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Space Engineering - Thermal design handbook - Part 15: Existing Satellites

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**Space Engineering - Thermal design handbook - Part 15:  
Existing Satellites**

Ingénierie spatiale - Manuel de conception thermique -  
Partie 15 : Véhicules spatiaux existants

Raumfahrttechnik - Handbuch für thermisches Design -  
Teil 15: Existierende Satelliten

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

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## European Foreword

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This document (CEN/CLC/TR 17603-31-15:2021) 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 17603-31-15:2021) originates from ECSS-E-HB-31-01 Part 15A.

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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

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In this Part 15, existing satellites are described and examined from a thermal control and design view. The thermal control requirements are given and an assessment is made of the thermal control systems used against performance for each satellite.

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 17603-31-03	ECSS-E-HB-31-01 Part 3	Thermal design handbook – Part 3: Spacecraft Surface Temperature
TR 17603-31-05	ECSS-E-HB-31-01 Part 5	Thermal design handbook – Part 5: Structural Materials: Metallic and Composite
TR 17603-31-06	ECSS-E-HB-31-01 Part 6	Thermal design handbook – Part 6: Thermal Control Surfaces
TR 17603-31-07	ECSS-E-HB-31-01 Part 7	Thermal design handbook – Part 7: Insulations
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 17603-31-11	ECSS-E-HB-31-01 Part 11	Thermal design handbook – Part 11: Electrical Heating
TR 17603-31-12	ECSS-E-HB-31-01 Part 12	Thermal design handbook – Part 12: Louvers
TR 17603-31-13	ECSS-E-HB-31-01 Part 13	Thermal design handbook – Part 13: Fluid Loops
TR 17603-31-14	ECSS-E-HB-31-01 Part 14	Thermal design handbook – Part 14: Cryogenic Cooling

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

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