CELSA GROUP | GLOBAL STEEL WIRE

# MATERIAL SPECIFICATION SHEET

## *GRADE: 54SICR6*

**Material nº:**

No: **1.0715**

**Other references:**

9254 MOD acc/ to ASTM A29/A29M

*Equivalencia norma* -
**Standard Reference:**

DIN EN 10089

*Tipo de acero* -
**Steel type:**

Suspension Spring Steel

### *Aplicación* - Application:

Wire rod used in the manufacture of springs, prominently in automotive and industrial suspension applications. These steels are generally low-alloy manganese, medium-carbon steel or high-carbon steel with a very high yield strength.

This refers to a material's ability to tolerate considerable bending or twisting and return its original shape witou distorting. Hence, any product built from this material can withstand a high amount of continuous compression, bending and twisting without losing its original form. This spectacularbehaviour of spring steel comes from its specific compositions and hardening process of the steel. For springs that are exposed to fatigue loads, high demands are placed on surface finish and inner cleanliness.

### *Composición química (%)* - Chemical composition (%):

| Element | Min | Max |
|---|---|---|
| %C | 0,51 | 0,59 |
| %Mn | 1,20 | 1,60 |
| %Si | 0,50 | 0.80 |
| %P | | 0.025 |
| %S | | 0,020 |

| | | |
|---|---|---|
| %Cr | 0,50 | 0,80 |
| %Ni | | 0,10 |
| %Cu | | 0,08 |
| %Mo | | 0,05 |
| %Ai | | 0,025 |
| %N | | 0,0090 |

## *Característica mecánicas bruto* - Mechanical characteristics (As rolled)

**Resistencia -** Tensile strength (Mpa) 900-1150Mpa max
**Estricción -** Reduction of Area (%) min 30%

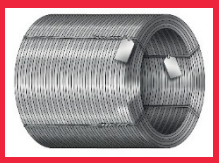
## *Tolerancias dimensionales* - Dimensional tolerances

According to **EN 10108 Class B**

## *Calidad superficial* - Surface quality

According to **ISO 9443:2018 class C**
Material verified by **Eddy Current Control**

## *Dimensiones y peso del rollo –*
## Coil dimensións and coil weight



**3100 kg or 2600 kg aprox.** and half coils packed together of 1650 kg or 1300 kg aprox. Each coil tied minimum with four strips

### Stelmor line (rod sizes from 5.5 up to 24.0 mm)

| Coil weight (kg) aprox. | Coil length (mm) aprox. | Inner diameter (mm) aprox. | Outer diameter (mm) aprox. |
|---|---|---|---|
| 2650 | 1800 | 900 | 1250 |
| 3150 | 2000 | 900 | 1250 |

Note: when cutting the coil ties, the length can be increased significantly.

### Stelmor line: Half coils

| Coil weight (kg) aprox. | Coil length (mm) aprox. | Inner diameter (mm) aprox. | Outer diameter (mm) aprox. |
|---|---|---|---|
| 1325 | 900 | 900 | 1250 |
| 1575 | 1000 | 900 | 1250 |

Note: half coils are delivered in bundles of two coils packed together.

### Hot coiling line (rod sizes from 25.0 up to 52.0 mm)

| Coil weight (kg) aprox. | Coil length (mm) aprox. | Inner diameter (mm) aprox. | Outer diameter (mm) aprox. |
|---|---|---|---|
| 2650 | 1700 | 950 | 1300 |
| 3150 | 1800 | 950 | 1300 |

Note: when cutting the coil ties, the length should not have a significant increase.
Other coil weights could be made, if customer needs.