

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

## Datasheet for Steel Grades Specialsteel Waspaloy

| Waspaloy Standard Number: |                      |                                                                                                                                                                                                                 |
|---------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ITEM                      | Standard Number      | Descriptions                                                                                                                                                                                                    |
| 1                         | SAE AMS 5708K (2008) | Nickel Alloy, Corrosion and Heat-Resistant, Bars, Wire Forgings, and Rings 58Ni - 19.5Cr - 13.5Co - 4.3Mo - 3.0Ti - 1.4Al Consumable Electrode or Vacuum Induction Melted 1975°F (1079°C) Solution Heat Treated |

| Waspaloy Chemical composition(mass fraction)(wt.%) |    |    |    |         |    |    |           |    |       |
|----------------------------------------------------|----|----|----|---------|----|----|-----------|----|-------|
| Chemical                                           |    |    |    | Min.(%) |    |    | Max.(%)   |    |       |
| C                                                  |    |    |    |         |    |    | 0.07      |    |       |
| Si                                                 |    |    |    |         |    |    | 0.10      |    |       |
| Mn                                                 |    |    |    |         |    |    | 0.10      |    |       |
| Cr                                                 |    |    |    |         |    |    | 19.75     |    |       |
| Ni                                                 |    |    |    |         |    |    | remaining |    |       |
| Mo                                                 |    |    |    |         |    |    | 4.45      |    |       |
| Co                                                 |    |    |    |         |    |    | 14.00     |    |       |
| W                                                  |    |    |    |         |    |    |           |    |       |
| Al                                                 |    |    |    |         |    |    | 1.40      |    |       |
| Cu                                                 |    |    |    |         |    |    |           |    |       |
| Ti                                                 |    |    |    |         |    |    | 3.00      |    |       |
| Fe                                                 |    |    |    |         |    |    | 0.75      |    |       |
| B                                                  |    |    |    |         |    |    | 0.005     |    |       |
| Zr                                                 |    |    |    |         |    |    | 0.04      |    |       |
| C                                                  | Si | Mn | P  | S       | Cr | Ni | Mo        | V  | Ta    |
|                                                    |    |    |    |         |    |    |           |    |       |
| W                                                  | N  | Cu | Co | Pb      | B  | Nb | Al        | Ti | Other |
|                                                    |    |    |    |         |    |    |           |    |       |

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Solution Heat Treated

### Waspaloy 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      | -                        |

### Waspaloy Mechanical Properties

|                  |         |                 |
|------------------|---------|-----------------|
| Tensile strength | 231-231 | $\sigma_b$ /MPa |
|                  |         |                 |

|                |         |                                |
|----------------|---------|--------------------------------|
| Yield Strength | 154     | $\sigma_{0.2} \geq \text{MPa}$ |
| Elongation     | 56      | $\delta 5 \geq (\%)$           |
| $\psi$         | -       | $\psi \geq (\%)$               |
| Akv            | -       | $Akv \geq \text{J}$            |
| HBS            | 235-268 | -                              |
| HRC            | 30      | -                              |

### Waspaloy Heat Treatment Regime

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

### Waspaloy 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:**