Irish Standard
I.S. EN 16983:2016

Disc springs - Quality specifications - Dimensions

I.S. EN 16983:2016

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 16983:2016 is the adopted Irish version of the European Document EN 16983:2016, Disc springs - Quality specifications - Dimensions

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16983

November 2016

ICS 21.160

English Version

Disc springs - Quality specifications - Dimensions

Rondelles ressorts - Spécification de qualité - Dimensions

Tellerfedern - Qualitätsanforderungen - Maße

This European Standard was approved by CEN on 15 August 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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European foreword

This document (EN 16983:2016) has been prepared by Technical Committee CEN/TC 407 “Cylindrical helical springs made from round wire and bar - Calculation and design”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

This European Standard has been prepared by the initiative of the Association of the European Spring Federation ESF and is based on the German Standard DIN 2093 “Disc springs – Quality specifications – Dimensions”, which is known and used in many European countries.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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1 Scope

This standard specifies the set of requirements that ensure the correct functioning of disc spring. These include requirements relating to the materials and manufacturing process, tolerances on dimensions and spring forces, and also the permissible relaxation and fatigue life of such springs as a function of stress.

All requirements specified here are minimum requirements.

This standard covers three dimensional series of disc springs.

NOTE In this standard, disc springs are divided into three groups and three dimensional series. Classification into groups is based on the manufacturing process, which is a function of the material thickness. The assignment of disc springs to dimensional series is governed by the h_0 / t ratio.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1654, *Copper and copper alloys - Strip for springs and connectors*

EN 10083 (all parts), *Steels for quenching and tempering*

EN 10089, *Hot-rolled steels for quenched and tempered springs - Technical delivery conditions*

EN 10132-4, *Cold rolled narrow steel strip for heat treatment - Technical delivery conditions - Part 4: Spring steels and other applications*

EN 10151, *Stainless steel strip for springs - Technical delivery conditions*

EN ISO 3269, *Fasteners - Acceptance inspection (ISO 3269)*

EN ISO 6507 (all parts), *Metallic materials - Vickers hardness test (ISO 6507)*

EN ISO 6508 (all parts), *Metallic materials - Rockwell hardness test (ISO 6508)*

3 Terms, definitions, symbols, units and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definition given in EN ISO 26909 apply.

NOTE Disc springs are annular coned elements that offer resistance to a compressive load applied axially. They may be designed as single disc springs or as disc springs stacked in parallel or in series, either singly or in multiples. They may be subjected to both static and fatigue loading, and may have flat bearings.