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IS : 7907 (Part III) - 1975
(Reaffirmed 1990)

पुनर्पट्ट 2015
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Indian Standard

"पुनर्पट्ट 2006"
"RE-AFFIRMED"

HELICAL EXTENSION SPRINGS

PART III DATA SHEET FOR SPECIFICATIONS FOR SPRINGS MADE FROM CIRCULAR SECTION WIRE AND BAR

1. Scope — Gives Data Sheet for processing of orders and queries for the specification for extension springs covered by IS : 7907 (Part II)-1976 ' Helical extension springs: Part II Specification for cold coiled springs made from circular section wire and bar '.

2. Designation — The standard Data Sheet (see P 2) for the extension springs shall be printed in A4 size [see IS : 696-1972 ' Code of practice for general engineering drawings (second revision) '] on transparent sheets and shall be designated as:

DATA SHEET IS : 7907 (Part III)

पुनर्पट्ट 2011
Reaffirmed 2011

3. Procedure for Use of Data Sheet

3.1 It may not always be necessary to give all the data provided in the Data Sheet. Initially only those parameters that are required for the use of spring may be given. The parameters that are not necessary for the working of spring can be bracketed. The bracketed parameters are not tolerated, for example, the spring rate S_s .

3.2 The Data Sheet can generally be used for all types of extension springs with bent eye or hook as shown in Fig. 1 to 9 of IS : 7907 (Part II)-1976. For springs without bent eye or hook as shown in Fig. 10 to 13 of IS : 7907 (Part II)-1976, or in the case of special form of extension springs, a separate drawing shall be attached to the Data Sheet. In that case this shall be mentioned in the item 12 of the Data Sheet. If different or additional dimensions are to be specified in special cases for bent eye or hook, this can be done in the diagram in the Data Sheet itself.

3.3 The data on material and permissible shear stress and on tolerances depend on type of production which is determined by the size of the spring.

3.4 Extension springs made of wires of diameter up to 17 mm are generally cold-formed and usually manufactured with initial tension. The amount of this initial tension depends on the quality of wire, the wire diameter d , the coil ratio w , and the method of manufacture, see IS : 7907 (Part II)-1976.

3.5 Extension springs made with rods of diameter more than 17 mm are generally hot-formed and they have no initial tension. Manufacturer should be consulted regarding the shape of the eye or the end piece for such springs.

3.6 To allow economical manufacture of springs, the maximum possible tolerance according to IS : 7907 (Part II)-1976 shall be specified for the coil diameters D_o , D_i or D_m , the unloaded length L_o and axial loads F_1 to F_m . The complimentary adjustments for manufacturing as described in 6 of IS : 7907 (Part II)-1976 shall be applicable.

Springs Sectional Committee, EDC 75; and Helical and Torsion Springs Subcommittee, EDC 75 : 1 [Ref : Doc : EDC 75 (2260)]

Adopted 30 December 1975

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Gr 2

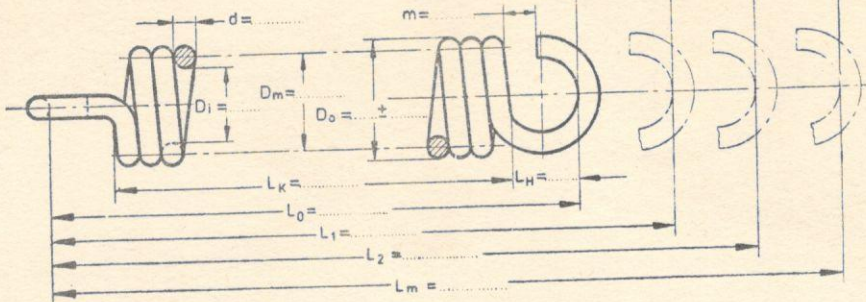
$$F_m = \pm \dots \dots \dots N, R = \dots \dots \dots N/mm^2$$

$$F_2 = \pm \dots \dots \dots N, R = \dots \dots \dots N/mm^2$$

$$F_1 = \pm \dots \dots \dots N, R = \dots \dots \dots N/mm^2$$

$$F_0 = \pm \dots \dots \dots N, R = \dots \dots \dots N/mm^2$$

(SPRING RATE $S_c = \dots \dots \dots N/mm$)



GIVE ONLY THOSE PARTICULARS WHICH ARE FUNCTIONALLY IMPORTANT AND CROSS THE APPROPRIATE CIRCLES. AVOID REDUNDANT DIMENSIONING. IN THE CASE OF SHEAR STRESS R ADD THE APPROPRIATE SUBSCRIPT s OR k AS PER IS:7907 (PART I). FOR REASONS OF ECONOMY THE TOLERANCES SHOULD BE MADE AS LARGE AS POSSIBLE

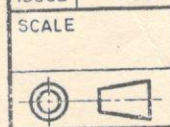
1	NUMBER OF WORKING COILS $l_f = \dots \dots \dots$						
2	RELATIVE ANGULAR POSITION OF HOOK OPENINGS HOOKS OR HOOK OPENINGS OFFSET FROM EACH OTHER BY (DEGREE) $\dots \dots \dots$ (IN THE MANNER OF A RIGHT-HAND THREAD)						
3	STROKE $h = \dots \dots \dots$ mm						
4	LOAD CYCLE FREQUENCY $n = \dots \dots \dots$ Hz						
5	MAXIMUM WORKING TEMPERATURE $\dots \dots \dots$ °C						
6	WIRE OR BAR SURFACE <table border="0"> <tr><td>DRAWN</td><td><input type="radio"/></td></tr> <tr><td>ROLLED</td><td><input type="radio"/></td></tr> <tr><td>SPRING SHOT-PEENED</td><td><input type="radio"/></td></tr> </table>	DRAWN	<input type="radio"/>	ROLLED	<input type="radio"/>	SPRING SHOT-PEENED	<input type="radio"/>
DRAWN	<input type="radio"/>						
ROLLED	<input type="radio"/>						
SPRING SHOT-PEENED	<input type="radio"/>						
7	SURFACE PROTECTION						
8	MATERIAL $\dots \dots \dots$ ACCORDING TO IS: $\dots \dots \dots$ PERMISSIBLE SHEAR STRESS $R_{sp} \dots \dots \dots$ N/mm ²						
ANY OTHER SPECIAL DETAILS:							

9	TOLERANCES ACCORDING TO IS:7907 (PART II)	
	$D_o, D_i, (D_m)$	<input type="checkbox"/>
	L_0	<input type="checkbox"/>
	F_1 TO F_m $\frac{F_1}{F_2}$	<input type="checkbox"/>
	HOOK POSITION	<input type="checkbox"/>
	WIRE OR BAR DIAMETER d	<input type="checkbox"/>
10	COMPLIMENTARY ADJUSTMENT FOR MANUFACTURING	MANUFACTURER'S DISCRETION FOR
	(A) IF ONE AXIAL LOAD F_0 AND THE CORRESPONDING LOADED LENGTH L_0 ARE SPECIFIED	F_0, D_o AND $D_i (D_m)$ <input type="checkbox"/>
	(B) IF TWO AXIAL LOADS AND THE CORRESPONDING LOADED LENGTHS ARE SPECIFIED	L_0, l_f AND d <input type="checkbox"/> F_0, D_o AND $D_i (D_m)$ <input type="checkbox"/>

				NAME OF FIRM	
ISSUE	MODIFICATIONS	DATE	NAME		

	NAME	DATE
DESIGNED		
DRAWN		
CHECKED		
STANDARD		
APPROVED		
DRAWING NUMBER		
SHEET		

DATA SHEET FOR HELICAL EXTENSION SPRINGS
IS:7907 (PART III)



EXPLANATORY NOTE

This standard is one of the series of standards on design, calculation and specifications of helical coiled springs. Other standards in this series are:

IS : 7906 (Part I)-1976 Helical compression springs: Part I Design and calculation for springs made from circular section wire and bar

IS : 7906 (Part II)-1975 Helical compression springs: Part II Specification for cold coiled springs made from circular section wire and bar

IS : 7906 (Part III)-1975 Helical compression springs: Part III Data sheet for specifications for springs made from circular section wire and bar

IS : 7906 (Part IV) Helical compression springs: Part IV Guide for selection of standard cold coiled springs made from circular section wire and bar (*under preparation*)

IS : 7906 (Part V) Helical compression springs: Part V Specification for hot coiled springs made from circular section bar (*under preparation*)

IS : 7907 (Part I)-1975 Helical extension springs: Part I Design and calculation for springs made from circular section wire and bar

IS : 7907 (Part II)-1976 Helical extension springs: Part II Specification for cold coiled springs made from circular section wire and bar

IS : 7907 (Part IV) Helical extension springs: Part IV Guide for selection of standard cold coiled springs made from circular section wire and bar (*under preparation*)

In the preparation of this standard considerable assistance has been derived from DIN 2099 Sheet 2 Helical spring made from round wire and rod, Specifications for tension springs, issued by Deutschen Institut fur Normung (DIN).