

This page is mainly introduced the X10CrAlSi18 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X10CrAlSi18, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Specialsteel X10CrAlSi18

### X10CrAlSi18 Standard Number:

| ITEM | Standard Number  | Descriptions                             |
|------|------------------|--|
| 1    | ISO 15510 (2010) | Stainless steels -- Chemical composition |
| 2    | ISO 4955 (2005)  | Heat-resistant steels                    |

### X10CrAlSi18 Chemical composition (mass fraction) (wt.%)

| Chemical |    | Min.(%) |    |    |    | Max.(%) |    |    |       |
|----------|----|---------|----|----|----|---------|----|----|-------|
| C        |    |         |    |    |    | 0.12    |    |    |       |
| Si       |    | 0.70    |    |    |    | 1.40    |    |    |       |
| Mn       |    |         |    |    |    | 1.00    |    |    |       |
| P        |    |         |    |    |    | 0.040   |    |    |       |
| S        |    |         |    |    |    | 0.030   |    |    |       |
| Cr       |    | 17.00   |    |    |    | 19.00   |    |    |       |
| Ni       |    |         |    |    |    | 1.00    |    |    |       |
| Al       |    | 0.70    |    |    |    | 1.20    |    |    |       |
| C        | Si | Mn      | P  | S  | Cr | Ni      | Mo | V  | Ta    |
| W        | N  | Cu      | Co | Pb | B  | Nb      | Al | Ti | Other |
|          |    |         |    |    |    |         |    |    |       |

### Heat-resistant steels

### X10CrAlSi18 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      | -                   |

### X10CrAlSi18 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      | -                        |

### X10CrAlSi18 Heat Treatment Regime

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

### X10CrAlSi18 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:**