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Control of Corrosion under Thermal Insulation and Fireproofing Materials—A Systems Approach

ABSTRACT

Provides current technology and industry practices for mitigating corrosion under thermal insulation and fireproofing materials. Adopts a systems approach. Contains sections on corrosion mechanisms, mechanical design, protective coatings, insulation materials, and inspection and maintenance.

KEYWORDS

carbon steels, coatings, corrosion control, fireproofing materials, insulation, protective coatings, steels, thermal insulation, TG 325.

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Foreword

In NACE standards, the terms shall, must, should, and may are used in accordance with the definitions of these terms in the* NACE Publications Style Manual. *The terms shall and must are used to state a requirement, and are considered mandatory. The term should is used to state something good and is recommended, but is not considered mandatory. The term may is used to state something considered optional.

This NACE standard practice provides the current technology and industry practices for mitigating corrosion under thermal insulation and fireproofing materials, a problem termed corrosion under insulation (CUI) in this standard. Because this corrosion problem has many facets and impacts several technologies, a systems approach has been adopted. This standard is intended for use by corrosion-control personnel and others concerned with corrosion under insulation and/or fireproofing of equipment.

This standard is organized into sections by function. Each section was written by specialists in that subject. These specialists are industry representatives from firms producing, specifying, designing, and/or using thermal insulation and fireproofing products on refinery and petrochemical equipment.

This standard was originally prepared in 1998 by NACE Work Group T-5A-30a, "Corrosion Protection Under Insulation," with the assistance of Task Group (TG) T-6H-31, "Coatings for Carbon and Austenitic Stainless Steel Under Insulation," and ASTM[1] Committee C16.40.3, "Corrosion Under Insulation." Work Group T-5A-30a supported NACE TG T-5A-30, "Corrosion Under Thermal Insulation," a component of NACE Unit Committee T-5A, "Corrosion in Chemical Processes." The standard was reaffirmed in 2004 by Specific Technology Group (STG) 36, "Process Industry: Materials Performance in Chemicals." It was revised in 2012 by TG 325, "CUI: Revision of NACE Standard RP0198, The Control of Corrosion under Thermal Insulation and Fireproofing Materials—A Systems Approach," with the assistance of Technology Exchange Group (TEG) 255X, "Coatings, Thermal-Spray for Corrosion Protection." It was reaffirmed in 2016 and revised in 2017 by TG 325, "CUI: Revision of NACE SP0198 (formerly RP0198), "The Control of Corrosion under Thermal Insulation and Fireproofing Materials—A Systems Approach." TG 325 is administered by STG 36 and sponsored by STG 03, "Coatings and Linings, Protective—Immersion and Buried Service," and STG 04, "Coatings and Linings, Protective—Surface Preparation." This standard is issued by NACE International under the auspices of STG 36.

[1] ASTM International (ASTM), 100 Barr Harbor Dr., West Conshohocken, PA 19428-2959.

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Figures and Tables