

Spring Steel Wire Roeslau „R15 FD“ SiCr-alloyed oil tempered



Application:

For the production of statically stressed springs.

Range of diameters:

The wire is manufactured from **0,85 mm – 6,00 mm** in round section.

Chemical composition (%):

C	Si	Mn	Cr	P max.	S max.	Cu max.
0,50 - 0,60	1,20 - 1,60	0,50 - 0,90	0,50 - 0,80	0,03	0,025	0,12

Raw material:

Specially treated wire rod acc.to Roeslau prescription.

Mechanical properties:

The deviation of tensile strength within one coil is 70 N/mm² max. – The tensile strength is related to the real cross section.

Nominal wire diameter from mm	Limit deviations mm ±	Tensile strength Rm N/mm ² from	Tensile strength Rm N/mm ² to	Reduction in area Z %
0,850	0,015	2.100	2.300	0
1,001	0,020	2.070	2.260	45
1,301	0,020	2.060	2.250	45
1,401	0,020	2.040	2.220	45
1,601	0,025	2.000	2.180	45
2,001	0,025	1.970	2.140	45
2,501	0,025	1.950	2.120	45
2,701	0,030	1.930	2.100	45
3,001	0,030	1.910	2.080	45
3,201	0,030	1.900	2.060	42
3,501	0,030	1.870	2.030	42
4,001	0,035	1.860	2.020	40
4,201	0,035	1.850	2.000	40
4,501	0,035	1.840	1.990	40
4,701	0,035	1.830	1.980	40
5,001	0,035	1.800	1.950	38
5,601	0,040	1.780	1.930	38

- 1) The ovality, i.e. the difference between the minimum and maximum wire diameter measured in the same plane, shall not exceed 50 % of the range given by the limit deviations.



Modulus of elasticity about 206 kN/mm²

Modulus of rigidity about 79,5 kN/mm²

Surface quality:

The surface condition of „*Roeslau R15 FD*“ is tested by means of an inspection of both coil ends. The test pieces are checked for surface defects after deep etching and microscopically for decarburization.

When testing the coil ends the maximum depth of surface defects and decarburization is 1,5 % of the wire diameter. Connected carbon-free areas are not permissible.

Non-metallic inclusions:

Limit values can be agreed upon at the time of ordering, if necessary.

Form supplied and condition supplied:

„*Roeslau R15 FD*“ is usually supplied in catchweight coils or on carriers. Detailed coil diameters and coil weights are indicated in a separate sheet. The packing is made according to the customer's request.

Recommendation for processing:

Immediately upon coiling the springs must be tempered at abt. 420° C for 30 minutes at least. After shot peening the springs must be tempered at abt. 250° C for 30 minutes.

In order to achieve an optimal fatigue resistance, the time of shot peening must be adjusted in such a manner that the inner sides, too, are covered completely. The size of the shots must be adapted to the wire size, the pitch of the spring and the equipment used.

During loading, storing or processing the wire shall be suitably protected against corrosion and mechanical damage.

Comparable standard: EN 10270/2

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