



Below mentioned program overview gives an impression of the possibilities of GNS. Given the enormous diversity in dimensions there is only mention made of available qualities. The products are available in EN, DIN and AISI qualities and with certificates according to EN 10204.

Are you curious about the possibilities? Do not hesitate to contact us. We are always willing to help and would like to think along with you about your material needs. Our options will surprise you.

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## 1 Supply programme spring steel in strip, sheet and slit strip

### 1.1 Spring steel; former and current descriptions

Material number	Description according EN 10132-4	Description according DIN 17222 (expired)	Description according AISI
1.0913	50Mn7	50 Mn 7	-
1.1203	-	Ck55	1055
1.1204	C55S	-	1055
1.1211	C60S	-	1060
1.1217	C90S	-	-
1.1221	-	Ck60	1060
1.1231	C67S	Ck67	1070
1.1248	C75S	Ck75	1075
1.1269	C85S	Ck85	1086
1.1274	C100S	Ck101	1095
1.2003	75Cr1	75 Cr 1	-
1.2235	-	80 CrV 2	-
1.2067	102Cr6	100 Cr 6	52100
1.2379	X153CrMoV12	X153 CrMoV 12	D2
1.4021	X20Cr13	X 20 Cr 13	420
1.4028	X30Cr13	X 30 Cr 13	420
1.4031Mo	X39Cr13	X 39 Cr 13	420
1.4034	X46Cr13	X 46 Cr 13	420
1.4037	X65Cr13	X 65 Cr 13	-
1.4301	X5CrNi18-10	X5 CrNi 18-10	304
1.4310	X10CrNi18-8	X10 CrNi 18-8	301
1.4529	X1NiCrMoCuN25-20-7	X1 NiCrMoCuN 25-20-7	Alloy 926
1.4767	X8CrAl20-5	X8 Cr Al 20-5	446
1.4821	X15CrNiSi25-4	X15 CrNiSi 25-4	-
1.4828	X15CrNiSi20-12	X15 CrNiSi 20-12	309
1.5022	48Si7	48 Si 7	-
1.5023	38Si7	38 Si 7	-
1.5024	46Si7	46 Si 7	9250
1.5025	51Si7	51 Si 7	9255
1.5026	55Si7 / 56Si7	55 Si 7 / 56 Si 7	9255
1.5027	60Si7	60 Si 7	9260H
1.5028	65Si7	65 Si 7	9260H
1.5634	75Ni8	-	-
1.7103	67SiCr5	60 SiCr 5	9254
1.7108	60SiCr7	60 SiCr 7	9260
1.7701	51CrMoV4	51 CrMoV 4	-
1.8159	51CrV4	50 CrV 4	6150

#### Available versions (depending on quality and/or size):

+U	=	Untreated
+A	=	Soft annealed
+LC	=	Annealed and lightly rolled
+AC	=	Annealed for the formation of spherical carbides
+CR	=	Cold rolled
+QT	=	Quenched and tempered



## 2 Supply programme spring SLIT STRIP and SHEET

### 2.1 Carbon steel HARDENED bright polished spring steel<sup>1</sup>

Material thickness <sup>2</sup>	Width <sup>2</sup>	Quality <sup>3</sup>	Tensile strength in N/mm <sup>4</sup>	Quality acc.	Tolerances acc <sup>5</sup>
0,10 - 3,00 mm	up to 300 mm	1.1204 (C55S)	Rm 980 – 1275 N/mm <sup>2</sup>	EN 10132	EN 10140
0,10 - 1,50 mm		1.1231 (C67S)	Rm 1320 – 1525 N/mm <sup>2</sup>		
0,15 - 4,00 mm		1.1248 (C75S)	Rm 1320 – 1800 N/mm <sup>2</sup>		
0,15 - 4,00 mm		1.1269 (C85S)	Rm 1320 – 1800 N/mm <sup>2</sup>		
0,03 - 2,00 mm		1.1274 (C100S)	Rm 1650 – 2250 N/mm <sup>2</sup>		

### 2.2 Carbon steel UNHARDENED - hardenable - spring steel<sup>1</sup>

Material thickness <sup>2</sup>	Width <sup>2</sup>	Quality <sup>3</sup>	Tensile strength in N/mm <sup>4</sup>	Quality acc.	Tolerances acc <sup>5</sup>
0,50 - 2,00 mm	up to 300 mm	1.1191 (C45E)	Rm 490 – 590 N/mm <sup>2</sup>	EN 10132	EN 10140
0,50 - 2,00 mm		1.1204 (C55S)	Rm 490 – 620 N/mm <sup>2</sup>		
0,50 - 2,00 mm		1.1211 (C60S)	Rm 490 – 620 N/mm <sup>2</sup>		
0,20 - 4,00 mm		1.1231 (C67S)	Rm 600 – 800 N/mm <sup>2</sup>		
0,20 - 4,00 mm		1.1248 (C75S)	Rm 600 – 800 N/mm <sup>2</sup>		
0,30 - 2,00 mm		1.1274 (C100S0)	Rm 600 – 800 N/mm <sup>2</sup>		

### 2.3 Stainless and heat resistant HARD ROLLED spring steel

Material thickness <sup>2</sup>	Width <sup>2</sup>	Quality <sup>3</sup>	Tensile strength/ condition <sup>4</sup>	Quality acc.	Tolerances acc <sup>5</sup>
0,03 - 3,0 mm	up to 1250 mm	1.4310 (AISI 301)	Rm 1000 – 2200 N/mm <sup>2</sup>	EN 10151	ISO 9445
0,20 - 1,2 mm	up to 300 mm	1.4301 (AISI 304)	Rm 500 – 2200 N/mm <sup>2</sup>	EN 10151	ISO 9445
0,01 - 2,0 mm	up to 600 mm	1.4404 (AISI 316)	Rm 1100 – 1300 N/mm <sup>2</sup>	EN 10151	ISO 9445
0,07 - 0,50 mm	up to 400 mm	1.4529 (Alloy 926)	Rm 600 – 1600 N/mm <sup>2</sup>	EN 10088	ISO 9445
0,03 - 0,20 mm	up to 300 mm	1.4767 (AISI 446)	Hard rolled	DIN 17440	ISO 9445
0,15 - 0,30 mm	up to 300 mm	1.4828 (AISI 309)	Rm 600 – 1600 N/mm <sup>2</sup>	EN 10095	ISO 9445



## 2.4 Hardenable stainless steel, chromium steel, tooling steel HARDENED<sup>1</sup>

Material thickness <sup>2</sup>	Width <sup>2</sup>	Quality <sup>3</sup>	HRC / Tensile strength Rm <sup>4</sup>	Quality acc.	Tolerances acc <sup>5</sup>
0,5 - 3,0 mm	up to 300 mm	1.4021 (AISI 420)	HRC 43-47 (Rm 1300 – 1500 N/mm <sup>2</sup> )	EN 10088	ISO 9445
1,0 - 3,0 mm	up to 1250 mm	1.4031Mo (AISI 420)	HRC 50-54 (Rm 1700 – 1900 N/mm <sup>2</sup> )		
0,01 - 10,5 mm	up to 660 mm	1.4034 (AISI 420)	Rm 500 – 1300 N/mm <sup>2</sup>		
2,3 - 4,4 mm	up to 250 mm	1.4037 (AISI 420)	Rm 1900 – 2200 N/mm <sup>2</sup>		
2,3 - 4,4 mm	up to 710 mm	1.2379	HRC 58-61		

<sup>1</sup> Version with cutting or rounded edges.

<sup>2</sup> Maximum width depends on thickness.

<sup>3</sup> Missing grades on request.

<sup>4</sup> By you desired tensile strength range to be agreed in advance.

<sup>5</sup> Different tolerances discussable.

## 3 Supply programme hot rolled - temperable - spring steel STRIP

### 3.1 Versions, tolerances, dimensions

**Version** Hot-rolled according to EN10083, untreated, annealed or quenched and tempered, plain or ribbed.

**Edges** Round edges or rolled edges. For thicknesses below 3 mm, also sharp-edged on request.

**Tolerances** According to EN10092-1 (rounded edges) or EN10048 (rolled edges), on request also according to EN10058 (sharp-edged), EN10092-2 (ribbed).

**Dimensions** 20x3 mm up to 200 x 20 mm

**Version and tensile strength / hardness**

Quenched and tempered (+QT)	Rm 1180-1670 N/mm <sup>2</sup> *
Untreated (+U)	HB30 270 - 330 (corresponds to approx.. Rm 900-1100 N/mm <sup>2</sup> ) *
Soft annealed (+A):	HB30 215 - 255 (corresponds to approx.. Rm 720- 850 N/mm <sup>2</sup> ) *

\* Depending on quality:

**Available** In lengths of 5 or 6 m1 (+ 200 mm). On request in fix lengths.