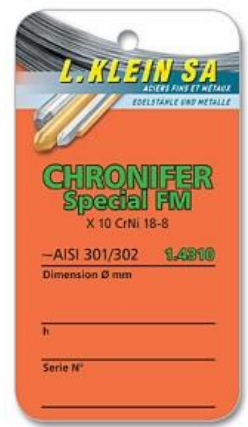


# L. KLEIN SA

ACIERS FINS ET MÉTAUX

EDELSTÄHLE UND METALLE

FINE STEEL AND METALS



## CHRONIFER Special FM austenitic Stainless Steel

Material No.	DIN Abbreviation	AFNOR	AISI/SAE/ASTM	ISO	Euro Standard EN	Others
1.4310	X10CrNi18-8 (former X12CrNi17-7)	X10CrNi18-8 (former Z 11 CN 17.08) (former Z 11 CN 18.08) (former Z 12 CN 18.09)	AISI ~ 301/ AISI ~ 302	X10CrNi18-8	X10CrNi18-8 10088-1	JIS ~ SUS 301

Distinctive feature & main attribute: a rust- and acid-proof chromium-nickel-spring-steel alloy whose average tensile strength can be increased considerably by cold rolling. If cold worked this alloy is applicable to welding with a good fatigue resistance.

Use & application range: include vehicle plates and springs, connector or watch components, knives, electric switch blades, precision foils etc.

CHEMICAL COMPOSITION IN VOLUME PERCENTAGE	C	Si	Mn	P	S	Cr	Mo	Ni	N	Fe
	0.05 0.15	max. 2.00	max. 2.00	max. 0.045	max. 0.015	16.00 19.00	max. 0.80	6.00 9.50	max. 0.11	balance

<b>EXECUTION DELIVERY FORM STANDARD SIZES AVAILABILITY</b>	<ul style="list-style-type: none"><li>• Size 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>
--	---

<b>TOLERANCES</b>	<ul style="list-style-type: none"><li>• <math>\varnothing &lt; 2.00</math> mm, cold drawn, polished, ISO <b>h8</b></li><li>• <math>\varnothing \geq 2.00</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>
-------------------	--

<b>MECHANICAL PROPERTIES</b>	At delivery status (in cold worked condition): <ul style="list-style-type: none"><li>• Tensile strength (<math>R_m</math>) spring temper due to DIN 17224: <b>1350 – 2000 MPa</b>, size depending</li></ul>
----------------------------------	---

<b>HEAT TREATMENT</b>	<ul style="list-style-type: none"><li>• Soft annealing: 1050 °C, cooling in water</li><li>• Hardening and Tempering by heat treatment is impossible unless by cold working</li></ul>
-----------------------	--

<b>CUTTING RATES</b>	<p><b><math>v_c \sim 15 - 25</math> m/min</b>, value depending on the lubrication oil, cutting tools and shape of parts.</p> <ul style="list-style-type: none"><li>• Cutting oil: e.g. ORTHO NFX of Motorex</li></ul>
----------------------	---

Modifications will not be adjusted automatically

Last update 06/2010  
Volume no. 8

L. KLEIN SA  
Längfeldweg 110  
P.O. Box 973  
CH-2501 Biel/Bienne

telephone 0041 (0) 32 341 73 73  
telefax 0041 (0) 32 341 97 20

www.kleinmetals.ch  
info@kleinmetals.ch