

This page is mainly introduced the **GMW3161M-ST-S X12Cr13 Datasheet**, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of **GMW3161M-ST-S X12Cr13**, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Specialsteel GMW3161M-ST-S X12Cr13

### GMW3161M-ST-S X12Cr13 Standard Number:

| ITEM | Standard Number | Descriptions                             |
|------|-----------------|------------------------------------------|
| 1    | GMW 3161-2005   | Stainless Steel for Exhaust Applications |

### GMW3161M-ST-S X12Cr13 Chemical composition(mass fraction)(wt.%)

| Chemical |    |    | Min.(%) |    |    |    | Max.(%) |    |       |
|----------|----|----|---------|----|----|----|---------|----|-------|
| C        |    |    |         |    |    |    | 0.15    |    |       |
| Mn       |    |    |         |    |    |    | 1.00    |    |       |
| Si       |    |    |         |    |    |    | 1.00    |    |       |
| P        |    |    |         |    |    |    | 0.040   |    |       |
| S        |    |    |         |    |    |    | 0.030   |    |       |
| Cr       |    |    | 11.00   |    |    |    | 13.50   |    |       |
| Ni       |    |    |         |    |    |    | 0.75    |    |       |
| C        | Si | Mn | P       | S  | Cr | Ni | Mo      | V  | Ta    |
|          |    |    |         |    |    |    |         |    |       |
| W        | N  | Cu | Co      | Pb | B  | Nb | Al      | Ti | Other |
|          |    |    |         |    |    |    |         |    |       |

### Stainless Steel for Exhaust Applications GMW3161M-ST-S X12Cr13

### GMW3161M-ST-S X12Cr13 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      | -                |

### GMW3161M-ST-S X12Cr13 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      | -                         |

### GMW3161M-ST-S X12Cr13 Heat Treatment Regime

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

### GMW3161M-ST-S X12Cr13 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:**