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BSI Standards Publication

Space Engineering — Thermal design handbook

Part 4: Conductive Heat Transfer

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National foreword

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A list of organizations represented on this committee can be obtained on request to its committee manager.

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Space Engineering - Thermal design handbook - Part 4. Conductive Heat Transfer

Ingénierie spatiale - Manuel de conception thermique - Partie 4 : Transfert de chaleur par conduction

Raumfahrttechnik - Handbuch für thermisches Design - Teil 4: Leitende Wärmeübertragung

This Technical Report was approved by CEN on 14 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 17603-31-04:2021) 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 17603-31-04:2021) originates from ECSS-E-HB-31-01 Part 4A.

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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

This Part 4 of the spacecraft thermal control and design data handbooks, provides information on calculating the conductive heat transfer rate for a variety of two and three-dimensional configurations.

Calculations for the conductance of the interface between two surfaces (joints) require special consideration and are included as a separate clause.

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
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