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TNI	Kozmická technika Príručka pre tepelnotechnický návrh Časť 7: Izolácie	TNI CEN/CLC/TR 17603-31-07 31 0540

Space Engineering - Thermal design handbook - Part 7: Insulations

Táto technická normalizačná informácia obsahuje anglickú verziu CEN/CLC/TR 17603-31-07:2021.
This Technical standard information includes the English version of CEN/CLC/TR 17603-31-07:2021.

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 7: Insulations

Ingénierie spatiale - Manuel de conception thermique - Partie 7 : Isolations

Raumfahrttechnik - Handbuch für thermisches Design - Teil 7: Isolationen

This Technical Report was approved by CEN on 21 June 2021. It has been drawn up by the Technical Committee CEN/CLC/JTC 5.

CEN-CENELEC Management Centre:
Rue de la Science 23, B-1040 Brussels

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European Foreword

This document (CEN/CLC/TR 17603-31-07:2021) 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 17603-31-07:2021) originates from ECSS-E-HB-31-01 Part 7A.

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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

There are 3 main categories of insulators used in spacecrafts:

1. foams: organic and inorganic;
2. fibrous insulations: for internal and external insulation and for high temperature environments
3. multilayer insulations (MLI): layers of radiation reflecting shields.

Properties, thermal behaviour and application areas of the insulation materials used in spacecrafts are detailed in this Part 7.

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

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