ASTM INTERNATIONAL
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ASTM International Technical Committee E21 on Space Simulation and Applications of Space Technology

Scope

The scope of the Committee shall be to promote knowledge, to stimulate research and to develop

environment simulation standards concerned with space technology, space systems, contamination

control and to apply such technologies for the public benefit. The areas of interest include standards for the following:

a. Simulation of the environment of planetary entry and space.
b. Determination of the effects of the space environment on materials.
c. Evaluation of contamination sources, measurements, effects, and control.
d. Areas of special interest necessary for the accomplishment of these objectives and for the application of space program technology.

ASTM committees such as:
a. E12 on Appearance of Materials
b. F01 on Electronics
c. F07 on Aerospace Industry Method National
d. F47 on Commercial Spaceflight

Organizations such as:
a. Institute of Environmental Sciences and Technology (IEST)
b. SAMPE (Society for the Advancement of Materials & Process Engineering)
c. SPIE (The International Society for Optical Engineering)

Governmental Organizations such as:
a. DOD (Department of Defense)
b. NASA (National Aeronautics and Space Administration)
c. ESA (European Space Agency)
d. Japan Aerospace Exploration Agency (JAXA)

International Standards Committees such as:
a. ISO/ TC 209 on Cleanrooms and Associated Controlled Environments
b. ISO/ TC 20 on Aircraft and Spacecraft

Quick Facts

Established 1963
Number of Members 50+
Number of Standards 60
The standards are available in Volume 15.03 in the *Annual Book of ASTM Standards*
Meetings E21 meets independently, twice each year

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Learn more about Committee E21
https://www.astm.org/committee-e21

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Technical Subcommittees

- E21.04 Space Simulation Test Methods
- E21.05 Contamination
- E21.08 Thermal Protection
- E21.90 Executive

Key Documents

- E408 Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques
- E422 Standard Test Method for Measuring Net Heat Flux Using a Water-Cooled Calorimeter
- E471 Standard Test Method for Obtaining Char Density Profile of Ablative Materials by Machining and Weighing
- E490 Standard Solar Constant and Zero Air Mass Solar Spectral Irradiance Tables
- E595 Standard Test Method for Measuring Heat Transfer Rate Using a Thin-Skin Calorimeter
- E637 Standard Test Method for Calculation of Stagnation Enthalpy from Heat Transfer Theory and Experimental Measurements of Stagnation-Point Heat Transfer and Pressure
- E1216 Standard Practice for Sampling for Particulate Contamination by Tape Lift
- E2352 Standard Practice for Aerospace Cleanrooms and Associated Controlled Environments—Cleanroom Operations
- F21 Standard Test Method for Hydrophobic Surface Films by the Atomizer Test F22 Standard Test Method for Hydrophobic Surface Films by the Water-Break Test
- F22 Standard Test Method for Hydrophobic Surface Films by the Water-Break Test
- F50 Standard Practice for Continuous Sizing and Counting of Airborne Particles in Dust-Controlled Areas and Clean Rooms Using Instruments Capable of Detecting Single Sub-Micrometre and Larger Particles