

**This page is mainly introduced the ER 308L Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of ER 308L, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.**

## Datasheet for Steel Grades Specialsteel ER 308L

| ER 308L Standard Number: |                 |  |
|--------------------------|-----------------|--|
| ITEM                     | Standard Number | Descriptions                                     |
| 1                        | A5.9/A5.9M      | Bare Stainless Steel Welding Electrodes and Rods |

| ER 308L Chemical composition(mass fraction)(wt.%) |    |         |    |    |    |         |    |    |       |
|---|----|---------|----|----|----|---------|----|----|-------|
| Chemical  |    | Min.(%) |    |    |    | Max.(%) |    |    |       |
| C   |    |         |    |    |    | 0.025   |    |    |       |
| Si  |    |         |    |    |    | 0.40    |    |    |       |
| Mn  |    |         |    |    |    | 1.75    |    |    |       |
| P   |    |         |    |    |    | 0.045   |    |    |       |
| S   |    |         |    |    |    | 0.03    |    |    |       |
| Cr  |    | 19.0    |    |    |    | 21.0    |    |    |       |
| Ni  |    | 8.00    |    |    |    | 12.0    |    |    |       |
| C   | Si | Mn      | P  | S  | Cr | Ni      | Mo | V  | Ta    |
| W   | N  | Cu      | Co | Pb | B  | Nb      | Al | Ti | Other |
|   |    |         |    |    |    |         |    |    |       |

Austenitic wire for metal inert gas welding. It is suitable for welding corrosion resistant 18/8 CrNi steels for devices, vessels and parts in chemical, pharmacy and cellulose industry for temperature up to 350°C. Welded material has oxidation resistance up to 800°C and ductility to -196°C. For joining with base materials: 1. Alloyed corrosion resistant: DIN X5CrNi 18 9 or WN 1.4301; DIN X2CrNi 18 9 or WN 1.4306; DIN X10CrNiNb18 9 or WN 1.4550;

The welding materials are classified according to chemical composition.

The values contained in the mechanical properties are not requirements of this specification. They are obtained from weld metal specified in A5.4.

### ER 308L Physical Properties

|                  |         |                          |
|------------------|---------|--------------------------|
| Tensile strength | 115-234 | $\sigma_b$ /MPa          |
| Yield Strength   | 23      | $\sigma_{0.2} \geq$ /MPa |
| Elongation       | 65      | $\delta_5 \geq$ (%)      |
| $\psi$           | -       | $\psi \geq$ (%)          |
| Akv              | -       | Akv $\geq$ /J            |
| HBS              | 123-321 | -                        |
| HRC              | 30      | -                        |

### ER 308L Mechanical Properties

|                  |         |                          |
|------------------|---------|--------------------------|
| Tensile strength | 231-231 | $\sigma_b$ /MPa          |
| Yield Strength   | 154     | $\sigma_{0.2} \geq$ /MPa |
| Elongation       | 56      | $\delta_5 \geq$ (%)      |
| $\psi$           | -       | $\psi \geq$ (%)          |
| Akv              | -       | Akv $\geq$ /J            |
| HBS              | 235-268 | -                        |
| HRC              | 30      | -                        |

### ER 308L Heat Treatment Regime

| Annealing | Quenching | Tempering | Normalizing | Q & T |
|-----------|-----------|-----------|-------------|-------|
| √         | √         | √         | √           | √     |

### ER 308L Range of products

| Product type    | Products                        | Dimension         | Processes                                   | Deliver Status  |
|-----------------|---------------------------------|-------------------|---|---|
| Plates / Sheets | Plates / Sheets                 | 0.08-200mm(T)*W*L | Forging, hot rolling and cold rolling       | Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting |
| Steel Bar       | Round Bar, Flat Bar, Square Bar | Φ8-1200mm*L       | Forging, hot rolling and cold rolling, Cast | Black, Rough Turning, Shot Blasting,                          |
| Coil / Strip    | Steel Coil /Steel Strip         | 0.03-16.0x1200mm  | Cold-Rolled & Hot-Rolled                    | Annealed, Solution and Aging, Q+T, ACID-                      |

|               |   |                               |                                      |   |
|---------------|---|-------------------------------|--------------------------------------|---|
|               |   |                               |                                      | WASHED, Shot Blasting                                 |
| Pipes / Tubes | Seamless Pipes/Tubes,<br>Welded Pipes/Tubes | OD:6-219mm x<br>WT:0.5-20.0mm | Hot extrusion, Cold<br>Drawn, Welded | Annealed, Solution and<br>Aging, Q+T, ACID-<br>WASHED |

**We can produce Specialsteel the specifications follows:**