

## High Speed Steel

- **Similar Steels**

AISI	ANFOR	B.S.	DIN	JIS
M2	A35-590 4301	BM2	1.3343	SKH51

- **Chemical Composition**

(wt%)

C	Si	Mn	P	S	Cr	Mo	V	W
0.80 0.90	MAX 0.40	MAX 0.40	MAX 0.030	MAX 0.030	3.80 4.50	4.50 5.50	1.60 2.20	5.50 6.70

Remark: Cu: max. 0.25% Ni: max. 0.25%

- **Characteristics**

1. High wear resistance and red hardness.
2. Secondary hardening carbide precipitate at high tempering temperature.
3. Fine carbide size and grain size with high toughness.
4. Low sulfur content with high cleanliness.

- **Application**

For tools with high shock and impact resistance as well as high torsion stress:

1. Tooling Industry: End Mill, Drill, Punch, Tap, Reamer
2. Forging industry: Forging Mould, Press Mould
3. Moulding Industry: Mould, Screw Mould



- **Heat Treatment**

1. Annealing - Heating slowly and uniformly to 800~850°C, furnace cooling to 600°C at a rate 10~20°C/h. Hardness HB 255 max
2. Stress Relieving - 600~650°C and holding 2 hours. Furnace cooling.
3. Hardening -
  - Preheating (1): Preheat to 550~600°C, holding 20~30 minutes per 25mm.
  - Preheating (2): Preheat to 850~900°C, holding 20~30 seconds per 1mm.
  - Preheating (3): Preheat to 1050~1100°C, holding 20~30 seconds per 1mm.