

This page is mainly introduced the X3CrNiMoN27-5-2 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X3CrNiMoN27-5-2, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Specialsteel X3CrNiMoN27-5-2

### X3CrNiMoN27-5-2 Standard Number:

| ITEM | Standard Number      | Descriptions                                                                                                                                                                           |
|------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | BS EN 10088-1        | Stainless steels - Part 1: List of stainless steels                                                                                                                                    |
| 2    | BS EN 10088-3        | Stainless steels - Part 3: Technical delivery conditions for semi-finished products, bars, rods, wire, sections and bright products of corrosion resisting steels for general purposes |
| 3    | BS EN 10088-5        | Stainless steels - Part 5: Technical delivery conditions for bars, rods, wire, sections and bright products of corrosion resisting steels for construction purposes                    |
| 4    | BS EN 10250-4        | Open die steel forgings for general engineering purposes - Part 4: Stainless steels                                                                                                    |
| 5    | BS EN 10297-2 (2005) | Seamless circular steel tubes for mechanical and general engineering purposes - Technical delivery conditions - Part 2: Stainless steel                                                |

### X3CrNiMoN27-5-2 Chemical composition(mass fraction)(wt.%)

| Chemical |    |    |    | Min.(%) |    |    | Max.(%) |    |       |
|----------|----|----|----|---------|----|----|---------|----|-------|
| C        |    |    |    |         |    |    | 0.05    |    |       |
| Si       |    |    |    |         |    |    | 1.00    |    |       |
| Mn       |    |    |    |         |    |    | 2.00    |    |       |
| P        |    |    |    |         |    |    | 0.035   |    |       |
| S        |    |    |    |         |    |    | 0.015   |    |       |
| Cr       |    |    |    | 25.00   |    |    | 28.00   |    |       |
| Ni       |    |    |    | 4.50    |    |    | 6.50    |    |       |
| Mo       |    |    |    | 1.30    |    |    | 2.00    |    |       |
| N        |    |    |    | 0.50    |    |    | 0.20    |    |       |
| C        | Si | Mn | P  | S       | Cr | Ni | Mo      | V  | Ta    |
|          |    |    |    |         |    |    |         |    |       |
| W        | N  | Cu | Co | Pb      | B  | Nb | Al      | Ti | Other |
|          |    |    |    |         |    |    |         |    |       |

## Seamless circular steel tubes for mechanical and general engineering purposes - Technical delivery conditions - Part 2: Stainless steel

### X3CrNiMoN27-5-2 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      | -                        |

### X3CrNiMoN27-5-2 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      | -                        |

### X3CrNiMoN27-5-2 Heat Treatment Regime

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

### X3CrNiMoN27-5-2 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,<br>Welded Pipes/Tubes | OD:6-219mm x<br>WT:0.5-20.0mm | Hot extrusion, Cold<br>Drawn, Welded | Annealed, Solution and<br>Aging, Q+T, ACID-<br>WASHED |

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