Corrosion Under Insulation Exam

Exam Preparation Guide

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Introduction

The Corrosion Under Insulation exam is designed to assess whether a candidate has the requisite knowledge and skills to be certified as minimally qualified in Corrosion Under Insulation. The exam consists of 50 multiple-choice questions that are based on the entry-level Corrosion Under Insulation Body of Knowledge (BOK).

Test Name	AMPP Corrosion Under Insulation (CUI)
Test Code	NACE-CUI-001
Time	75 minutes
Number of Questions	50
Format	Remote Proctored Computer Based Testing (CBT)

Notes:

- A pass/fail grade is provided at the end of the exam.
- A calculator is provided in the exam.
- The course manual is **NOT** provided in the exam.

Target Audience

Candidates taking the Corrosion Under Insulation exam must have successfully completed the Corrosion Under Insulation course. Candidates should have entry-level ability to recognize corrosion under insulation, understand its devastating potential, and monitor and/or control corrosion, especially as it relates to his or her area of responsibility. This includes technicians, salespersons, inspectors, managers, engineers, and others.

Requirements

The Corrosion Under Insulation course is required.

Work Experience Requirements:
None
Course Requirements:
Successful completion of the following course: Corrosion Under Insulation
Exam Requirements:
*Corrosion Under Insulation (multiple choice, **closed-book)

Note: A pass/fail grade is provided at the end of the exam.
****Note: The course manual is NOT provided in the exam.***

Upon successful completion of requirements, the candidate will be awarded a Corrosion Under Insulation Certification.

Corrosion Foundations – Knowledge and Skill Areas Tested

NOTE: *At the end of the CBT exam, the candidate will receive a report of strengths and weaknesses that correspond to these domains.*

1. INTRODUCTION TO CORROSION UNDER INSULATION

1.1 Definition of corrosion
1.2 Range of insulation in industrial settings
1.3 Define the components of a CUI system
1.4 Understand the challenges CUI presents

2. THE CUI CYCLE

2.1 Explain the CUI cycle
2.2 Steps in the CUI cycle
2.3 Facilitators of CUI

3. THE METALLIC CORROSION MECHANISM

3.1 Formation of corrosion
3.2 Electrochemical cell and its components
3.3 Anodic site and the cathodic site

4. PROTECTIVE COATINGS

4.1 Protective Coatings and CUI
4.2 Considerations for Coating Selection
4.3 Coating Properties
4.4 Hot substrate application
4.5 Scenario-based coating selection

5. SPRAY-ON COATINGS

5.1 Define spray-on insulative coatings.
5.2 Compare standard insulation to spray-on insulative coatings
5.3 Properties, advantages, and considerations of spray-on insulative coatings

6. INSULATION

6.1 Insulation in an industrial setting
6.2 Factors for selecting insulation
6.3 Insulation and the corrosion mechanism
6.4 Types of insulation
6.5 Scenario-based decisions

7. JACKETING

7.1 Purpose and properties of distinct forms of jacketing
7.2 Types of jacketing
7.3 The role of Vapor barriers
7.4 Causes and consequences of jacketing failures

8. PASSIVE FIRE PROTECTION

8.1 Passive Fire Protection

8.2 Intumescent coatings, high density concrete coatings, and cementitious coatings

8.3 Formation of corrosion under fireproofing compared to CUI

8.4 Minimizing corrosion under fireproofing

9. SYSTEM DESIGN

9.1 Corrosion control through design

9.2 CUI Protective System components

9.3 Design flaws

9.4 Design mechanics in SP0198

9.5 Addressing adverse design feature

10. INSTALLATION PROCESS

10.1 Correct installation

10.2 Installation process

10.3 Mistakes in installation

10.4 New CUI system considerations

11. MITIGATION AND MAINTENANCE

11.1 Maintenance inspection

11.2 Risk-based inspection (RBI) in CUI

11.3 RBI steps

11.4 Design flaws

11.5 Addressing adverse design features

12. INSPECTION TECHNOLOGY

12.1 Non-destructive inspection methods

12.2 Scenario-based inspection decisions

13. SAFETY

13.1 Hazards

13.2 Installing, maintaining, and inspecting considerations

13.3 Scenario-based application

14. FUTURE DIRECTIONS

14.1 Emerging technology

14.2 Advancements in coatings, jacketing, insulation, and inspection tools

Types of Questions

Description of Questions

This closed-book exam consists of multiple-choice questions where some questions may have multiple answers that require more than one answer choice. The questions are based on the knowledge and skills required in the corrosion industry.

Sample Questions

The sample questions are included to illustrate the formats and types of questions that will be on the exam. Your performance on the sample questions should not be viewed as a predictor of your performance on the actual test.

1. What factors need to be considered when planning to manage or prevent CUI? **Select THREE**.

   A. Adverse design features
   B. External water sources
   C. System component selection
   D. Inspection dates and times

2. In which context is insulation most likely to be applied?

   A. Storage tank operating at 24°C (75°F)
   B. Refinery
   C. Steam pipe
   D. Chemical plant

Answer Key

1. **A, B, C**

2. **A**

Preparation

Training

AMPP Corrosion Under Insulation (CUI) Course

Recommended Study Material

Books

Corrosion Under Insulation (CUI) Course —Course Manual and Materials

Computer-Based Test Tutorial

Please visit the **Online Exam Proctoring** section of the AMPP website. You will have the opportunity to practice answering a variety of questions to help you get familiar the CBT exam format.

You will also receive this tutorial link when you register for the exam: **AMPP Examity Tutorial Video**