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Aerospace — Fluid systems — Vocabulary —

Part 3: General terms and definitions relating to temperature

Aéronautique et espace — Systèmes de fluides — Vocabulaire — Partie 3: Termes généraux et définitions relatifs aux températures

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 10, *Aerospace fluid systems and components*.

This second edition cancels and replaces the first edition (ISO 8625-3:1991), which has been technically revised.

The main changes compared to the previous edition are as follows:

— Clause 2 has been added, moving the “Terms and definitions” to Clause 3;

— Clause 3 has been technically revised and editorially reworked;

— the example for a definition at the beginning of Clause 3 has been deleted;

— the definitions in Clause 3 have been renumbered accordingly;

— the definitions of all terms have been revised, except for *fluid temperature*, and *pour point*; and

— the “Alphabetical Index” has been deleted.

A list of all parts in the ISO 8625 series can be found on the ISO website.

Aerospace — Fluid systems — Vocabulary —

Part 3: General terms and definitions relating to temperature

1 Scope

This document defines general terms relating to temperature in fluid systems used in aerospace construction.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
ambient temperature
temperature of the environment in which the hydraulic fluid, component or system is being operated

3.2
autoignition temperature
lowest temperature at defined atmospheric conditions at which the fluid flashes into flame without an external ignition source and continues burning

Note 1 to entry: The value can be determined by one of several existing test methods.

3.3
cold-start temperature
lowest temperature at which operation of the hydraulic system can be expected to be started

Note 1 to entry: Full performance does not necessarily have to be met.

3.4
equipment temperature
temperature of the unit at a specified position

3.5
extreme operating temperature
peak temperature during operation of a component or system which does not lead to a failure or permanent degradation of the system or component

Note 1 to entry: The time of duration is limited and extreme operating temperatures are outside of the normal operating conditions. Full performance does not necessarily have to be met.

3.6
fire point
lowest temperature at defined atmospheric conditions at which the vapour of a fluid will continue to burn after ignition by an external source

3.7
flash point
lowest temperature at defined atmospheric conditions at which the vapour of a fluid will continue to burn after ignition by an external source as long as this source is present

3.8
fluid temperature
temperature of the fluid measured at a specified point in the system

3.9
inlet temperature
fluid temperature at the plane of the inlet port of the hydraulic component

3.10
maximum fluid temperature
highest fluid temperature at which a hydraulic component and/or system operates continuously without degradation in performance and without damage

3.11
normal fluid operating temperature
stabilized fluid temperature normally reached during continuous operation

3.12
outlet temperature
fluid temperature at the plane of the outlet port of the hydraulic component

3.13
pour point
lowest temperature at which a fluid will flow under specified conditions

3.14
storage temperature
temperature range within which a fluid or hydraulic component is stored, without degradation of reliability, performance and life

3.15
survival temperature
extreme temperature outside of specified temperature range at which the fluid or hydraulic component or system has to endure without functioning but will subsequently function with no degradation in performance when the temperature returns to within normal operating temperature range

3.16
temperature range of equipment
temperature range within which the component can be expected to operate without degradation of reliability, performance, or life following stabilization after long duration exposure to fluid and ambient temperatures

Note 1 to entry: This is not a physical property of the unit but a result of the heat transfer characteristics of the system in which the unit is installed.

3.17
temperature range of fluid
specified range of fluid temperature for satisfactory operation of a system or any degradation of fluid chemical properties

3.18
type of hydraulic system
classification standard for a hydraulic system in military aircraft based on maximum allowable fluid temperature

Note 1 to entry: These are Type I, Type II and Type III (e.g. according to AS5440):

— Type I: −54 °C to +71 °C

— Type II: −54 °C to +135 °C

— Type III: −54 °C to +232 °C

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