

This page is mainly introduced the Z21CDNbV11 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of Z21CDNbV11, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Special Steel Z21CDNbV11

### Z21CDNbV11 Standard Number:

| ITEM | Standard Number | Descriptions   |
|------|-----------------|--|
| 1    | NF A 35-578     | Iron and steel. Stainless steel for high temperature application |

### Z21CDNbV11 Chemical composition (mass fraction) (wt.%)

| Chemical |    | Min.(%) |    | Max.(%) |    |    |    |    |       |
|----------|----|---------|----|---------|----|----|----|----|-------|
| C        |    | 0.16    |    | 0.25    |    |    |    |    |       |
| Si       |    | 0.10    |    | 0.50    |    |    |    |    |       |
| Mn       |    | 0.30    |    | 0.80    |    |    |    |    |       |
| P        |    |         |    | 0.030   |    |    |    |    |       |
| S        |    |         |    | 0.015   |    |    |    |    |       |
| Cr       |    | 10.00   |    | 12.00   |    |    |    |    |       |
| Mo       |    |         |    | 1.00    |    |    |    |    |       |
| Ni       |    | 0.50    |    | 1.00    |    |    |    |    |       |
| Nb       |    | 0.25    |    | 0.55    |    |    |    |    |       |
| V        |    | 0.10    |    | 0.30    |    |    |    |    |       |
| N        |    | 0.05    |    | 0.10    |    |    |    |    |       |
| C        | Si | Mn      | P  | S       | Cr | Ni | Mo | V  | Ta    |
| W        | N  | Cu      | Co | Pb      | B  | Nb | Al | Ti | Other |
|          |    |         |    |         |    |    |    |    |       |

Iron and steel. Stainless steel for high temperature application

### Z21CDNbV11 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      | -                        |

### Z21CDNbV11 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      | -                        |

### Z21CDNbV11 Heat Treatment Regime

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

### Z21CDNbV11 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, 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:**

