

GARBAFLEX CRSI91

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Flat and shaped wire for surface nitriding

GARBAFLEX CrSi91 is especially intended for application requiring extremely high fatigue properties and good relaxation properties at increased working temperatures.

CHEMICAL COMPOSITION

C (%)	Si (%)	Mn (%)	Cr (%)	V (%)	Mo (%)	P max. (%)	S max. (%)
0.50 - 0.70	1.80 - 2.20	0.30 - 0.60	0.80 - 1.00	0.05 - 0.15	0.05 - 0.15	0.020	0.020

MECHANICAL PROPERTIES

FOR FLAT ROLLED WIRE

Width (mm)	Tolerance (\pm mm)
1.00 - 5.00	0.050
5.01 - 8.00	0.070
8.01 - 10.00	0.100

Thickness (mm)	Tolerance (\pm mm)
0.30 - 0.80	0.013
0.81 - 1.00	0.019
1.01 - 1.60	0.025
1.61 - 2.30	0.050

FOR SHAPED WIRE

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Width (mm)	Tolerance (\pm mm)
-1.50	0.020
1.51 - 3.00	0.030
3.01 - 5.00	0.040
5.01 - 7.00	0.050
7.01 -	0.060

MICROSTRUCTURE

Tempered martensite with no ferrite.

EXECUTION

Rolled on 2 sides (flat).
Rolled on 4 sides (shaped).
Profile drawn (shaped).

CAMBER

Max. 4 mm measured on 1 m length.

COIL SET

Max. 20 mm measured on 1 m length.

SURFACE CONDITIONS

SURFACE

Bright or oxide.
Surface defects max. 1% of thickness.

PHYSICAL PROPERTIES

E AND G MODULUS OF ELASTICITY

206 kN/mm²

E AND G MODULUS OF SHEAR

79.5 kN/mm²

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STANDARDS

NEAREST EQUIVALENT STEEL GRADES

EN/DIN 2090, AISI/SAE 2090, JIS 67SiCr5

RECOMMENDATIONS

SOFT SHOT PEENING

Before the nitriding process a soft shot peening process shall be applied in order to remove the oxide layer on the spring wire surface.

NITRIDING

GARBAFLEX CrSi91 should be nitrided to obtain optimum fatigue and relaxation properties. Our recommendation is gas nitriding.

ADDITIONAL

ADDITIONAL INFORMATION

Decarburisation

No total decarburisation. Partial decarburisation (no continuous zones) max. 1.2% of a corresponding round wire dimension.