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Space Engineering - Thermal design handbook - Part 13: Fluid Loops

Táto technická normalizačná informácia obsahuje anglickú verziu CEN/CLC/TR 17603-31-13:2021.
This Technical standard information includes the English version of CEN/CLC/TR 17603-31-13:2021.

Táto technická normalizačná informácia bola oznámená vo Vestníku ÚNMS SR č. 12/21

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TECHNICAL REPORT

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English version

Space Engineering - Thermal design handbook - Part 13: Fluid Loops

Ingénierie spatiale - Manuel de conception thermique - Partie 13 : Boucles fluides

Raumfahrttechnik - Handbuch für thermisches Design - Teil 13: Flüssigkeitskreisläufe

This Technical Report was approved by CEN on 28 June 2021. It has been drawn up by the Technical Committee CEN/CLC/JTC 5.

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European Foreword

This document (CEN/CLC/TR 17603-31-13:2021) has been prepared by Technical Committee CEN/CLC/JTC 5 “Space”, the secretariat of which is held by DIN.

It is highlighted that this technical report does not contain any requirement but only collection of data or descriptions and guidelines about how to organize and perform the work in support of EN 16603-31.

This Technical report (TR 17603-31-13:2021) originates from ECSS-E-HB-31-01 Part 13A .

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This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This document has been developed to cover specifically space systems and has therefore precedence over any TR covering the same scope but with a wider domain of applicability (e.g.: aerospace).

1 Scope

Fluid loops are used to control the temperature of sensitive components in spacecraft systems in order to ensure that they can function correctly.

While there are several methods for thermal control (such as passive thermal insulations, thermoelectric devices, phase change materials, heat pipes and short-term discharge systems), fluid loops have a specific application area.

This Part 13 provides a detailed description of fluid loop systems for use in spacecraft.

The Thermal design handbook is published in 16 Parts

TR 17603-31-01	Thermal design handbook – Part 1: View factors
TR 17603-31-02	Thermal design handbook – Part 2: Holes, Grooves and Cavities
TR 17603-31-03	Thermal design handbook – Part 3: Spacecraft Surface Temperature
TR 17603-31-04	Thermal design handbook – Part 4: Conductive Heat Transfer
TR 17603-31-05	Thermal design handbook – Part 5: Structural Materials: Metallic and Composite
TR 17603-31-06	Thermal design handbook – Part 6: Thermal Control Surfaces
TR 17603-31-07	Thermal design handbook – Part 7: Insulations
TR 17603-31-08	Thermal design handbook – Part 8: Heat Pipes
TR 17603-31-09	Thermal design handbook – Part 9: Radiators
TR 17603-31-10	Thermal design handbook – Part 10: Phase – Change Capacitors
TR 17603-31-11	Thermal design handbook – Part 11: Electrical Heating
TR 17603-31-12	Thermal design handbook – Part 12: Louvers
TR 17603-31-13	Thermal design handbook – Part 13: Fluid Loops
TR 17603-31-14	Thermal design handbook – Part 14: Cryogenic Cooling
TR 17603-31-15	Thermal design handbook – Part 15: Existing Satellites
TR 17603-31-16	Thermal design handbook – Part 16: Thermal Protection System

2 References

EN reference	Reference in text	Title
EN 16601-00-01	ECSS-S-ST-00-01	ECSS System - Glossary of terms
TR 17603-31-08	ECSS-E-HB-31-01 Part 8	Thermal design handbook – Part 8: Heat Pipes
TR 17603-31-09	ECSS-E-HB-31-01 Part 9	Thermal design handbook – Part 9: Radiators
TR 17603-31-10	ECSS-E-HB-31-01 Part 10	Thermal design handbook – Part 10: Phase-Change Capacitors
TR 17603-31-14	ECSS-E-HB-31-01 Part 14	Thermal design handbook – Part 14: Cryogenic Cooling
TR 17603-31-15	ECSS-E-HB-31-01 Part 15	Thermal design handbook – Part 15: Existing Satellites

All other references made to publications in this Part are listed, alphabetically, in the **Bibliography**.