



Designation: C929 – 14

# Standard Practice for Handling, Transporting, Shipping, Storage, Receiving, and Application of Thermal Insulation Materials For Use in Contact with Austenitic Stainless Steel<sup>1</sup>

This standard is issued under the fixed designation C929; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This practice is intended to provide guidance and direction in the handling, transporting, shipping, storage, receiving, and application of thermal insulating materials to be used as a surface treatment or as part of the thermal insulation system in contact with austenitic stainless steel.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

## 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

[C168 Terminology Relating to Thermal Insulation](#)

[C195 Specification for Mineral Fiber Thermal Insulating Cement](#)

[C449 Specification for Mineral Fiber Hydraulic-Setting Thermal Insulating and Finishing Cement](#)

[C692 Test Method for Evaluating the Influence of Thermal Insulations on External Stress Corrosion Cracking Tendency of Austenitic Stainless Steel](#)

[C795 Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel](#)

[C871 Test Methods for Chemical Analysis of Thermal Insulation Materials for Leachable Chloride, Fluoride, Silicate, and Sodium Ions](#)

## 3. Terminology

3.1 *Definitions*—Terminology [C168](#) shall apply to this practice.

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee [C16](#) on Thermal Insulation and is the direct responsibility of Subcommittee [C16.20](#) on Homogeneous Inorganic Thermal Insulations.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

## 3.2 Definitions of Terms Specific to This Standard:

3.2.1 *corrosive ions*—chloride ion, fluoride ion, and other varieties of acids and ionic chemical contaminants.

3.2.2 *shipment*—that material being received from the same source of manufacture on the same day or each carload, whichever is smaller.

3.2.3 *water damage*—damage caused by water seeping into cartons of insulation or soaking into the insulation that is left exposed to the weather, both of which increase the possibilities of absorption of contaminants.

3.2.4 *weathertight*—protected from rain and wind. A dry, sheltered condition wherein reasonable precautions are taken to prevent indiscriminate water from coming in contact with the insulation.

## 4. Significance and Use

4.1 Insulations that are used as a part of the thermal insulation system in contact with austenitic stainless steels have the potential to become contaminated with water soluble corrosive ions which, in turn, if permitted to reach the stainless steel surface, are possible to contribute to external stress corrosion cracking (ESCC). Therefore, it is important to reduce the exposure of such insulating materials to water-soluble corrosive ion compounds at all stages of manufacture, handling, shipping, storage, and application. During manufacture, precautions shall be taken to minimize water soluble corrosive ion content, both in the material and as surface contamination. Once the manufacture is complete, care must be exercised during handling, transporting, shipping, storage, receiving, and application to avoid contamination with corrosive ions that can be transported by water through the insulation materials onto the stainless steel surface. This practice presents criteria which, if followed, will minimize the risks of ESCC associated with the application of insulation materials. It must be emphasized, however, that because of the many variable factors present, complete freedom from ESCC can not be assured under all circumstances, even when following the guidance of this practice.