INTERNATIONAL STANDARD

ISO 10792-1

First edition
1995-07-15

Aerospace — Airframe spherical plain bearings in corrosion-resisting steel with self-lubricating liner —

Part 1:
Metric series

Aéronautique — Rotules en acier résistant à la corrosion, à garniture autolubrifiante, utilisées dans la structure des aéronefs

Partie 1: Séries métriques

Reference number
ISO 10792-1:1995(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10792-1 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 15, *Airframe bearings*.

ISO 10792 consists of the following parts, under the general title *Aerospace — Airframe spherical plain bearings in corrosion-resisting steel with self-lubricating liner*:

— *Part 1: Metric series*

— *Part 2: Inch series*

— *Part 3: Technical specification*

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Aerospace — Airframe spherical plain bearings in corrosion-resisting steel with self-lubricating liner —

Part 1:
Metric series

1 Scope

This part of ISO 10792 specifies the characteristics of spherical plain bearings in corrosion-resisting steel with self-lubricating liner, narrow and wide series, for elevated loads at ambient temperature, for use in fixed or moving parts of the aircraft structure and control mechanisms at temperatures of −55 °C to +163 °C.

It is applicable to self-lubricating spherical plain bearings (without rolling elements) consisting of an outer ring having a concave sphered sliding contact surface with self-lubricating liner and inner ring having a matched convex sphered sliding contact surface.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 10792. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 10792 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 683-16:1976, *Heat-treated steels, alloy steels and free-cutting steels — Part 16: Precipitation hardening stainless steels.*

ISO 683-17:1976, *Heat-treated steels, alloy steels and free-cutting steels — Part 17: Ball and roller bearing steels.*

ISO 1132:1980, *Rolling bearings — Tolerances — Definitions.*

ISO 6811:1983, *Spherical plain bearings — Vocabulary.*

ISO 8075:1985, *Aerospace — Surface treatment of hardenable stainless steel parts.*

ISO 10792-3:1995, *Aerospace — Airframe spherical plain bearings in corrosion-resisting steel with self-lubricating liner — Part 3: Technical specification*

3 Definitions

For the purposes of this part of ISO 10792, the definitions given in ISO 6811 and the following definitions apply. In addition, definitions of the concepts related to the tolerances specified in this part of ISO 10792 are given in ISO 1132.

3.1 surface liner: Material which is affixed to the outer ring intended to reduce the coefficient of friction.

3.2 permissible static radial load: Unidirectional static load which when applied radially can result in permanent bearing deformation but will not cause fracture or structural failure of the bearing components.

3.3 permissible static axial load: Unidirectional static load which when applied axially can result in permanent bearing deformation but will not cause fracture or structural failure of the bearing components.

3.4 permissible dynamic radial load: Unidirectional load which when applied radially while oscillating the bearing will result in a bearing life of 25 000 cycles as determined by bearing wear.