

LKM2083/2083H

耐腐蚀塑胶模具钢

Stainless Plastic Mould Steel

▶▶ 良好耐腐蚀性 Good Corrosion Resistance

▶▶ 细型非复杂模具 Plastic Injection Mould with Small Size and Non-Complicated Structure

LKM2083/2083H 简介 Introduction

LKM2083/LKM2083H是属于龙记特殊钢系列中之耐腐蚀塑胶模具钢，参照美国AISI 420及德国W.Nr 1.2083而开发。LKM2083为退火态，可以热处理加硬至HRC46-52，用于既有耐腐蚀又有耐磨要求的模具；LKM2083H为预加硬材料，不需要再做热处理，用于对模具耐磨性要求一般，但对耐腐蚀有要求之塑胶模具。

LKM2083/LKM2083H are stainless plastic mould steel developed by LKM with reference to the US standard AISI 420 and the German standard W.Nr 1.2083. LKM2083 is delivered in annealed condition; it can be hardened to HRC46-52 and is suitable for plastic injection mould requiring both corrosion and wear resistance. LKM2083H is a pre-hardened material and does not require further heat treatment process; it can be used for plastic injection mould with mild requirement for wear resistance but demanding corrosion resistance.

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

LKM2083

软性退火至 \leq HB240 Soft Annealed to HB240 (max.)

LKM2083H

预硬至HB280-320 Prehardened to HB280-320

参照标准

- Q AISI 420
- Q W.Nr 1.2083

Comparable Standard

- Q AISI 420
- Q W.Nr 1.2083

化学成分(%) Chemical Composition (Percentage by Mass)

碳 C	锰 Mn	铬 Cr	铜 Mo
0.43	0.3	13.0	适量

应用

- ✓ 适合制作需要耐腐蚀性塑胶模具
- ✓ 添加玻纤之需耐磨塑胶模具
- ✓ 需要长期生产之塑胶模具
- ✓ 不锈钢模架

Application

- ✓ Plastic injection mould for moulding resins such as PA, POM with flame retarding additives and abrasive/filled materials
- ✓ Plastic injection mould with long production run
- ✓ Stainless mould base/plate

物理性能 Physical Properties

温度(°C) Temperature	20-100	20-200	20-300	20-400
热膨胀系数 [10 ⁻⁶ m/(m x K)] Coefficient of Thermal Expansion	10.5	11.0	11.0	11.5

温度(°C) Temperature	20	350	700
热传导率 [W/(m x K)] Thermal Conductivity	20	23.0	26.2

纯度 Purity

A (硫化物类) Sulfide Type	B (氧化铝类) Alumina Type	C (硅酸盐类) Silicate Type	D (球状氧化物类) Globular Oxide Type
≤1.5	≤2.0	≤2.0	≤2.0

超声波检测

SEP 1921-Test Group 3, Class E/e

Ultrasonic Testing

SEP 19 21- Test Group 3, Class E/e

焊接处理

- ✿ 焊前需要预热处理，预热温度：200-250℃
- ✿ 焊接使用专用焊枝（LKM牌号Z04-A08-XX）
- ✿ 焊后热处理工序：
 - ▶ LKM2083：如在退火态焊接，焊后在780℃去应力退火
 - ▶ LKM2083：如在淬硬态焊接，焊后以低于先前回火温度20-30℃作去应力处理
 - ▶ LKM2083H：焊后在600℃去应力回火

Welding

- ✿ Preheating temperature: 200-250℃
- ✿ Welding rod: LKM Z04-A08-XX
- ✿ Heat Treatment after Welding:
 - ▶ LKM2083: Annealed condition: Soft-anneal at 780℃
 - ▶ LKM2083: Hardened condition: Temper at 20-30℃ below the last tempering temperature
 - ▶ LKM2083H: Temper at 600℃

表面处理

✿ 可以通过离子氮化、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

Surface Treatment

✿ Suitable for plasma/ion nitriding processes, hard chromium plating and PVD coating to increase surface hardness and improve mould life.

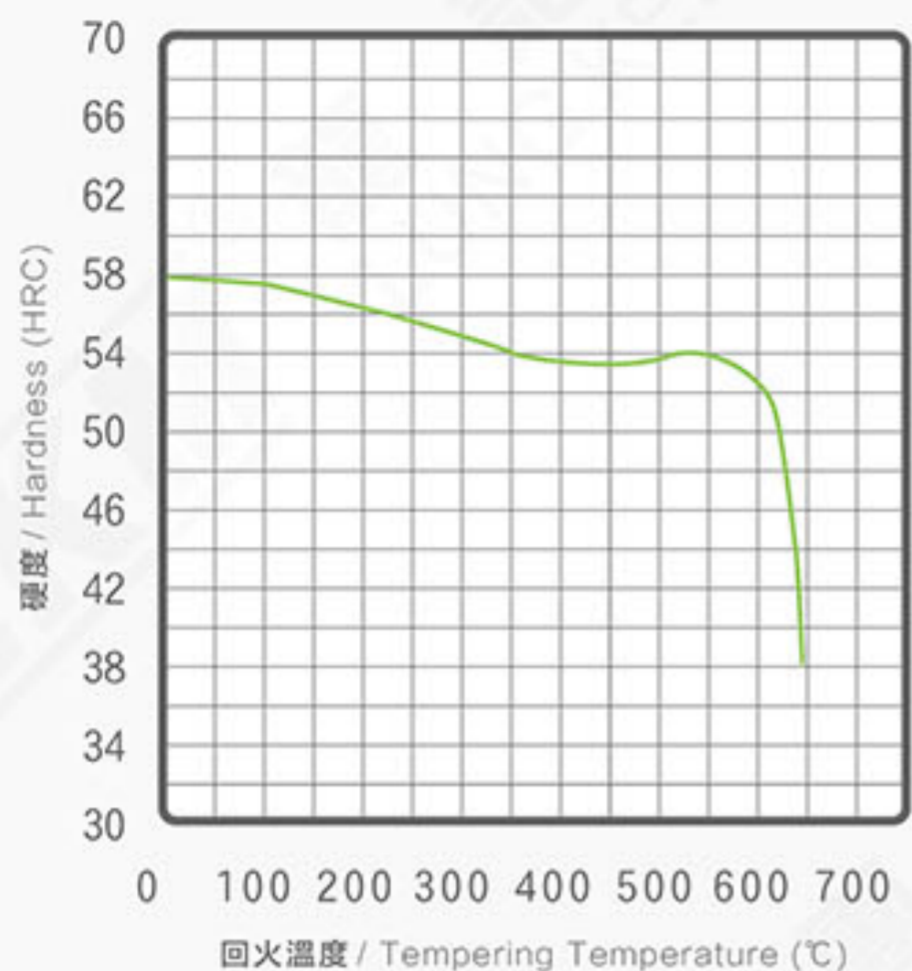


热处理工艺 Heat Treatment

锻造 Forging	软性退火 Annealing	淬硬 Quenching	回火 Tempering
1050-850℃	760-800℃	1000-1030℃	250-570℃

回火图 (试样尺寸 : $\varnothing 25 \times 50\text{mm}$; 油淬温度 : 1020°C)

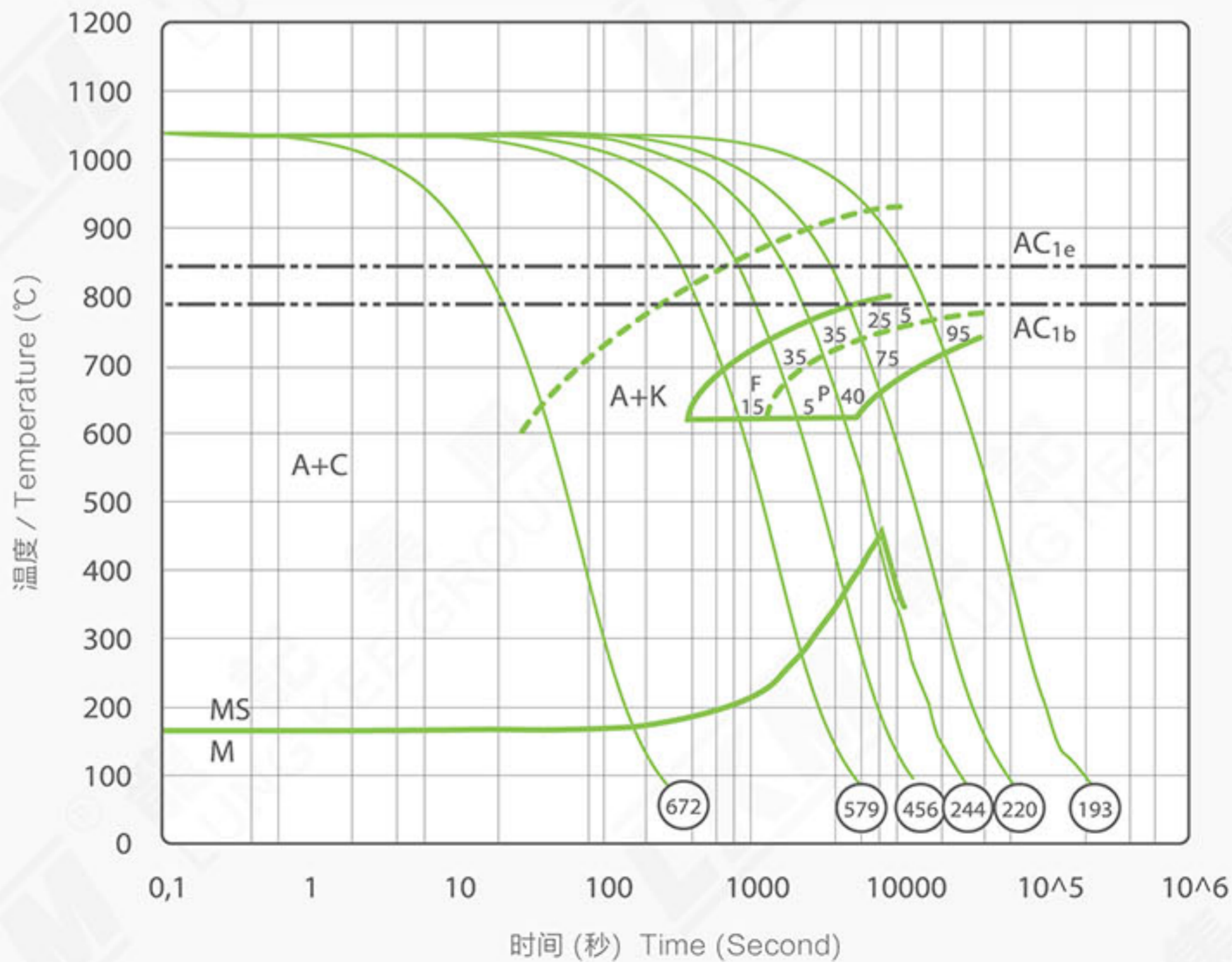
Tempering Curve (Sample dimension: $\varnothing 25 \times 50\text{mm}$; Quenched at 1020°C by Oil)



CCT图(连续冷却转变曲线图)

CCT Diagram (Continuous Cooling Transformation Diagram)

奥氏体化温度 : 1030°C Austenitizing Temperature: 1030°C



集团总公司 (HEAD OFFICE)

龙记五金有限公司 LUNG KEE METAL LTD

香港新界沙田安群街1号京瑞广场2期15楼A室
Unit A,15/F, Kings Wing Plaza 2, No.1 On Kwan Street,
Sha Tin, New Territories, Hong Kong
接单部 电话 Tel : (852) 2341 2321, 传真 Fax : (852) 2343 0990

河源龙记金属制品有限公司 HEYUAN LUNG KEE METAL PRODUCTS CO LTD

中国广东省河源市高新技术开发区龙记大道
Long Ji Da Dao, Hi-tech Development Zone, Heyuan,
Guangdong Province, China
电话 Tel : (86) 0762-3210 502 传真 Fax : (86) 0762-3210 501

杭州龙记金属制品有限公司 HANGZHOU LUNG KEE METAL PRODUCTS CO LTD

中国浙江省杭州市萧山区杭州江东工业园区江东三路7711号
7711 Jiangdong 3rd Road, Hangzhou Jiangdong Industrial Park, Xiaoshan
District, Hangzhou, Zhejiang Province, China
电话 Tel : (86) 0571-8213 3281 传真 Fax : (86) 0571-8213 3280

网址 : WWW.LKM.COM.CN

电邮 : LKMSALES@LKM.COM.HK