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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 [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

Rapidur 3202

(HS12-1-4-5) **C** 1.35 **Cr** 4.10 **Mo** 0.80 **V** 3.80 **W** 12.00 **Co** 4.80

Steel properties

High-performance high-speed steel featuring an extremely good cutting edge retention and wear resistance due to its high vanadium content. A high cobalt content contributes to a high red hardness and tempering resistance.

Standards

AISI ~T15

Applications

Machining of hard materials which wear cutting edges such as highly quenched and tempered chromium-nickel grades and non-ferrous metals, mother-of-pearl, paper, hard rubber, synthetic resins, marble, slate and the like. Ideally suited for turning and finishing tools, forming tools of all kinds, heavy-duty milling cutters and automatic lathes.

Heat treatment

Soft annealing °C	**Cooling**	**Hardness HB**
820 – 860	Furnace	max. 280

Stress-relief annealing °C	**Cooling**
630 – 650	Furnace

1st pre-heating °C	**2nd and 3rd pre-heating °C**	**Hardening[1] °C**	**Quenching**	**Tempering °C**	**Hardness after tempering HRC**
up to approx. 400 in an air-circulating furnace	a) 850 b) 850 and 1050	1190 – 1240	a) Saltbath, 550 °C b) Oil c) Air	at least three times 540 – 580	64 – 67

[1] For cold-forming tools with a complex geometry, a hardening temperature at the lower end of the quoted range is recommended. The stated hardening temperatures apply to saltbath hardening only. For vacuum hardening, we suggest a reduction of 10 °C to 30 °C.

Reference numbers in brackets are not standardized in EN ISO 4957.