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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

ASTM INTERNATIONAL 国材料与试验协会
GJB 国家军用标准
SAE INTERNATIONAL 动力机械工程师协会
EU 前欧洲标准化
AISI 美国钢铁学会
DIN 德国工业标准
AMS 国空航天材料规范
ISO 国际标准
JASO 日本汽车标准组织
EN 欧洲标准
JB 国机械行业标准
UNS 统一编号系统
UNI 意大利标准
ASME 美国机械工程师协会
SS 瑞典标准
GB 国家标准
JIS 日本工业标准

Thermodur 2344

X40CrMoV5-1 | **C** 0.40 **Si** 1.00 **Cr** 5.30 **Mo** 1.40 **V** 1.00

Steel properties

High hot-wear resistance and hot tensile strength as well as good toughness, thermal conductivity and insusceptibility to hotcracking. Can be water-cooled to a limited extent.

Standards

AISI H13 **AFNOR** Z40CDV5

Physical properties

Coefficient of thermal expansion

at °C	20 – 100	20 – 200	20 – 300	20 – 400	20 – 500	20 – 600	20 – 700
10^{-6} m/(m • K)	10.9	11.9	12.3	12.7	13.0	13.3	13.5

Thermal conductivity

at °C	20	350	700
W/(m • K) Annealed	27.2	30.5	33.4
W/(m • K) Quenched and tempered	25.5	27.6	30.3

Applications

Besides applications typical for the area of hot-work steels, this grade is mainly used for ejector pins, tool holders and shrink fit chucks.

Heat treatment

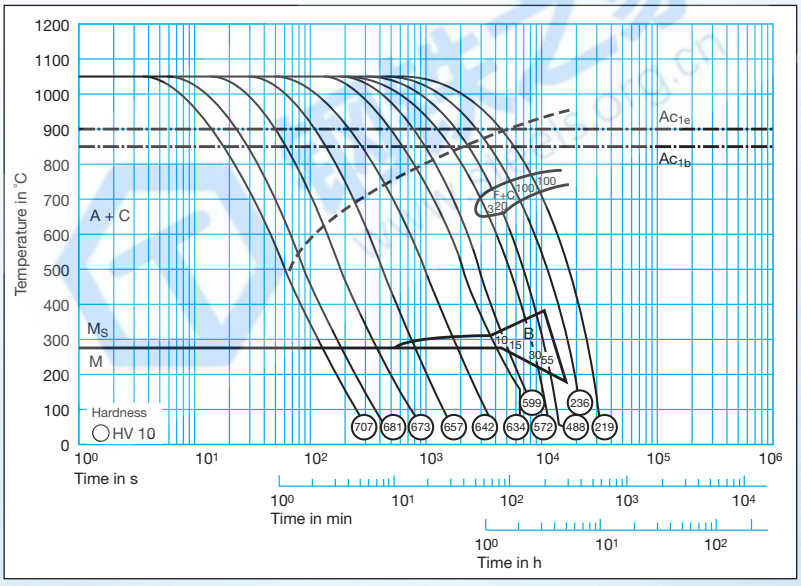
Soft annealing °C	**Cooling**	**Hardness HB**
750 – 800	Furnace	max. 230

Stress-relief annealing °C	**Cooling**
approx. 600 – 650	Furnace

Hardening °C	**Quenching**	**Hardness after quenching HRC**
1020 – 1050	Air, oil or saltbath, 500 – 550 °C	54

Tempering °C	100	200	300	400	500	550	600	650	700
HRC	53	52	52	54	56	54	50	42	32

Time-temperature-transformation diagram



Tempering diagram