

**This page is mainly introduced the Pyromet 31V Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of Pyromet 31V, 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 Pyromet 31V

### Pyromet 31V Standard Number:

| ITEM | Standard Number  | Descriptions                           |
|------|------------------|--|
| 1    | SAE J 775 (2004) | Engine poppet valve information report |

### Pyromet 31V Chemical composition (mass fraction) (wt.%)

| Chemical | Min.(%) | Max.(%)   |    |    |    |    |    |    |       |
|----------|---------|-----------|----|----|----|----|----|----|-------|
| C        | 0.03    | 0.06      |    |    |    |    |    |    |       |
| Si       |         | 0.20      |    |    |    |    |    |    |       |
| Mn       |         | 0.20      |    |    |    |    |    |    |       |
| Cr       | 22.00   | 23.00     |    |    |    |    |    |    |       |
| Ni       | 55.00   | 58.00     |    |    |    |    |    |    |       |
| Mo       | 1.70    | 2.30      |    |    |    |    |    |    |       |
| Co       |         |           |    |    |    |    |    |    |       |
| W        |         |           |    |    |    |    |    |    |       |
| Al       | 1.00    | 1.70      |    |    |    |    |    |    |       |
| Cu       | 0.60    | 1.20      |    |    |    |    |    |    |       |
| Ti       | 2.10    | 2.60      |    |    |    |    |    |    |       |
| Fe       |         | remaining |    |    |    |    |    |    |       |
| B        | 0.003   | 0.007     |    |    |    |    |    |    |       |
| P        |         | 0.015     |    |    |    |    |    |    |       |
| S        |         | 0.015     |    |    |    |    |    |    |       |
| C        | Si      | Mn        | P  | S  | Cr | Ni | Mo | V  | Ta    |
| W        | N       | Cu        | Co | Pb | B  | Nb | Al | Ti | Other |

Engine poppet valve information report

### Pyromet 31V 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      | -                        |

### Pyromet 31V 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      | -                        |

### Pyromet 31V Heat Treatment Regime

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

### Pyromet 31V 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, | Φ8-1200mm*L       | Forging, hot rolling and              | Black, Rough Turning,   |

|               |  |                            |                                   |   |
|---------------|--|----------------------------|-----------------------------------|---|
|               | Square Bar                               |                            | cold rolling, Cast                | 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:**