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**Helical Springs: Specification  
Check Lists—SAE J1122**

SAE Recommended Practice  
Approved February 1976

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**PREPRINT**

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# HELICAL SPRINGS: SPECIFICATION CHECK LISTS—SAE J1122

## SAE Recommended Practice

Report of Spring Committee approved February 1976. SAE J653 has been discontinued and replaced by this report.

**Scope**—The following Recommended Practice furnishes sample forms for helical compression, extension, and torsion springs to provide a uniform method for specifying design information. It is not necessary to fill in all the data, but sufficient information must be supplied to fully describe the part and to satisfy the requirements of its application. For detailed information see Design and Application of Helical and Spiral Springs—SAE J795a, also Helical Compression and Extension Spring Terminology—SAE J1121. For springs to be designed in the metric system with SI units, the terms shown in parentheses are to be used.

### A—HELICAL COMPRESSION SPRINGS Application \_\_\_\_\_

OD \_\_\_\_\_ in (mm) to work inside \_\_\_\_\_ in (mm) Dia Hole  
 ID \_\_\_\_\_ in (mm) to work over \_\_\_\_\_ in (mm) Dia Rod

*Note:* Specify only those diameters that are necessary for assembly and operation

Wire Dia \_\_\_\_\_ in (mm) Total Coils \_\_\_\_\_ Active Coils \_\_\_\_\_  
 Free Length \_\_\_\_\_ in (mm) approx

Direction of Coil Winding: Right Hand, Left Hand, or Optional \_\_\_\_\_

Type of Ends \_\_\_\_\_ Square with Axis within \_\_\_\_\_ deg

Max Solid Length \_\_\_\_\_ in (mm)

Load \_\_\_\_\_ lb (N)  $\pm$  \_\_\_\_\_ lb (N) at \_\_\_\_\_ in (mm) length

Load \_\_\_\_\_ lb (N)  $\pm$  \_\_\_\_\_ lb (N) at \_\_\_\_\_ in (mm) length

Rate \_\_\_\_\_ lb/in (N/mm) Ref

After being compressed to a length of \_\_\_\_\_ in (mm) for \_\_\_\_\_ hours at a

temperature of \_\_\_\_\_ °F (°C) the spring must not show a load loss in excess

of \_\_\_\_\_ lb (N) at a length of \_\_\_\_\_ in (mm)

Spring Index = Mean Coil Diameter/Wire Diameter (D/d) \_\_\_\_\_

Wahl Stress Correction Factor  $K_w$  \_\_\_\_\_

Stress at \_\_\_\_\_ in (mm) length: \_\_\_\_\_ psi (MPa) Corrected or

Uncorrected \_\_\_\_\_

Stress at \_\_\_\_\_ in (mm) length: \_\_\_\_\_ psi (MPa) Corrected or

Uncorrected \_\_\_\_\_

Material \_\_\_\_\_

Hardness or Tensile Strength \_\_\_\_\_

Surface Treatment/Finish \_\_\_\_\_

Identification \_\_\_\_\_

Remarks \_\_\_\_\_

### B—HELICAL EXTENSION SPRINGS Application \_\_\_\_\_

OD \_\_\_\_\_ in (mm) Wire Dia \_\_\_\_\_ in (mm)

Number of Coils \_\_\_\_\_

Direction of Coil Winding: Right Hand, Left Hand, or Optional \_\_\_\_\_

Free Length inside Hooks \_\_\_\_\_ in (mm) approx

Type of Ends (use sketch if necessary) \_\_\_\_\_

Load \_\_\_\_\_ lb (N)  $\pm$  \_\_\_\_\_ lb (N) at \_\_\_\_\_ in (mm) length

Load \_\_\_\_\_ lb (N)  $\pm$  \_\_\_\_\_ lb (N) at \_\_\_\_\_ in (mm) length

Initial Tension \_\_\_\_\_ lb (N) Ref

Rate \_\_\_\_\_ lb/in (N/mm) Ref

Stress at \_\_\_\_\_ in (mm) length: \_\_\_\_\_ psi (MPa) Corrected or

Uncorrected \_\_\_\_\_

Stress at \_\_\_\_\_ in (mm) length: \_\_\_\_\_ psi (MPa) Corrected or

Uncorrected \_\_\_\_\_

Max Extended Length without set \_\_\_\_\_ in (mm)

Stress at Max Extended Length \_\_\_\_\_ psi (MPa) Corrected or

Uncorrected \_\_\_\_\_

Material \_\_\_\_\_

Hardness or Tensile Strength \_\_\_\_\_

Surface Treatment/Finish \_\_\_\_\_

Identification \_\_\_\_\_

Remarks \_\_\_\_\_

### C—HELICAL TORSION SPRINGS Application \_\_\_\_\_

OD \_\_\_\_\_ in (mm)

ID \_\_\_\_\_ in (mm) to work over \_\_\_\_\_ in (mm) Dia Shaft

*Note:* Specify only those diameters that are necessary for assembly and operation

Wire Dia \_\_\_\_\_ in (mm) Number of Coils \_\_\_\_\_

Max Free Length \_\_\_\_\_ in (mm)

Direction of Coil Winding: Right Hand or Left Hand \_\_\_\_\_

Type of Ends (use sketch if necessary) \_\_\_\_\_

Moment \_\_\_\_\_ lb in (N mm)  $\pm$  \_\_\_\_\_ lb in (N mm) at \_\_\_\_\_ deg be-

tween ends

Moment \_\_\_\_\_ lb in (N mm)  $\pm$  \_\_\_\_\_ lb in (N mm) at \_\_\_\_\_ deg be-

tween ends

Rate \_\_\_\_\_ lb in /deg (N mm/deg) approx

Stress at \_\_\_\_\_ deg \_\_\_\_\_ psi (MPa)

Stress at \_\_\_\_\_ deg \_\_\_\_\_ psi (MPa)

Max Wound Position \_\_\_\_\_ deg

Stress at Max Wound Position \_\_\_\_\_ psi (MPa)

Material \_\_\_\_\_

Hardness or Tensile Strength \_\_\_\_\_

Surface Treatment/Finish \_\_\_\_\_

Identification \_\_\_\_\_

Remarks \_\_\_\_\_

