

Use of ASTM Standards in Regulated Irradiation Processes



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Government Recognized Standards

ASTM and ISO/ASTM standards related to radiation dosimetry are recognized by many regulatory agencies and are therefore an important element in any regulated irradiation process world wide.

Standards keep Processes under Control

The standards help equipment providers and irradiation centers to agree on acceptance procedures and criteria; they help irradiation facilities to define and control their processes; and they provide guidelines for selection, calibration and use of dosimetry systems.

Networking with our members

- Users of standards
- experts (industrial, national lab, universities)
- government (FDA, USDA)
- suppliers & consultants

E10.01 assets

- ISO/ASTM and ASTM standards
- Semiannual networking meetings
- Advance information on standards
- Dosimetry workshops

Benefits for Members of ASTM E10.01

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Examples

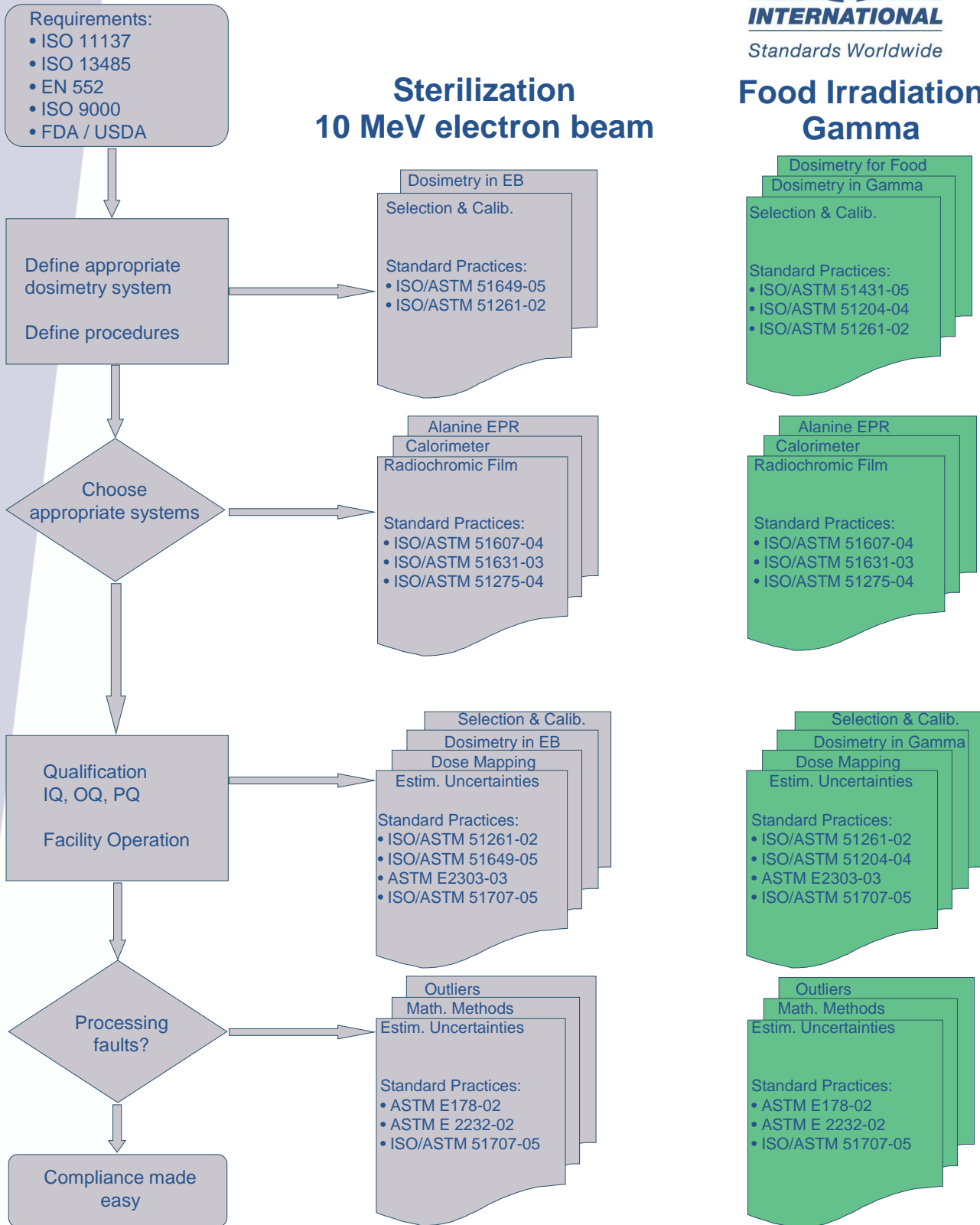


INTERNATIONAL

Standards Worldwide

Sterilization 10 MeV electron beam

Food Irradiation Gamma



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Standards on Dosimetry for Radiation Processing



Standard Practices for Use of Dosimetry Systems

- Fricke Reference-Standard Dosimetry System (E1026-04e1)
- LiF Photo-Fluorescent Film Dosimetry System (E2304-03)
- Use of a Ceric-Cerous Sulfate Dosimetry System (ISO/ASTM51205-02)
- Radiochromic Film Dosimetry System (ISO/ASTM51275-04)
- Polymethylmethacrylate Dosimetry System (ISO/ASTM51276-02)
- Radiochromic Optical Waveguide Dosimetry System (ISO/ASTM51310-04)
- Dichromate Dosimetry System (ISO/ASTM51401-03)
- Ethanol-Chlorobenzene Dosimetry System (ISO/ASTM51538-02)
- Radiochromic Liquid Dosimetry System (ISO/ASTM51540-04)
- Alanine-EPR Dosimetry System (ISO/ASTM51607-04)
- Calorimetric Dosimetry Systems for Electron Beam Dose Measurements and Routine Dosimeter Calibration (ISO/ASTM51631-03)
- Cellulose Acetate Dosimetry Systems (ISO/ASTM51650-05)
- Thermoluminescence-Dosimetry (TLD) Systems (ISO/ASTM51956-05)

Standards on Calibration

- Selection and Calibration of Dosimetry Systems for Radiation Processing (Guide ISO/ASTM51261-02)
- Standard Practice for Characterization and Performance of a High-Dose Radiation Dosimetry Calibration Laboratory (ISO/ASTM51400-03)

Standards on Dosimetry in Facilities

- Absorbed-Dose Mapping in Radiation Processing Facilities (E2303-03)
- Dosimetry In Radiation Processing of Fluidized Beds and Fluid Streams (E2381-04)
- Dosimetry in Gamma Irradiation Facilities for Food Processing (ISO/ASTM51204-04)
- Dosimetry in Electron Beam and X-Ray (Bremsstrahlung) Irradiation Facilities for Food Processing (ISO/ASTM51431-05)
- Dosimetry in an X-Ray (Bremsstrahlung) Facility for Radiation Processing (ISO/ASTM51608-05)
- Dosimetry in an Electron Beam Facility for Radiation Processing at Energies Between 300 keV and 25 MeV (ISO/ASTM51649-05)
- Dosimetry in a Gamma Irradiation Facility for Radiation Processing (ISO/ASTM51702-04)
- Dosimetry in an Electron Beam Facility for Radiation Processing at Energies Between 80 and 300 keV (ISO/ASTM51818-02)
- Dosimetry for a Self-Contained Dry-Storage Gamma-Ray Irradiator (ISO/ASTM52116-02)

Standards on Applications and related Issues

- Standard Guide for Selection and Use of Mathematical Methods for Calculating Absorbed Dose in Radiation Processing Applications (E2232-02)
- Radiation-Sensitive Indicators (ISO/ASTM51539-05)
- Estimating Uncertainties in Dosimetry for Radiation Processing (ISO/ASTM51707-05)
- Dosimetry in Radiation Research on Food and Agricultural Products (ISO/ASTM51900-02)
- Blood Irradiation Dosimetry (ISO/ASTM51939-05)
- Irradiation of Insects for Sterile Release Programs (ISO/ASTM51940-04)

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