



Standard Practice for Operating the Severe Wastewater Analysis Testing Apparatus¹

This standard is issued under the fixed designation G210; 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 (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice covers the basic apparatus, procedures, and conditions required to create and maintain the severe wastewater analysis testing apparatus used for testing a protective coating or lining.

1.2 This apparatus may simulate the pertinent attributes of a typical domestic severe wastewater headspace (sewer) environment. The testing chamber comprises two phases: (1) a liquid phase containing a prescribed acid and saline solution, and (2) a vapor phase consisting of air, humidity, and concentrated sewer gas (**Note 1**). The temperature of the test chamber is elevated to create accelerated conditions and reaction rates.

NOTE 1—For the purposes of this practice, sewer gas is composed of hydrogen sulfide, carbon dioxide, and methane gas.

1.3 **Caution**—This practice can be extremely hazardous. All necessary precautions need to be taken when working with sewer gas, sulfuric acid, and a glass tank. It is highly recommended that a professional testing laboratory experienced in testing with hydrogen sulfide, carbon dioxide, and methane gases perform this practice.

1.4 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.5 *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. Some specific hazards statements are given in Section 8 on Hazards.*

¹ This practice is under the jurisdiction of ASTM Committee G01 on Corrosion of Metals and is the direct responsibility of Subcommittee G01.05 on Laboratory Corrosion Tests.

Current edition approved Oct. 1, 2013. Published October 2013. DOI: 10.1520/G0210-13.

2. Referenced Documents

2.1 ASTM Standards:²

- A36 Specification for Carbon Structural Steel
- C307 Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacing
- C387 Specification for Packaged, Dry, Combined Materials for Mortar and Concrete
- C580 Test Method for Flexural Strength and Modulus of Elasticity of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes
- D610 Practice for Evaluating Degree of Rusting on Painted Steel Surfaces
- D638 Test Method for Tensile Properties of Plastics
- D660 Test Method for Evaluating Degree of Checking of Exterior Paints
- D661 Test Method for Evaluating Degree of Cracking of Exterior Paints
- D714 Test Method for Evaluating Degree of Blistering of Paints
- D790 Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
- D2370 Test Method for Tensile Properties of Organic Coatings
- D4541 Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
- D6677 Test Method for Evaluating Adhesion by Knife
- D7091 Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nonconductive Coatings Applied to Non-Ferrous Metals
- G193 Terminology and Acronyms Relating to Corrosion

² 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.