



钢铁之家

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全球钢号百科!

Global Steel Grade Encyclopedia



涵盖的行业或国家与地区类别



国际材料与试验协会

GJB

国家军用标准



动力机械工程师协会

EU

前欧洲标准化

AISI

美国钢铁学会



德国工业标准

AMS

航空航天材料规范



国际标准

JASO

日本汽车标准组织

EN

欧洲标准

JB

中国机械行业标准

UNS

统一编号系统

UNI

意大利标准



美国机械工程师协会

SS

瑞典标准



国家标准



日本工业标准

Material No.: Code: **1.2379 X153CrMoV12**

DE - Brand: **CPPU**

Chemical composition:
(Typical analysis in %)

C	Cr	Mo	V				
1,55	12,00	0,80	0,90				

Steel properties:

Ledeburitic 12% chrome steel, very high resistance against abrasive and adhesive wear due to a high volume of hard carbides in the steel matrix, good toughness, very good dimensional stability, high compressive strength, very good base material for PVD/CVD coating as well as nitriding due to its secondary hardening properties. Similar to AISI D2.

Applications:

Cutting, punching, stamping tools, shear blades, thread rolling dies, cold extrusion dies, drawing and bending tools, flanging and straightening rolls, fine cutting tools, deep drawing tools, plastic moulds for abrasive polymers.

Condition of delivery:

Soft annealed to max. 255 HB

Physical properties:

Thermal expansion coefficient	$\left[\frac{10^{-6} \text{ m}}{\text{m K}} \right]$	20-100°C	20-200°C	20-300°C	20-400°C
		10,5	11,5	11,9	13,0
Thermal conductivity	$\left[\frac{\text{W}}{\text{m K}} \right]$	20°C	350°C	700°C	
		16,7	20,5	24,2	

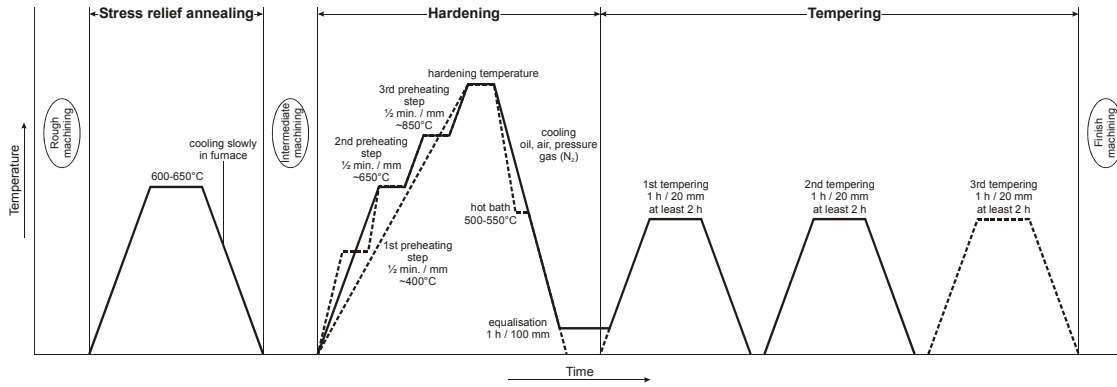
Heat treatment:

Soft annealing	Temperature	Cooling	Hardness
	820 - 850°C	furnace	max. 255 HB

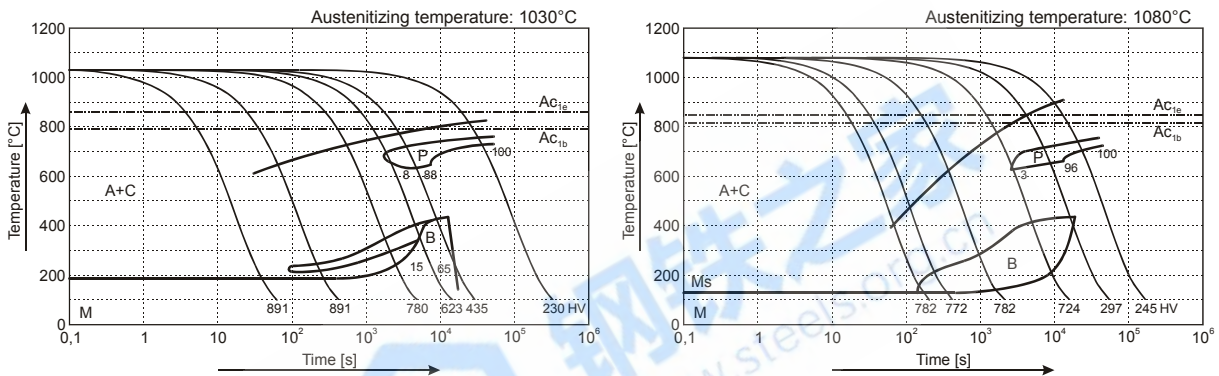
Stress relief annealing	Temperature	Cooling	
	600 - 650°C	furnace	

Hardening	Temperature	Cooling	Tempering
	1000 - 1030°C	oil, pressure gas (N ₂), air or hot bath 500 - 550°C	see tempering diagram ① usually < 300°C
	1040 - 1080°C	oil, pressure gas (N ₂), air or hot bath 500 - 550°C	see tempering diagram ② usually > 480°C

(1.2379) Thermal Cycle Diagram



Continuous Cooling Transformation Diagram (CCT)



Tempering Diagram

