



Designation: D 4619 – 96

Standard Practice for Inspection of Linings in Operating Flue Gas Desulfurization Systems¹

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1. Scope

1.1 This practice describes procedures for conducting inspections of the conditions of various linings in operating Flue Gas Desulfurization (FGD) system components.

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.* For specific hazard statements, see Section 7.

2. Significance and Use

2.1 Periodic inspections are essential to evaluate lining performance, to detect existing damage potential problems, and to plan scheduled maintenance. The frequency of these inspections may diminish or increase with time depending upon lining performance.

3. Recordkeeping

3.1 Lining condition will depend on the operating conditions experienced by the lining systems. Records of these conditions that are maintained by the owner/operator should be evaluated for potential effects upon the linings. These may include:

- 3.1.1 Dates of lining installation and initial operation,
- 3.1.2 Solution/gas temperatures in lined components,
- 3.1.3 Solution/gas chemistry (pH, composition),
- 3.1.4 Start up/shut down dates,
- 3.1.5 Gas velocities and particulate loading, and
- 3.1.6 Ambient conditions.

3.2 Any known change in the process criteria or modifications of the physical design shall be identified and dated.

3.3 All past history pertaining to the lining systems should be available during the inspection process. They may include:

3.3.1 Copies of existing lining specifications and installation procedures.

3.3.2 Quality control documents of the existing lining installation.

3.3.3 Copies of previous inspection reports.

3.3.4 Documentation pertaining to any maintenance of existing lining systems.

4. Inspection Team

4.1 The owner/operator should select a team of experienced personnel to conduct the inspection. Personnel representing the following may be included:

- 4.1.1 Owner's representative,
- 4.1.2 Lining manufacturer,
- 4.1.3 Lining applicator,
- 4.1.4 Equipment designer,
- 4.1.5 Architect engineer,
- 4.1.6 Third party inspectors, and
- 4.1.7 System designer.

5. Hazards

5.1 All safety requirements of OSHA and the owner/operator, must be met when performing all inspection operations. Residues, including acids, heavy metals, or other hazardous materials, may be present in deposits, on the lining surfaces, or in the atmosphere. Precautions shall be taken to protect personnel. Confined entry safety requirements shall be adhered to where applicable.

6. Pre-Inspection Procedure

6.1 Prior to conducting an inspection of the lining, the owner/operator shall ensure that the following services and equipment are provided.

6.1.1 *Safety*—The inspection team shall verify that the equipment being inspected has been made safe for entry. This shall include lockout procedures for related equipment such as, but not limited to, the boiler, dampers, valves, fans, and pumps.

6.1.2 *Lighting*—Sufficient lighting shall be provided to assure general lighting of the overall area plus localized high intensity lights for close visual observation or taking of photographs, or both. The lighting fixtures shall be equipped with a safety guard to minimize breakage and injury.

¹ This practice is under the jurisdiction of ASTM Committee D-33 on Protective Coating and Lining Work for Power Generation Facilities and is the direct responsibility of Subcommittee D33.09 on Protective Linings for FGD Systems.

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