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DIN 5480-15

ICS 21.120.10

Supersedes
DIN 5480-15:1974-09

Involute splines based on reference diameters – Part 15: Inspection

Passverzahnungen mit Evolventenflanken und Bezugsdurchmesser – Teil 15: Qualitätsprüfung

Document comprises 38 pages

Translation by DIN-Sprachendienst.
In case of doubt, the German-language original should be consulted as the authoritative text.

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Validity

This standard is valid from 2006-03-01.

Foreword

This series of standards deals with involute splines and spline joints within a module range of 0,5 to 10, having a number of teeth ranging from 6 to 82 and with a pressure angle of 30°. The DIN 5480 series of standards is limited to splines with a pressure angle of 30°, since pressure angles of 37,5° and 45° are covered by ISO 4156.

Involute splines in accordance with ISO 4156 are based on module series. These are not interchangeable with involute splines conforming to the DIN 5480 series of standards.

The DIN 5480 series of standards is based on reference diameters that are independent of the module, allowing an optimal fit to standard ball and roller bearing diameters and reducing the number of different tools required for manufacturing. This series of standards has been revised by Technical Committee 2.1 *Passverzahnungen* ("Involute splines") of the *Normenauschuss Maschinenbau* (Mechanical Engineering Standards Committee). The revision was considered necessary since a review of the DIN 5480 series of standards in accordance with DIN 820-4 had shown that the series had structural and editorial weaknesses. The object of the revision was to combine the individual parts of this standard in a practical, sensible manner.

The entire series of standards now consists of only four parts instead of the previous sixteen.

DIN 5480 *Involute splines based on reference diameters* now comprises:

— *Part 1: General*

— *Part 2: Nominal and inspection dimensions*

— *Part 15: Inspection*

— *Part 16: Tools*

The new edition of DIN 5480-1 deals with fundamental principles, the same as its predecessor, but now also includes fit dimensions and tolerances, these being formerly contained in DIN 5480-14:1986-03. The calculation formulae, tolerances and deviations contained in Part 1 also apply to the other parts of this series of standards. DIN 5480-2 now contains the nominal dimensions and inspection dimensions for the range of items stated above, and incorporates the contents of the former editions of DIN 5480-2 to DIN 5480-13.

DIN 5480-15 covers quality inspections of spline joints.

DIN 5480-16 defines the design features of tools for manufacturing involute splines.

Amendments

This standard differs from DIN 5480-15:1974-09 as follows:

a) The title has been changed to "Involute splines based on reference diameters".

b) The standard has been editorially revised.

c) The gauge quality designations LQ3 and LQ4 have been deleted.

Previous editions

DIN 5480-15: 1974-09

1 Scope

This standard applies to involute splines and spline joints in accordance with DIN 5480-1 and DIN 5480-2. It defines the acceptance testing of such splines and describes the gauges to be used and their verification.

2 Normative references

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

DIN 3960, *Definitions, parameters and equations for involute cylindrical gears and gear pairs*

DIN 3961, *Tolerances for cylindrical gear teeth — Principles*

DIN 3967, *System of fits — Backlash, tooth thickness allowances, tooth thickness tolerances — Principles*

DIN 5480-1, *Involute splines based on reference diameters — Part 1: General*

DIN 5480-2, *Involute splines based on reference diameters — Part 2: Nominal and inspection dimensions*

DIN ISO 1101, *Geometrical Product Specifications (GPS) — Geometrical tolerancing — Tolerances of form, orientation, location and run-out*

ISO 4156 series, *Straight cylindrical involute splines — Metric module, side fit*

ISO 5459:1981-11, *Technical drawings — Geometrical tolerancing — Datums and datum-systems for geometrical tolerances*

3 Definitions and symbols, designations and units

3.1 Definitions

For the purposes of this standard, the following terms and definitions apply.

3.1.1 space width/tooth thickness

3.1.1.1
***actual* space width/*actual* tooth thickness**
space width/tooth thickness measured on the pitch circle, excluding all individual deviations

3.1.1.2
***effective* space width/*effective* tooth thickness**
space width/tooth thickness as maximum material requirement, including all superimposed individual deviations

3.1.1.3
***actual* centre point**
centre of all tooth flanks, excluding all individual deviations