

This page is mainly introduced the 4X4BMΦC Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 4X4BMΦC, 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 4X4BMΦC

### 4X4BMΦC Standard Number:

| ITEM | Standard Number | Descriptions |
|------|-----------------|--------------|
|------|-----------------|--------------|

### 4X4BMΦC Chemical composition(mass fraction)(wt.%)

| Chemical  |           |           | Min.(%) |        |           |    | Max.(%)   |           |       |  |
|-----------|-----------|-----------|---------|--------|-----------|----|-----------|-----------|-------|--|
| C         | Si        | Mn        | P       | S      | Cr        | Ni | Mo        | V         | Ta    |  |
| 0.37-0.44 | 0.60-1.00 | 0.20-0.50 | ≤0.003  | ≤0.003 | 3.20-4.00 |    | 1.20-1.50 | 0.60-0.90 |       |  |
| W         | N         | Cu        | Co      | Pb     | B         | Nb | Al        | Ti        | Other |  |
| 0.80-1.20 |           | ≤0.30     |         |        |           |    |           | 0.03      |       |  |

### 4X4BMΦC Physical Properties

|                  |         |                        |
|------------------|---------|------------------------|
| Tensile strength | 115-234 | σ <sub>b</sub> /MPa    |
| Yield Strength   | 23      | σ <sub>0.2</sub> ≥/MPa |
| Elongation       | 65      | δ <sub>5</sub> ≥ (%)   |
| ψ                | -       | ψ ≥ (%)                |
| A <sub>kV</sub>  | -       | A <sub>kV</sub> ≥/J    |
| HBS              | 123-321 | -                      |
| HRC              | 30      | -                      |

### 4X4BMΦC Mechanical Properties

|                  |         |                        |
|------------------|---------|------------------------|
| Tensile strength | 231-231 | σ <sub>b</sub> /MPa    |
| Yield Strength   | 154     | σ <sub>0.2</sub> ≥/MPa |

|            |         |                      |
|------------|---------|----------------------|
| Elongation | 56      | $\delta 5 \geq (\%)$ |
| $\psi$     | -       | $\psi \geq (\%)$     |
| Akv        | -       | $Akv \geq (J)$       |
| HBS        | 235-268 | -                    |
| HRC        | 30      | -                    |

### 424??C Heat Treatment Regime

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

### 424??C 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                |

**We can produce Tool Steel And Hard Alloy the specifications follows:**