

This page is mainly introduced the SA-182 F 309H Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of SA-182 F 309H, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Specialsteel SA-182 F 309H

### SA-182 F 309H Standard Number:

| ITEM | Standard Number | Descriptions  |
|------|-----------------|---|
| 1    | SA-182/SA-182M  | Specification for Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service |

### SA-182 F 309H Chemical composition(mass fraction)(wt.%)

| Chemical |    | Min.(%) |    |    |    |    | Max.(%) |    |       |  |
|----------|----|---------|----|----|----|----|---------|----|-------|--|
| C        |    |         |    |    |    |    | 0.08    |    |       |  |
| Si       |    |         |    |    |    |    | 0.75    |    |       |  |
| Mn       |    |         |    |    |    |    | 2.00    |    |       |  |
| P        |    |         |    |    |    |    | 0.045   |    |       |  |
| S        |    |         |    |    |    |    | 0.030   |    |       |  |
| Cr       |    | 22.0    |    |    |    |    | 24.0    |    |       |  |
| Ni       |    | 12.0    |    |    |    |    | 15.0    |    |       |  |
| C        | Si | Mn      | P  | S  | Cr | Ni | Mo      | V  | Ta    |  |
| W        | N  | Cu      | Co | Pb | B  | Nb | Al      | Ti | Other |  |
|          |    |         |    |    |    |    |         |    |       |  |

Specification for Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service

### SA-182 F 309H 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      | -                   |

### SA-182 F 309H 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      | -                        |

### SA-182 F 309H Heat Treatment Regime

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

### SA-182 F 309H 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          | $\Phi 8$ -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, Welded Pipes/Tubes | OD:6-219mm x WT:0.5-20.0mm | Hot extrusion, Cold Drawn, Welded           | Annealed, Solution and Aging, Q+T, ACID-WASHED                |

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