                             |

### ❖ Bead Appearance



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## Approvals

### ❖ AUTHORIZED APPROVAL DETAILS

| Consumable | KR   | ABS                          | LR                          |
|------------|--|------------------------------|-----------------------------|
| S-308L.16N | RD308L<br>2.4~5.0                          | AWS A5.4 E308L-16<br>2.4~5.0 | 304L<br>2.4~5.0             |
|            | BV<br>308L<br>2.0~5.0                      | DNV<br>308L<br>2.4~5.0       | NK<br>KD308L<br>2.4~5.0     |
|            | CWB  | TUV                          | CE                          |
|            | CSA W48-06 E308L-16<br>2.0~5.0             | EN 1600 E 199 LR<br>2.0~5.0  | EN 1600 E 199 LR<br>2.0~5.0 |
|            | DB   | CCS                          |                             |
|            | E199 LR (1.4316)<br>DIN EN 1600<br>2.0~5.0 | 304L<br>2.0~5.0              |                             |

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