CCV-120

Cr/V-alloyed, High Carbon Tool Steel

Distinctive feature & main attribute

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

Use & application range

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

Material No. and norms

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

Reference analysis %

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

Execution, delivery form, 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

- Ø < 3.00 mm, cold drawn, polished; ISO h9
- Ø ≥ 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 Ø < 10.00 mm: 820 – 840°C
- Tempering in water at Ø ≥ 10.00 mm: 800 – 820°C
- Annealing as required see charts

Cutting rates

vc ~ 20 – 30 m/min, value depending on the lubrication oil, cutting tools and shape of parts.

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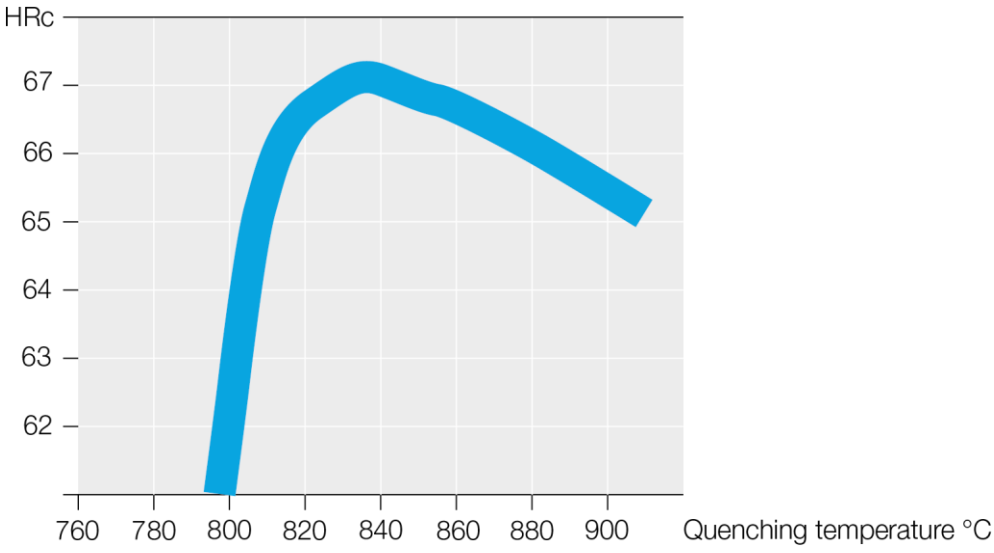
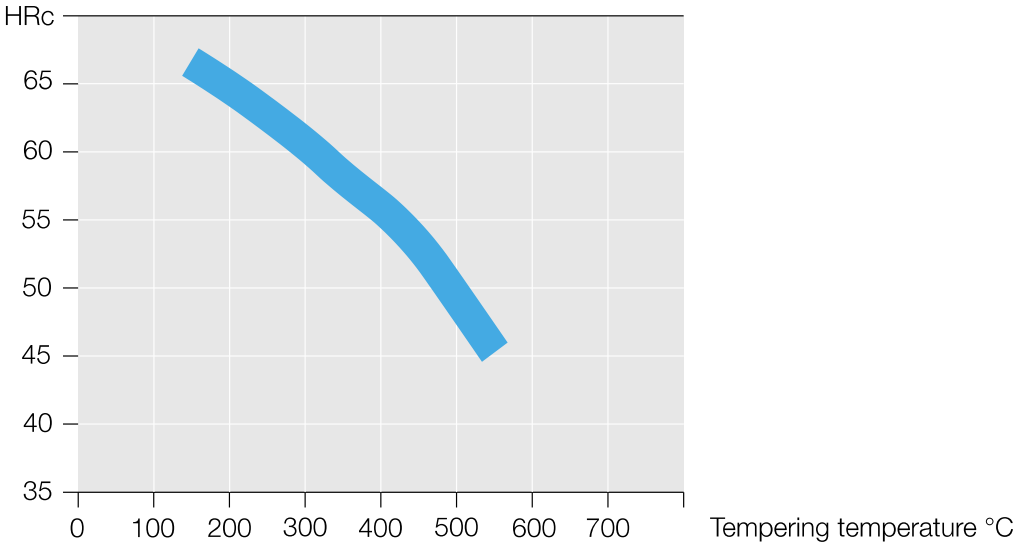
HARDENING CURVE



ANNEALING CURVE
30 minutes



If your harden in oil, 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 5 mm. The result after heat treatment can be slightly different than shown on this curve, depending on the shape and size of the part.

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