



CCV-120

Cr/V – alloyed, high carbon tool steel

Distinctive feature and main attributes An alloy cold work tool steel with chromium and vanadium, having a good wear and tenacity as well as an ease of workability but also excellent machining and hardening abilities. It is not corrosion resistant unless protected.

Use and application range This quality is adapted for taps, spiral dies, stamps, twist drills, broaches and reamers.

Norms

Material No.	1.2210
DIN Abbreviation	115CrV3
AFNOR	100C3
AISI / SAE / ASTM	AISI ~ L2
ISO	
Euro Standard EN	~ 107CrV3

Chemical composition [% wt]

C	Si	Mn	P	S	Cr	V	Fe
1.10 – 1.25	0.15 – 0.30	0.20 – 0.40	max. 0.03	max. 0.03	0.50 – 0.80	0.07 – 0.12	balance

Execution, delivery conditions, standard sizes and availability

- Execution in 3 m (2 m) round bars as well as coils
- Standard size in stock: see [product range](#)

Other sizes on request

Tolerances

- $\varnothing < 3.00$ mm, cold drawn, polished; ISO h9
- $\varnothing \geq 3.00$ mm, cold drawn, ground, polished; ISO h8/h6; surface finish Ra 0.4 (N5)

Tighter tolerances (up to ± 0.002 mm) on request

Mechanical properties

At delivery status:

- Tensile strength (Rm): ~ 750 MPa, size depending
- Hardness after tempering: 64 / 66 HRC

Heat treatment

- Tempering in oil at $\varnothing < 10.00$ mm: 820 – 840°C
- Tempering in water at $\varnothing \geq 10.00$ mm: 800 – 820°C
- Annealing as required see charts

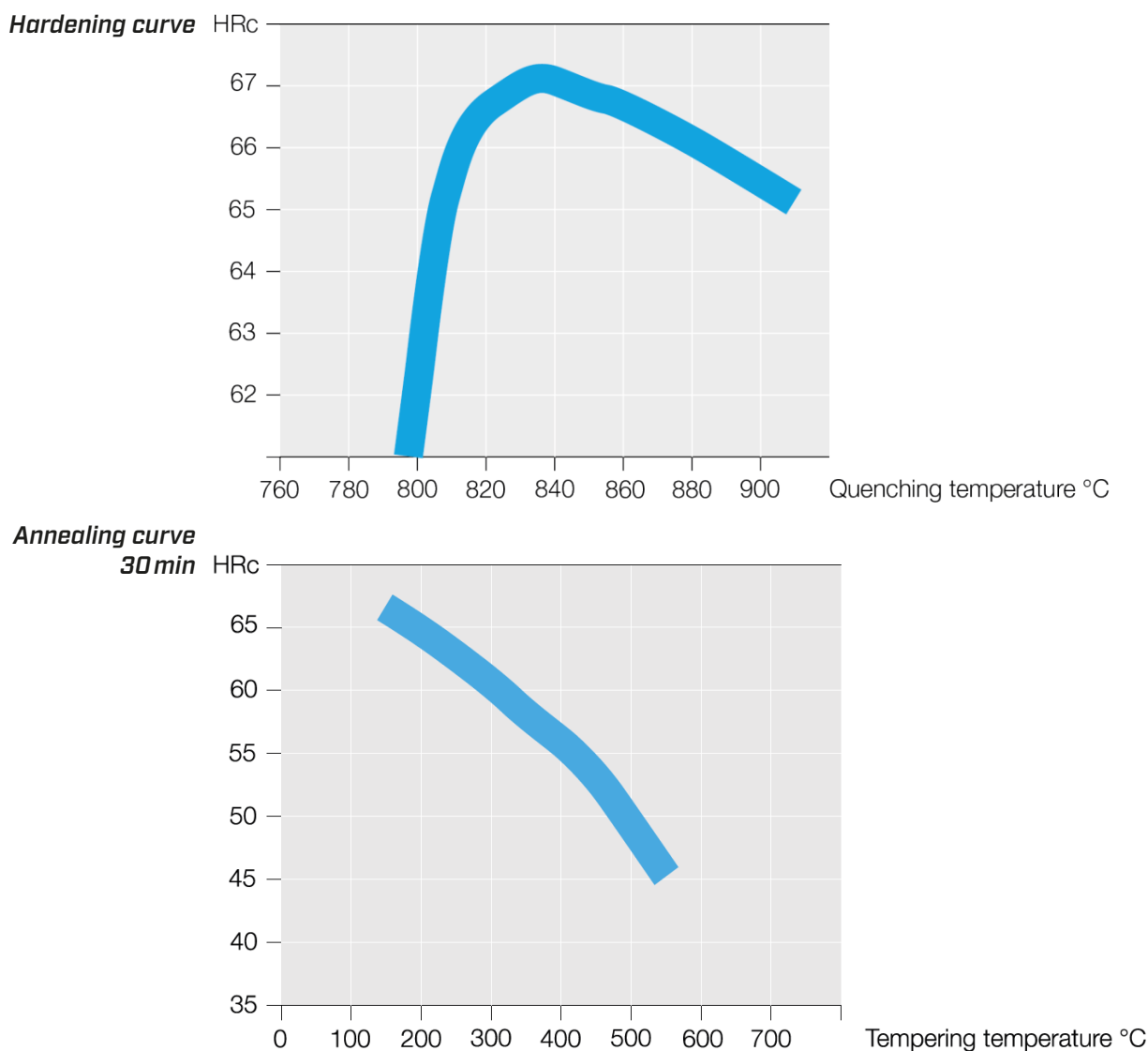
Cutting rates

$V_c \sim 20 - 30$ m/min, value depending on the lubrication oil, cutting tools and shape of parts.



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If you harden in water, we recommend to not pass over the annealing temperature of 820°C to avoid cracks. The water should be pre-heated at about 50°C. The above curves indicate the results of determinate section of a curtain size of 5mm. The result after heat treatment can be slightly different than shown on this curve, depending on the shape and size of the part.