

Regulatory Guide Periodic Review

Regulatory Guide Number: 1.36, Revision 1

Title: Nonmetallic Thermal Insulation for Austenitic Stainless Steel

Office/Division/Branch: NRR/DNRL/NPHP
Technical Lead: Varoujan Kalikian

Staff Action Decided: Reviewed with issues identified for future consideration

1. What are the known technical or regulatory issues with the current version of the RG?

The U.S. Nuclear Regulatory Commission (NRC) published the initial version of Regulatory Guide (RG) 1.36 in February 1973. Revision 1 of RG 1.36 was published in May of 2015, and provided revised and updated consensus standards for testing of nonmetallic thermal insulation to assure that the insulation would not contribute to stress corrosion cracking of austenitic stainless steel components. Since the issuance of RG 1.36 in 2015, one of the consensus standards (ASTM¹ C871-11) referenced in RG 1.36 was revised in 2018 (ASTM C871-18). The revision was administrative in nature and did not change anything of technical nature, however ASTM superseded and replaced the 2011 edition. Since the revision is administrative in nature, staff is considering not making a revision at this time to reflect ASTM's revision of C871. Staff also noted some additional administrative changes that may be made in the future, when the RG is needed to be revised for technical reasons. The changes are listed below and correspond to the reference numbers used in the reference section of RG 1.36.

(4) ASTM C795-08 (Reapproved 2023), "Standard Specification for Thermal Insulation for use in Contact with Austenitic Stainless Steel," West Conshohocken, PA.

(5) ASTM C692-13 (Reapproved 2023), "Standard Test Method for Evaluating the Influence of Thermal Insulation on External Stress Corrosion Cracking Tendency of Austenitic Stainless Steel," West Conshohocken, PA.

(6) ASTM C871-18, (Reapproved 2023), "Standard Test Methods for Chemical Analysis of Thermal Insulation Materials for Leachable Chloride, Fluoride, Silicate, and Sodium Ions," West Conshohocken, PA.

(8) ASTM C390-08, (Reapproved 2024), "Standard Practice for Sampling and Acceptance of Thermal Insulation Lots," West Conshohocken, PA.

(10) NRC, "Management of Backfitting, Forward Fitting, Issue Finality, and Information Requests," Management Directive 8.4, Washington, DC.

Additionally, staff noted that since the issuance of RG.1.36 in 2015, NRC has changed the "Implementation," boilerplate language for RGs. Should it be decided that a revision

¹ ASTM is the acronym for the American Society for Testing and Materials

is needed, the “Implementation” section of the RG should be revised with the latest boilerplate language.

2. **What is the impact on internal and external stakeholders of not updating the RG for the known issues, in terms of anticipated numbers of licensing and inspection activities?**

The impact on internal or external stakeholders resulting from not revising the RG would be minimal. RG can still be used because the staff did not identify any technical difference between ASTM C871-11 and ASTM C871-18.

3. **What is an estimate of the level of effort needed to address identified issues in terms of full-time equivalent (FTE) and contract dollars?**

0.1 FTE for the administrative revision

4. **Based on the answers to the questions above, what is the recommended staff action for this guide (Reviewed with no issues identified, reviewed with issues identified for future consideration, Revise, or Withdraw)?**

Reviewed with issues identified for future consideration.

5. **If a RG should be revised, provide a conceptual plan and timeframe to accomplish this.**

The staff will delay the revision until a more substantial update is required.

NOTE: This review was conducted in May of 2025 and reflects the staff’s plans as of that date. These plans are tentative and subject to change.