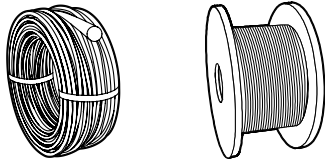


Zapp is certified to ISO 9001



### Round and Flat Spring Wire

Round spring wire and flat spring wire in an extensive program of stainless steels and nickel alloys, available in a wide range of sizes. Zapp's stainless steel spring wire is hard drawn and delivered in the following conditions:

- Soap coated
- Bright
- Mechanically polished
- Ni coated (soap)
- Ni coated (bright " ").

The delivery forms available are various types of spools/coils and straightened lengths.

### Materials for All Types of Springs

Zapp's wide range of stainless steel spring wire covers most requirements on material properties. This means that we can deliver stainless wire for practically all types of springs, such as:

- Compression springs
- Formed springs (bent parts)
- Tension springs
- Torsion springs

### Spring Wire Materials

Zapp's program of round spring wire and flat spring wire includes the following stainless steels and nickel alloys. Other grades can be offered on request.

Grade	UNS	ASTM 313	EN 10270-3	EN 10088-3	Round	Flat
Zapp X750	N07750	-	-	2.4669	■	-
2RK66	N08904	904L	1.4539	1.4539	■	-
Nanoflex	S4691	-	-	-	■	■
13RM19	-	-	-	1.4369	■	■
5R60	S31600	316	1.4436	1.4436	-	■
5R62	S31600	316	1.4401	1.4401	■	-
302	S30200/S30400	302/304	1.4310 HS	1.4310	■	-
11R51	S30151	302	1.4310 HS	1.4310	■	■
5R10	S30400/S30409	304	1.4301	1.4301	-	-
T302	S30200/S30400	302/304	1.4310 NS	1.4310	-	-
12R10L	S30200	302	1.4310 NS	1.4310	-	-
12R10	S30200	302	1.4310 NS	1.4310	-	-
11RM20	S20100	301	-	1.4372	-	-
11RM10	S20100	301	-	1.4372	-	-

\* Not covered by the standard EN 10088-3.

### Spring Wire Properties

The diagram, shows Zapp's program of stainless spring wire grades compared to the commonly used UNS S30200 (12R10). The further out from the center the better the properties:

### Delivery Forms for Round Spring Wire

Zapp round spring wire can be supplied in the following delivery forms.

SPOOLS AND COILS			
Type of spools/coils	Wire, diameter, mm	Wire weight, kg	Size of spool/coil, mm
Compact coil	1.8 - 4.0	max. 1000	OD 650, ID 365, H 505
Spool 67 / one-way metallic spool	0.4 - 3.6	max. 450	OD 760, ID 430, H 400
Spool 17 / returnable metallic spool	0.4 - 4.0	250 - 400, depending on wire size	OD 750, ID 406, W 285
Coil	0.9 - 10	40 - 350, depending on wire size	OD 500-800, ID 375-600, H 150-300
Spool 16 / returnable metallic spool	0.4 - 4.0	max. 150	OD 560, ID 336, W 274
Spool 28 / one-way plastic spool	0.15 - 1.2	max. 40	OD 460, ID 305, W 105
Spool 23 / one-way metallic spool	0.15 - 0.40	max. 15	OD 390, ID 305, W 89

OD = Outside Diameter, ID = Inside Diameter, H = Height, W = Width

### Straightened Lengths

Wire in diameter 0.6-10 mm can be delivered in lengths between 150 and 5,000 mm, depending on wire size.

### Delivery Forms for Flat Spring Wire

Zapp round spring wire can be supplied in the following delivery forms.

SPOOLS AND COILS			
Type of Spools/coils	Wire, diameter, mm	Wire weight, kg	Size of spool/coil,mm
Spool 59 / one-way wooden spool	> 3	300 - 350	OD 750, ID 490, W 340, center hole 400
Spool 36 / returnable bakelite spool	> 2	190 - 250	OD 750, ID 460, W 288, center hole 60
Spool 24 / returnable wooden spool	> 2	190 - 250	OD 750, ID 460, W 288, center hole 60
Spool 41 / one-way wooden spool	> 2	100 - 160	OD 750, ID 490, W 190, center hole 400
Spool 30 / one-way wooden spool	> 1.80	90 - 160	OD 620, ID 420, W 240, center hole 355
Spool 29 / one-way plastic spool	> 3	70 - 90	OD 400, ID 200, W 236, center hole 56
Spool 28 / one-way plastic spool	> 3	30 - 40	OD 460, ID 315, W 105, center hole 305
Spool 25 / one-way wooden spool	> 3	70 - 80	OD 630, ID 400, W 132, center hole 300
Spool 11 / / one-way plastic spool	> 2	10 - 15	OD 300, ID 200, W 102, center hole 52
Spool 14 / one-way plastic spool	< 2	30 - 40	OD 355, ID 224, W 200, center hole 102
Spool 21 / one-way wooden spool	< 3	100 - 130	OD 750, ID 490, W 190, center hole 305
Spool 8 / one-way plastic spool	< 2	9	OD 200, ID 100, W 113, center hole 46
Spool 7 / one-way plastic spool	< 2	7	OD 160, ID 100, W 160, center hole 22

OD = Outside Diameter, ID = Inside Diameter, H = Height, W = Width

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