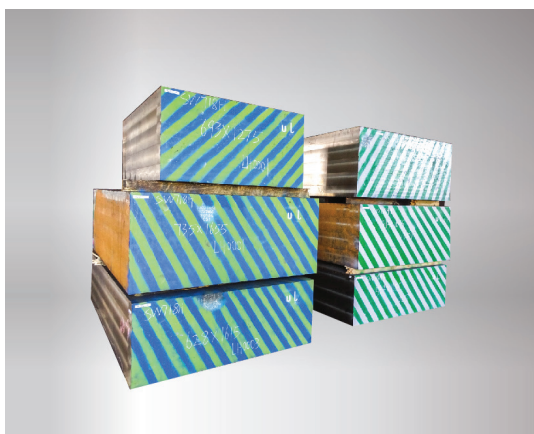




SW718H/SW718HH

经典型鍛造預硬塑料模具钢

Conventional Pre-Hardened Plastic Mould Steel
(Forged Block)



SW718H/SW718HH

SW718H/SW718HH是由宝钢特钢生产的预加硬塑胶模具钢，化学成份标准参照美国AISI P20+Ni及德国W.Nr 1.2738 模具钢而作出改良。SW718HH是在SW718H基础上提高供货硬度，以满足更高耐磨性要求的模具。

SW718H/SW718HH除了经过宝钢特钢的内部标准进行生产及品控，也通过龙记集团的严格品质系统监控，包括硬度、化学成份、超声波探伤及金相分析等多项指标进行检测，实行双重保障，让客户更安心使用。

SW718H/SW718HH are Prehardened Plastic Mould Steel which are made by Baosteel. Both of them are developed with reference to steel standard AISI P20+Ni from the US and W.Nr 1.2738 from Germany with modification. SW718HH is delivered with a higher hardness which could provide better wear resistance when comparing to SW718H.

Apart from the standard testing procedure by Baosteel, the quality of SW718H/SW718HH is further verified and ensured by the stringent Incoming Quality Control from LKM including hardness check, chemical composition analysis, ultrasonic testing and metallographical analysis. By implementing double assurance to the quality of these steels, customers could use them confidently.

供货状态 (原材表面硬度) Delivered Hardness From Steel Mill (Measured at Surface)

SW718H

30~36 HRC (290 ~ 340HB)

SW718HH

36~40 HRC (340~380HB)

参照标准 Comparable Standard

AISI P20+Ni 改良 / Modified

W.Nr 1.2738 改良 / Modified

化学成份% Chemical Composition (Percentage by Mass)

碳 C	硅 Si	锰 Mn	铬 Cr	镍 Ni	钼 Mo
0.36	0.30	1.30	1.80	1.00	0.30

制造工艺 Manufacturing Process



产品特点 Product Characteristics

SW718H / SW718HH之成型锻造比较常规模块锻造的优点:

- 心部与表面硬度差异少
- 材料心部变形量是常规模块心部变形量的10倍, 组织均匀、细密
- 材料表面与心部韧性偏差小
- 模具加工周期缩短, 成本降低

Advantages of SW718H/SW718HH forged by Baosteel, when comparing to normal forging process:

- Less difference in hardness between the surface and core
- Deformation is 10 times more than the normal forging process, homogeneous and finer microstructure can be achieved
- Difference in toughness between the surface and the core is minimized
- Shorter machining time, less machining cost

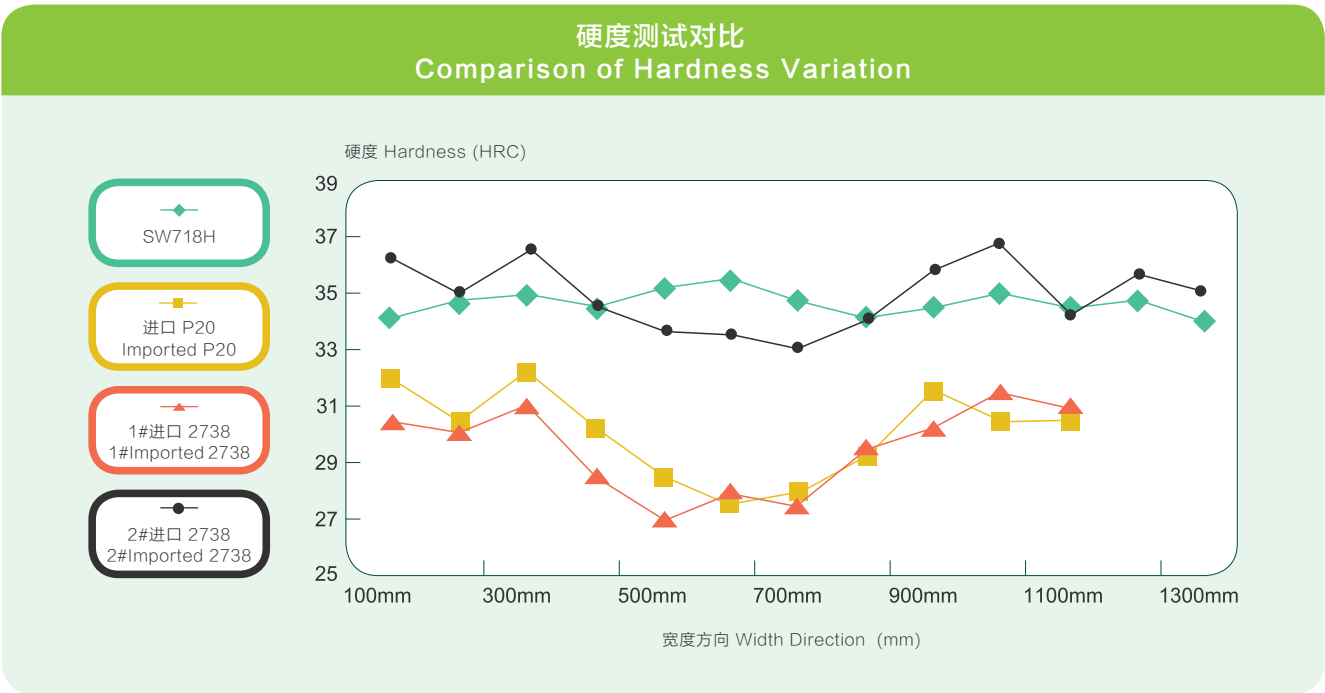
应用 Applications

- 家电及办公室塑料制品模具, 如空调外壳、冰箱抽屉、洗衣机缸体及面板、复印机等
- 汽车内外饰件塑料模具, 如保险杠、仪表盘、内饰门板等
- Plastic moulds for household appliances and office equipments such as housing of air conditioner, drawer of refrigerator, housing of washer and copier
- Plastic moulds for exterior/interior auto parts, e.g. bumper, dashboard, door

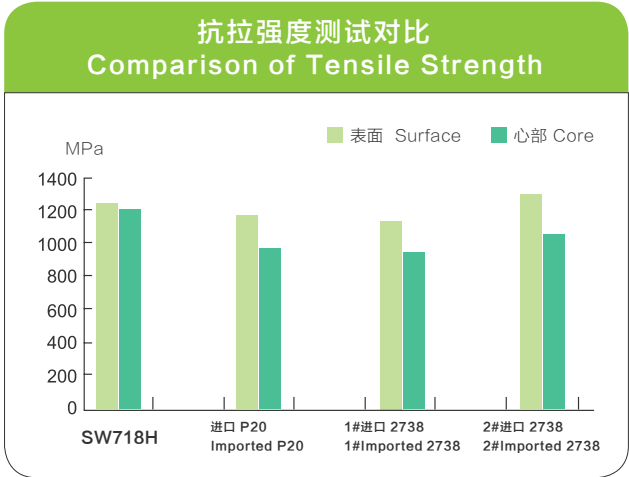
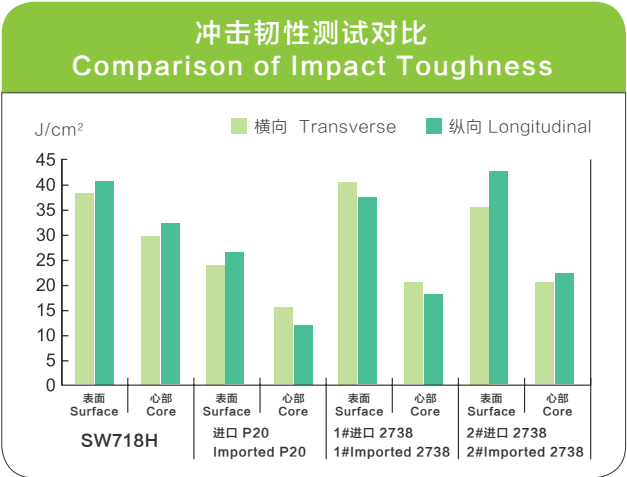
物理性能 Physical Properties

线性膨胀系数 Coefficient of Linear Expansion (10 ⁻⁶ m/m °C)	20-100°C	20-200°C	20-300°C
	11.1	12.9	13.4
导热率 Thermal Conductivity (W/mK)	20°C	350°C	700°C
	34.5	33.4	32.0

机械性能 Mechanical Properties

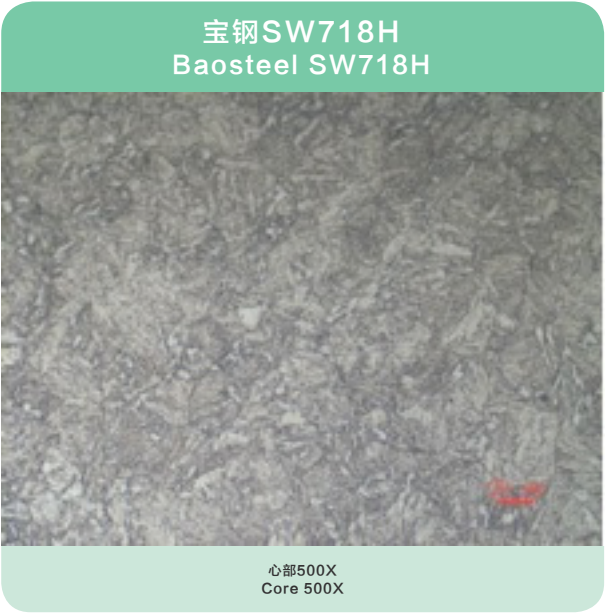


在模块心部取样，沿宽度方向测试
Sample taken from the mid-thickness of different forged block and measured across the width direction



试样尺寸: 10*10*55mm, U型缺口, 常温测试
Sample Dimension: 10*10*55mm, U Notch, Test at Normal Temperature

金相组织 Metallographical Structure



纯净度 Purity

A类 (硫化物) Type A (Sulfide)		B类 (氧化铝) Type B (Aluminate)		C类 (硅酸盐) Type C (Silicate)		D类 (球形氧化物) Type D (Globular Oxide)	
细系 Thin	粗系 Thick	细系 Thin	粗系 Thick	细系 Thin	粗系 Thick	细系 Thin	粗系 Thick
1.0	0.5	1.0	0.5	0.5	0.5	1.0	0.5

超声波探伤等级 Ultrasonic Testing

SEP1921 E/e or GB/T 6402 Grade 4

焊接处理 Welding

- 焊接前预热温度350℃
 - 焊接使用专业焊枝（LKM牌号Z04-P07-XX）
 - 焊接后在550℃作去应力处理
- Preheating temperature: 350℃
 - Welding rod: LKM Z04-P07-XX
 - Stress relieving temperature after welding: 550℃

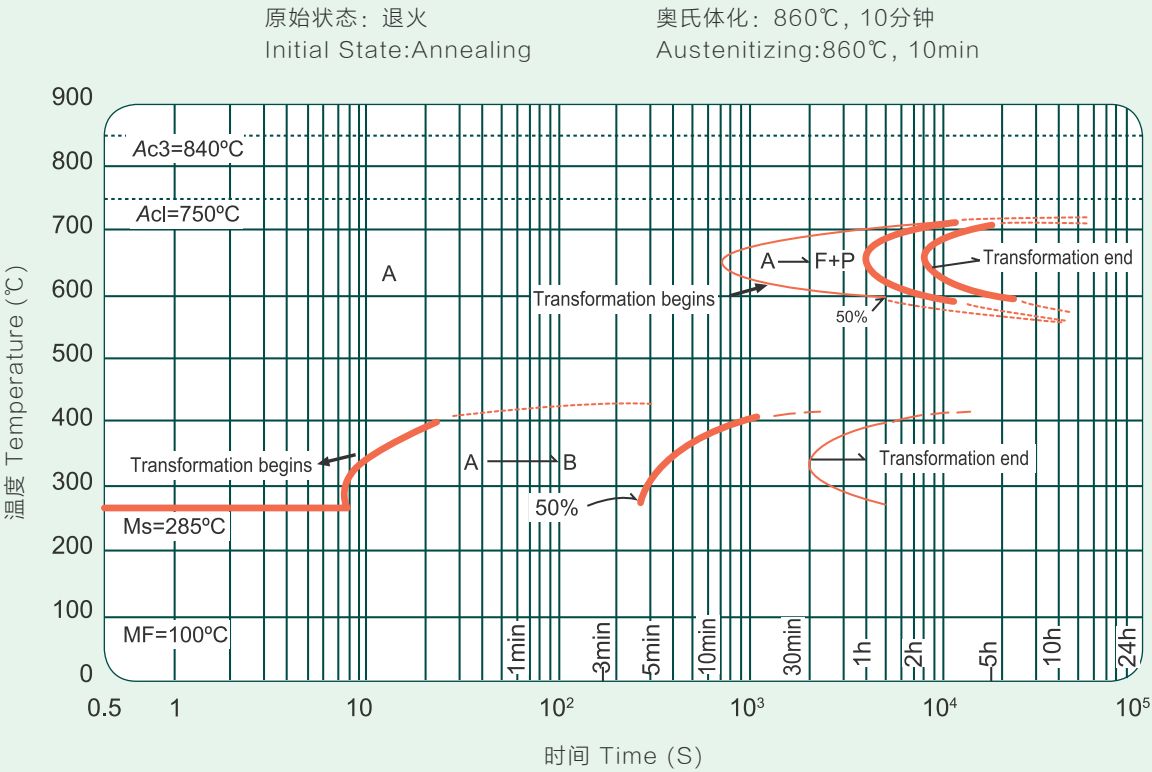
表面处理 Surface Treatment

- 可以通过氮化、镀铬或PVD等表面处理提高模具表面的硬度，延长模具的使用寿命
- Suitable for all nitriding processes, hard chromium plating or PVD coating to increase surface hardness and improve mould life

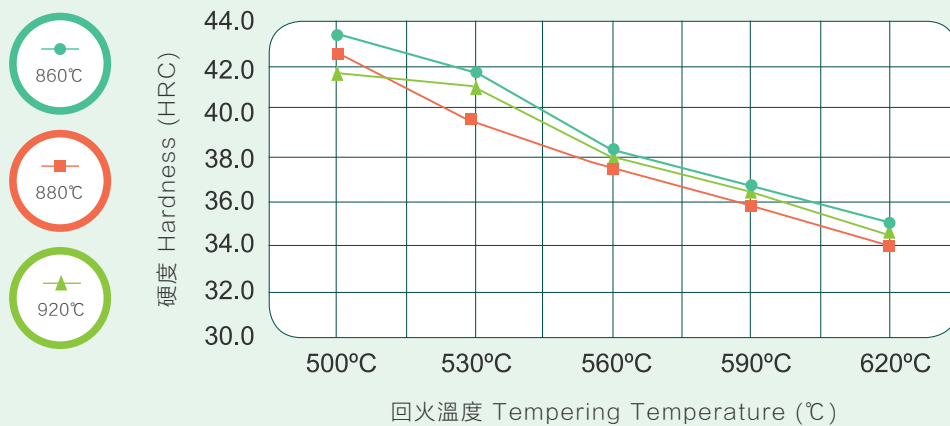
热处理 Heat Treatment

钢锭均匀化加热 Temperature for Homogenised Heating	锻造温度 Forging Temperature	淬火温度 Quenching Temperature	回火温度 Tempering Temperature
1190-1230℃	1050-850℃	850-880℃	560-680℃

SW718H/SW718HH 奥氏体化温度下的等温转变曲线
SW718H/SW718HH Isothermal Transformation Curve at Austenitising Temperature



SW718H/SW718HH不同淬火温度下的回火曲线 Tempering Curve





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