

This page is mainly introduced the Y1Cr18Ni9Se Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of Y1Cr18Ni9Se, 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 Y1Cr18Ni9Se

### Y1Cr18Ni9Se Standard Number:

| ITEM | Standard Number  | Descriptions                       |
|------|------------------|------------------------------------|
| 1    | GB/T 1220 (1992) | Stainless steel bars               |
| 2    | GB/T 4226 (2004) | Cold finished stainless steel bars |
| 3    | GB/T 4240 (1993) | Stainless steel wires              |
| 4    | GB/T 4356 (1984) | Stainless steel wire rods          |

### Y1Cr18Ni9Se Chemical composition (mass fraction) (wt.%)

| Chemical Composition of Cast Iron |    |    |         |    |    |    |         |    |       |
|-----------------------------------|----|----|---------|----|----|----|---------|----|-------|
| Chemical                          |    |    | Min.(%) |    |    |    | Max.(%) |    |       |
| C                                 |    |    |         |    |    |    | 0.15    |    |       |
| Si                                |    |    |         |    |    |    | 1.00    |    |       |
| Mn                                |    |    |         |    |    |    | 2.00    |    |       |
| P                                 |    |    |         |    |    |    | 0.200   |    |       |
| S                                 |    |    |         |    |    |    | 0.060   |    |       |
| Ni                                |    |    | 8.00    |    |    |    | 10.00   |    |       |
| Cr                                |    |    | 17.00   |    |    |    | 19.00   |    |       |
| Se                                |    |    |         |    |    |    | 0.15    |    |       |
| C                                 | Si | Mn | P       | S  | Cr | Ni | Mo      | V  | Ta    |
|                                   |    |    |         |    |    |    |         |    |       |
| W                                 | N  | Cu | Co      | Pb | B  | Nb | Al      | Ti | Other |
|                                   |    |    |         |    |    |    |         |    |       |

Y1Cr18Ni9Se Stainless and heat resisting steels

Austenitic stainless steel. Grade Y1Cr18Ni9Se was replaced by new designation Y12Cr18Ni9Se according to GB/T 20878 (2007)

## Y1Cr18Ni9Se 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      | -                        |

## Y1Cr18Ni9Se 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      | -                        |

## Y1Cr18Ni9Se Heat Treatment Regime

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

## Y1Cr18Ni9Se 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                |

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