



FS448

2367MOD

◆ 主要特性

- 良好的纯净度
- 优秀的韧性及等向性
- 极高的抗热疲劳性 (热龟裂)
- 优秀的热强度
- 优秀的机加工性能

Main Characteristics

High cleanness
Excellent toughness and isotropy
Extremely high thermal fatigue resistance (heat checking resistance)
Excellent hot strength
Excellent machinability

◆ 主要应用

韧性要求极高的热作模具；大中型复杂的镁、铝、钛压铸模具；高要求的压铸、锻造和挤压行业首选材料；汽车结构件用超大模具镶件及整体模具

Main Applications

Hot-work dies requiring rather high toughness; large and medium magnesium, aluminum and titanium die casting dies with complex geometry; preferred material for die casting, forging and extrusion industry with high requirement; extremely large mold inserts and integral mold for automobile structural parts

◆ 化学成分 Chemical Composition %

C	Si	Cr	Mo	V	P	S
0.36	0.20	5.10	2.40	0.60	0.005	0.001

◆ 冶炼方法 Melting Method

电弧炉+LF+VD+保护气氛电渣或满足用户需要。 EAF+LF+VD+ Inert-Gas Protective ESR or according to customer requirement.

◆ 纯净度 Purity

ASTM E45 非金属夹杂物A、B、C、D≤1.0级或满足用户需要。

Non-metallic inclusions in accordance with ASTM E45 - Type A, B, C, D each ≤Class 1.0, or according to customer requirement.

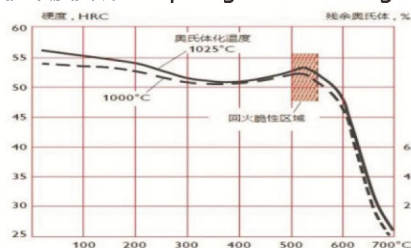
◆ 显微组织

NADCA#207-2022 显微组织达到合格级别。 Conforming to the requirement of NADCA#207-2022.

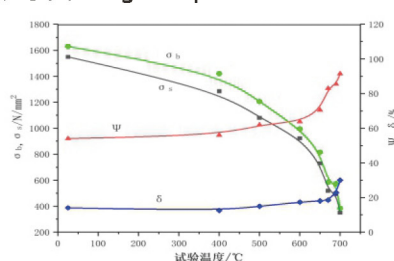
◆ 机械性能 Mechanical Property

屈服强度 Yield Strength MPa	抗拉强度 Tensile Strength MPa	伸长率 Elongation %	断面收缩率 Reduction of Area %	冲击吸收能量(V型缺口) Impact Absorption Energy J (V-Notch)	600℃抗拉强度 600℃Tensile Strength MPa
≥1540	≥1630	≥14	≥50	≥25	≥1200

◆ 回火硬度曲线 Tempering-Hardness Diagram



◆ 高温力学性能 High temperature mechanical properties



◆ 推荐使用硬度 Recommended Service Hardness

硬度Hardness/HRC	用途 Applications
49-52	小型压铸模具, 注重热疲劳与热磨损 Small die casting dies focusing on thermal fatigue and thermal abrasion
46-50	一般压铸模具 Common die casting dies
43-46	大型压铸模具, 注重韧性 Large die casting dies focusing on toughness
42-53	各种材质的热锻模具 Hot forging dies for different

◆ 产品规格

扁钢: 最大厚度600mm,最大宽度1200mm;
圆钢: 最大直径600mm;

或满足用户需要。

Flats: Maximum thickness 600mm, and maximum width 1200mm;

Rounds: Maximum diameter 600mm;

Or according to customer requirement.

◆ 热处理建议

去应力回火: 模具经过粗加工后, 应加热至650℃保温2-5h后随炉冷却至500℃后空冷。

Stress relieving tempering: After rough machining, the mold should be heated to 650°C for 2-5 hours and then cooled in the furnace to 500°C before air cooling.

软化退火: 在保护气氛下加热至850℃, 然后以10℃/h 炉冷到650℃再空冷。

Softening annealing: Heat to 850 °C in a protective atmosphere, then cool to 650 °C in a 10 °C/h furnace before air cooling.