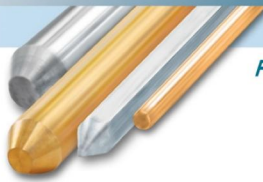


L. KLEIN SA

ACIERS FINS ET MÉTAUX

EDELSTÄHLE UND METALLE

FINE STEEL AND METALS



CCV-120 Cr/V-alloyed High Carbon Tool Steel

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

Distinctive feature and main attribute: 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 suitable for taps, spiral dies, stamps, twist drills, broaches and reamers.

CHEMICAL COMPOSITION IN VOLUME PERCENTAGE	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 FORM STANDARD SIZES AVAILABILITY	
	<ul style="list-style-type: none">• Execution in 3 m (2 m) round bars as well as in coils• Size in coils of \varnothing 0.80 – 3.50 mm• Size in bars of \varnothing 0.80 – 50.00 mm• Other sizes on request

TOLERANCES	
	<ul style="list-style-type: none">• $\varnothing < 3.00$ mm, cold drawn, polished; ISO h8• $\varnothing \geq 3.00$ mm, cold drawn, ground, polished; ISO h8; surface finish Ra 0.4 (N5)• Tighter tolerances (up to +/- 0.002 mm) on request

MECHANICAL PROPERTIES	
	At delivery status: <ul style="list-style-type: none">• Tensile strength (R_m): ~ 750 MPa, size depending• Hardness after tempering: 64/66 HRC

HEAT TREATMENT	
	<ul style="list-style-type: none">• Tempering in:<ul style="list-style-type: none">a) oil at $\varnothing < 10.00$ mm: 820 – 840 °Cb) 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. <ul style="list-style-type: none">• Cutting oil: e.g. INOX or ORTHO of Motorex

Modifications will not be adjusted automatically

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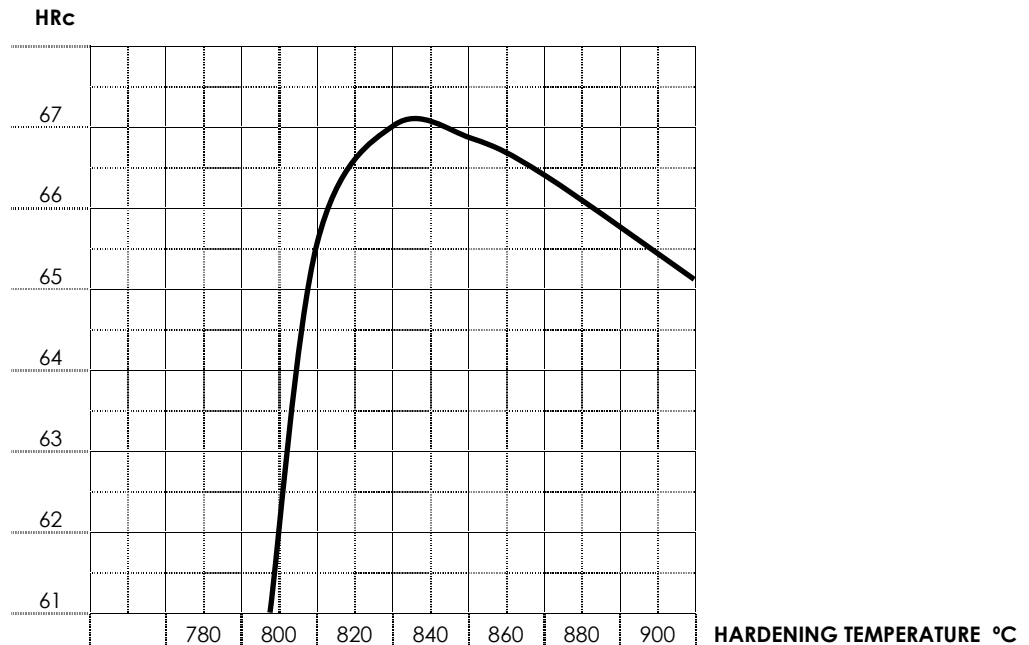
www.kleinmetals.ch
info@kleinmetals.ch

CCV-120

Cr/V-alloyed

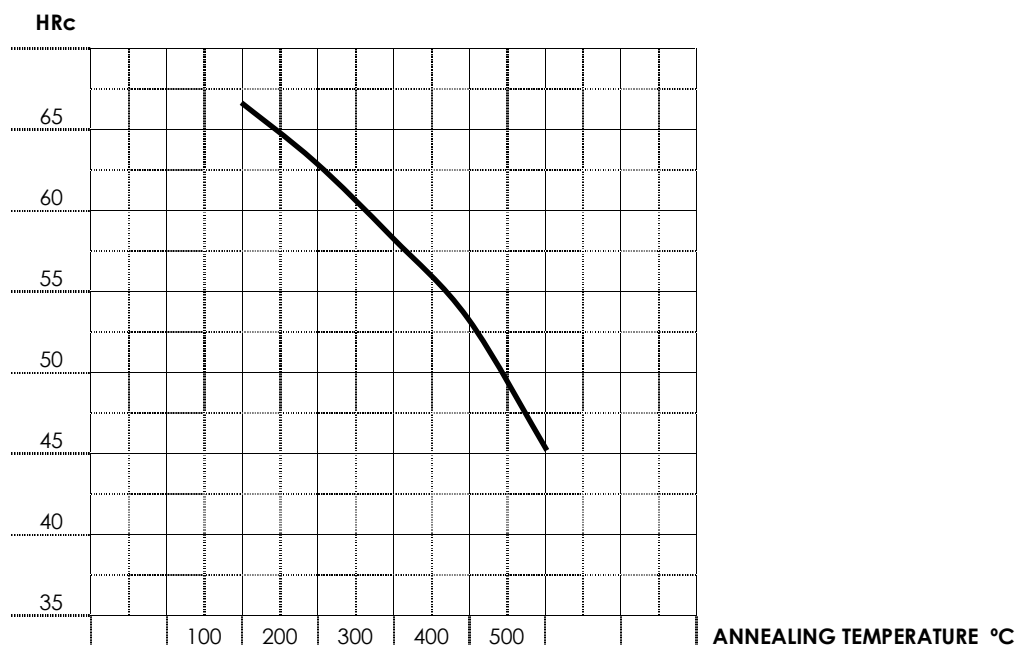
1.2210

HARDENING CURVE



ANNEALING CURVE

½ hour



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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