



## FS355

## Cr8Mo3VSi

### ◆ 主要特性 Main characteristics

- 高韧性 High toughness
- 优秀的耐磨性 Excellent wear resistance
- 高淬透性 High hardenability
- 淬火时尺寸变化小 Minor dimensional change during quenching
- 比D2钢的碳化物分布均匀 More uniform carbide distribution than D2 steel

### ◆ 主要应用 Main application

可用于制造：冷剪切模、切边模、滚边模、量规、拉丝模、搓丝板、冷冲模等。

Suitable for manufacturing cold shear moulds, trimming moulds, curling moulds, gauge, wire drawing moulds, thread rolling flat moulds, cold stamping moulds, etc.

### ◆ 化学成分 Chemical composition (wt%)

| C    | Si   | Mn   | Cr   | Mo   | V    |
|------|------|------|------|------|------|
| 1.00 | 1.00 | 0.35 | 7.20 | 2.70 | 0.35 |

### ◆ 冶炼方法 Melting method

电炉/非真空感应炉+LF+VD或满足用户需要。

Electric furnace/induction furnace +LF+VD or other methods that can meet customer requirements.

### ◆ 生产规格 Dimensions

轧制扁钢 Rolled flat steel : 10~90mm × 60~305mm

锻制扁钢 Forged flat steel : 100~400mm × 200~800mm

圆钢 Round steel : Φ10mm ~ Φ400mm

### ◆ 纯净度 Purity

精炼钢非金属夹杂物：粗系 (A+B+C+D) ≤1.5级；细系 (A+B+C+D) ≤3.0级。

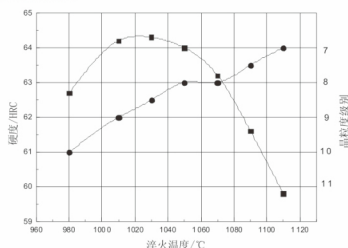
Non-metallic inclusions in refined steel: Thick (A+B+C+D) ≤1.5; Fine (A+B+C+D) ≤3.0.

### ◆ 物理参数 Physical parameters

| 温度/℃<br>Temperature                                        | 20-200 (高温回火)<br>(high temperature tempering) | 20-400 (高温回火)<br>(high temperature tempering) | 20-200 (低温回火)<br>(low temperature tempering) |
|------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----------------------------------------------|
| 线(膨)胀系数/℃ <sup>-1</sup><br>Coefficient of Linear expansion | 11.3×10 <sup>-6</sup>                         | 12.2×10 <sup>-6</sup>                         | 12.0×10 <sup>-6</sup>                        |

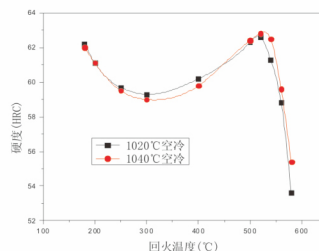
### ◆ 淬火硬度及晶粒度随淬火温度的变化

Relationship between quenching hardness/grain size and quenching temperature



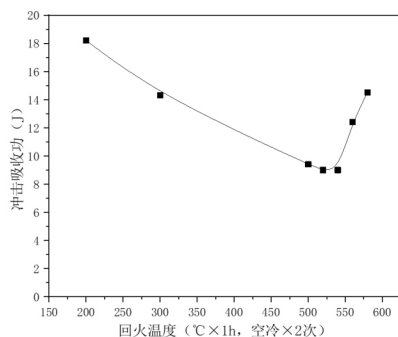
### ◆ 回火硬度与温度的关系

Relationship between tempering hardness and temperature



### ◆ 冲击韧性与温度的关系(U型缺口)

Relationship between Impact toughness and temperature (U-notch)



### ◆ 热处理建议 Heat treatment recommendation

| 项目<br>Process   | 加热温度, °C<br>Heating temperature | 冷却方式<br>Cooling method                                                              | 硬度<br>Hardness |
|-----------------|---------------------------------|-------------------------------------------------------------------------------------|----------------|
| 退火<br>Annealing | 820 ~ 840                       | ≤30°C/h 冷却至 500°C 出炉<br>Cooling to 500°C at a cooling rate ≤ 30°C/h, then unloading | ≤241HB         |
| 淬火<br>Quenching | 1070 ~ 1100                     | 油冷或空冷<br>Oil or air cooling                                                         | 62 ~ 65HRC     |
| 回火<br>Tempering | 180 ~ 200                       | 空冷<br>Air cooling                                                                   | 60 ~ 62HRC     |
|                 | 500 ~ 550                       | 空冷<br>Air cooling                                                                   | 60 ~ 64HRC     |