



## CHRONIFER® M-17C martensitic Hardenable Stainless Steel

Material No.	DIN Abbreviation	AFNOR	AISI/SAE/ASTM	ISO	Euro Standard EN	Others
1.4125	X105CrMo17	X105CrMo17 (former Z 100 CD 17)	AISI 440C ASTM F899		X105CrMo17	NF S 94-090 JIS ~ SUS 440C

Distinctive feature & main attribute: a temperable, non-corrosive alloyed stainless steel, precedingly refined by an electroslag remelting process (ESR), excelling in higher-grade hardness than Chronifer® M-17B because of a higher carbon content and solid corrosion resistance unless the final part has been polished properly (without pores). However, the machinability is strongly limited whereas the corrosion resistance to water and steam is fine.

Use & application range: this alloy is principally designated for bearing assemblies including bearing balls and races, furthermore for cutlery, needle valves, ball check valves etc. as well as food and aerospace applications.

REFERENCE ANALYSIS %	C	Si	Mn	P	S	Cr	Mo	Fe
		<b>0.95</b> <b>1.20</b>	<b>max.</b> <b>1.00</b>	<b>max.</b> <b>1.00</b>	<b>max.</b> <b>0.04</b>	<b>max.</b> <b>0.03</b>	<b>16.00</b> <b>18.00</b>	<b>0.40</b> <b>0.75</b>

<b>EXECUTION DELIVERY FORM STANDARD SIZES AVAILABILITY</b>	<ul style="list-style-type: none"> <li>• Execution in 3 m round bars as well as in coils for Escomatic</li> <li>• Standard size in stock: see <a href="#">Product range</a></li> <li>• Other sizes on request</li> </ul>
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<b>TOLERANCES</b>	<ul style="list-style-type: none"> <li>• <math>\varnothing &lt; 2.50</math> mm, cold drawn, polished; ISO <b>h8</b></li> <li>• <math>\varnothing \geq 2.50</math> mm, cold drawn, ground, polished; ISO <b>h7 (h6)</b>; surface finish Ra 0.4 (N5)</li> <li>• Tighter tolerances on request</li> </ul>
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<b>MECHANICAL PROPERTIES</b>	At delivery status: <ul style="list-style-type: none"> <li>• Tensile strength (<math>R_m</math>): <b>700 – 950 MPa</b>, size depending</li> <li>• Hardness after tempering: <b>~ 60 HRC</b></li> </ul>
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<b>HEAT TREATMENT</b>	<ul style="list-style-type: none"> <li>• Vacuum hardening: 1030 – 1070 °C</li> <li>• Annealing: 100 – 200 °C, cooling in oil or in water</li> </ul> (Annealing as required see chart)
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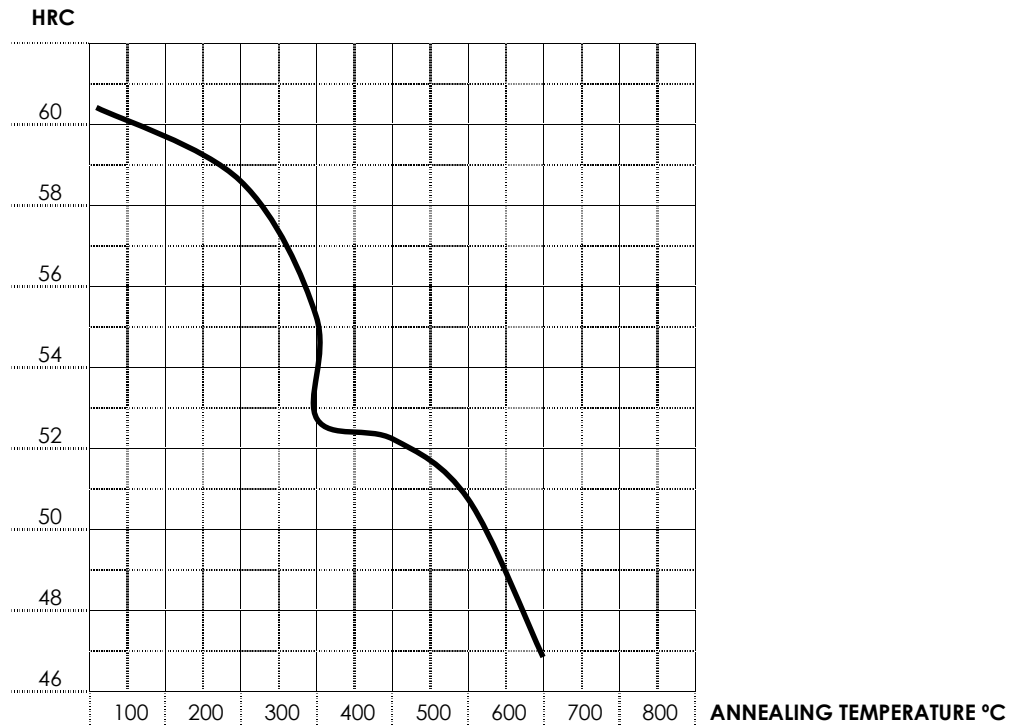
<b>CUTTING RATES</b>	$v_c \sim 20 - 30$ m/min, value depending on the lubrication oil, cutting tools and shape of parts. <ul style="list-style-type: none"> <li>• Cutting oil: e.g. INOX or ORTHO NFX of Motorex</li> </ul>
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**CHRONIFER®**

**M-17C**

**1.4125**

**ANNEALING CURVE**



The above curve indicates 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.

Modifications will not be adjusted automatically

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