

This page is mainly introduced the 40CrMnMo8 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 40CrMnMo8, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Tool Steel And Hard Alloy 40CrMnMo8

| 40CrMnMo8 Standard Number: |                 |              |
|----------------------------|-----------------|--------------|
| ITEM                       | Standard Number | Descriptions |

| 40CrMnMo8 Chemical composition (mass fraction) (wt.%) |           |           |    |          |           |    |           |    |       |
|-------------------------------------------------------|-----------|-----------|----|----------|-----------|----|-----------|----|-------|
| Chemical                                              |           |           |    | Min. (%) |           |    | Max. (%)  |    |       |
| C                                                     | Si        | Mn        | P  | S        | Cr        | Ni | Mo        | V  | Ta    |
| 0.35-0.45                                             | 0.15-0.40 | 1.35-1.65 |    |          | 1.75-2.15 |    | 0.15-0.30 |    |       |
| W                                                     | N         | Cu        | Co | Pb       | B         | Nb | Al        | Ti | Other |
|                                                       |           |           |    |          |           |    |           |    |       |

| 40CrMnMo8 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      | -                        |

| 40CrMnMo8 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      | -                    |

### 40CrMnMo8 Heat Treatment Regime

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

### 40CrMnMo8 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 Tool Steel And Hard Alloy the specifications follows:**