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Global Steel Grade Encyclopedia



涵盖的行业或国家与地区类别



美国材料与试验协会

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



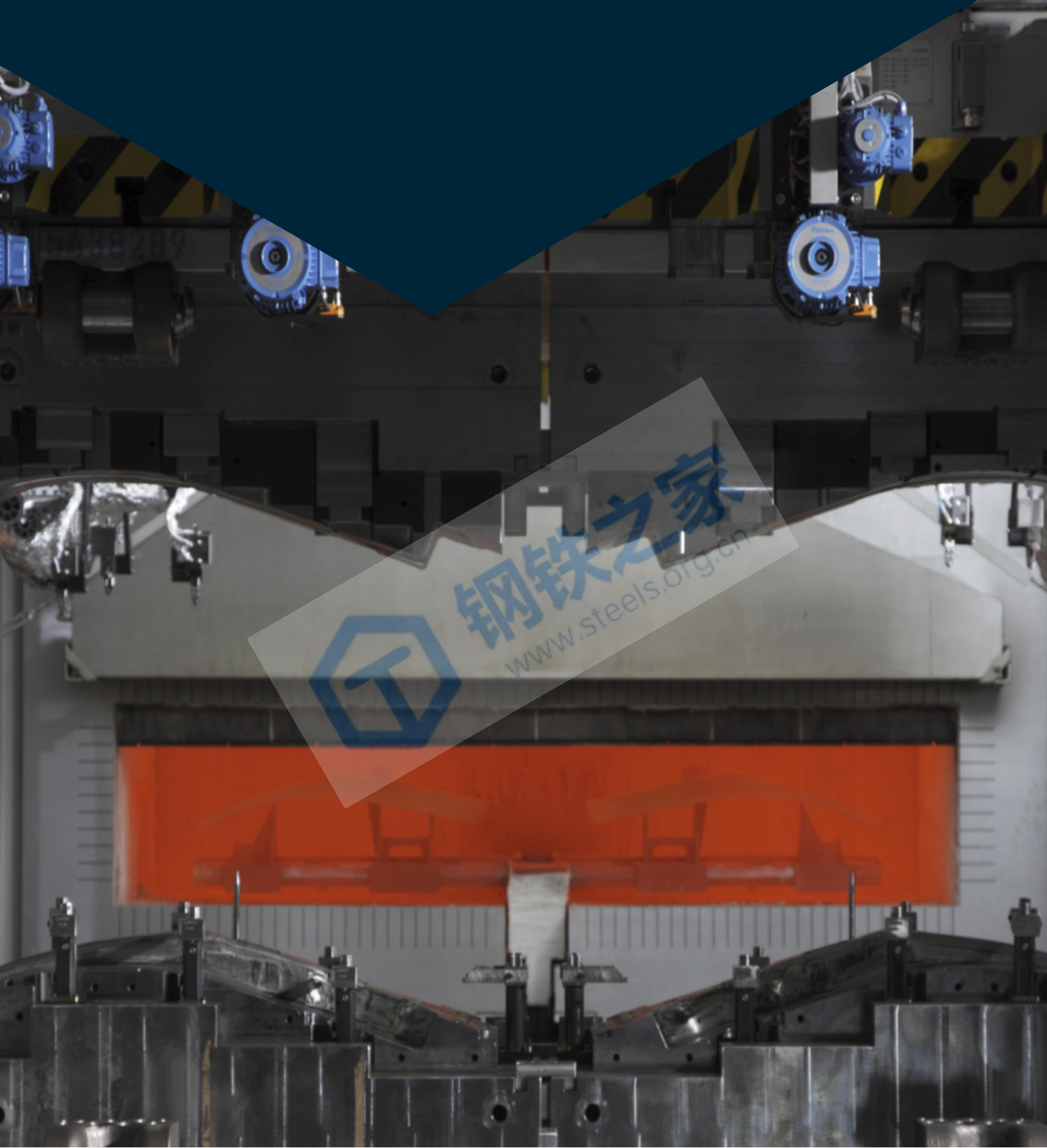
国家标准



日本工业标准

Thermodur 2383 Supercool

Special Steel for Press Hardening



Technical Data Sheet

Thermodur 2383 Supercool

Chemical composition (standard values in %)	C	Mn	Ni	Mo	V
	0,45	0,90	0,90	1,50	1,50

Applications	<p>Press hardening or hot stamping is an innovative hot forming process for producing extremely high-strength vehicle bodywork components. The sheet metal component is hot-formed and heat treated in a single combined process step. Sheets heated to austenitizing temperature are placed into a cooled press tool and quenched during forming.</p> <p>The thermal conductivity of the tool steel used for forming and hardening the sheets is of crucial importance to the clock rate, and therefore cost-effectiveness, when press hardening. Deutsche Edelstahlwerke developed the hot-work tool steel Thermodur 2383 Supercool specifically for this application.</p>
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Properties	<ul style="list-style-type: none"> » Outstanding thermal conductivity » Good wear resistance » Good through-hardening » Best long-time tempering resistance » Good high-temperature strength
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Physical properties at 45 HRC	Thermal conductivity W/(m • K) at							
	100 °C	44	200 °C	43	300 °C	41	400 °C	39
	Coefficient of thermal expansion 10 ⁻⁶ m/(m • K) at 20 °C -							
	100 °C	12,0	200 °C	12,3	300 °C	12,7	400 °C	13,1

Heat treatment	Soft annealing °C	Cooling			Hardness HB		
	860	Furnace			max. 220		
	Hardening °C	Quenching			Hardness after quenching in HRC		
	1080-1120	Oil or hot bath 500-550 °C			52		
	Tempering °C	300	400	500	550	600	650
	HRC	-	48	48	52	51	48

