



NACE Protective Coating Specialist (PCS)
Written Exam
NACE-PCS

Exam Preparation Guide
July 2019

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Introduction

The Protective Coating Specialist exam is designed to assess whether a candidate has the requisite knowledge, skills and abilities (KSAs) that a minimally qualified Protective Coating Specialist must possess. The 85 questions are based on the KSAs a Protective Coating Specialist needs to be successful in the job. A candidate should have advanced ability in the theory and practice of corrosion prevention and control in the protective coatings field.

| | |
|---------------------|--|
| Test Name | NACE-Certified Protective Coating Specialist |
| Test Code | NACE-PCS-001 |
| Time | 180 Minutes* |
| Number of Questions | 85 |
| Format | Computer Based Testing (CBT) |
| Passing Score | Pass or Fail |

**NOTE: Includes 4 minutes for the non-disclosure agreement and 6 minutes for the system tutorial.*

Target Audience

A Protective Coating Specialist is responsible for planning, engineering, and supervising personnel in industrial coatings and linings. This certification is geared toward persons who have a high level of working knowledge creating paint maintenance programs, conducting site surveys and compliance audits. The Protective Coating Specialist will review bidders' lists, evaluate coating related bid documents, recommend coating systems, conduct failure analysis of coating systems, and understanding appropriate safety, environment and health issues.

Requirements

Requirements for Certified Protective Coating Specialist

Requirements:

Option 1:

- 12 years' work experience in protective coatings

Option 2:

- 8 years' work experience in protective coatings
- One of the following:
 - Bachelor's Degree in Physical Sciences or Engineering
 - Protective Coating Technician Certification
 - CIP Peer Certification
 - Frosio Coating Inspector Level III
 - SSPC Protective Coating Specialist

| Course Requirements |
|--|
| None |
| Core Exam Requirements |
| Exam - Protective Coating Specialist Written Exam |
| Application Requirements |
| Approved Protective Coating Specialist Application |

Renewal requirements: Recertification application* required every 3 years
**Approval required*

Exam Blue Print

NOTE: At the end of the CBT exam the candidate should log on to their NACE profile to view a bar chart of strengths and weaknesses that correspond to these Domains.

| | |
|---|----------------|
| <p>Domain 1- Management</p> <ul style="list-style-type: none"> • Abrasives • Coating management surveys • Coating selection • Coatings in conjunction with cathodic protection • Equipment • Local and international standards • Project planning and estimating • Role and responsibility of protective coating specialist • Service environments • Specification and specification review • Surface preparation selection | 24-28 % |
| <p>Domain 2- Application Execution</p> <ul style="list-style-type: none"> • Acceptability for coating application • Application equipment • Application of standards (proper use/execution) • Inspection and use of related equipment • Non mechanical cleaning standards and methods • Surface preparation | 21-25 % |

| | |
|--|-----------------------|
| <p>Domain 3- Coatings Technology</p> <ul style="list-style-type: none"> • Abrasives • Advanced coating and cathodic protection • Coating fundamentals • Coating of concrete • Coating surveys • Coatings by industry (pipeline, oil and gas, offshore, marine) • Coatings selection • Coatings terminology • Estimating • Failure analysis • Failure modes identification • Inspection • Laboratory testing • Metallic coatings • Special coatings • Special linings • Standards review • Surface preparation | <p>48-52 %</p> |
|--|-----------------------|

Types of Questions

Description of Questions

This is a closed book exam. The questions consist of matching items and multiple-choice questions where some questions may have more than one answer. Items with more than one correct answer contain the phrase ***“SELECT ALL THAT APPLY”*** and you will need to select more than one answer choice. The questions are based on the knowledge and skills required in the Protective Coating Specialist 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. A vessel in sour crude service is to be given an epoxy lining. What are the considerations that must be given to force curing?
SELECT ALL THAT APPLY
 - A. Applied coating surface temperature
 - B. Air movement
 - C. Relative humidity
 - D. Surface pH

2. Concentrated phosphoric acid is best stored in tanks lined with which of the following?
 - A. Vinyl ester
 - B. High bake phenolic
 - C. Chlorobutyl rubber
 - D. Epoxy novolac

3. The standard test method for evaluation of internal plastic coatings for corrosion control of tubular goods in an aqueous flowing environment is which of the following?
 - A. PRO128
 - B. TM 0384
 - C. TM 0174
 - D. TM 0183

Answer Key:

1. **A & B**

Reference: Munger and NACE RP0184

2. **C**

Reference: CIP 2

3. **D**

Reference: Standard

Preparation

Suggested Study Material

Corrosion Prevention by Protective Coatings 3rd Edition, by Charles G. Munger

Local and International safety rules/regulations (i.e. OSHA, ISO, etc.)

Standards

SP 0188 Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates

SP 0198 Control of Corrosion Under Thermal Insulation and Fireproofing Materials—A Systems Approach

NACE SP 0287 Field Measurement of Surface Profile of Abrasive Blast-Cleaned Steel Surfaces Using a Replica Tape

ASTM D714 Standard Test Method for Evaluating Degree of Blistering of Paints

NACE No. 12/AWS C2.23m/SSPC-CS 23.00 Specification for the Application of Thermal Spray Coatings (Metallizing) of Aluminum, Zinc, and Their Alloys and Composites for the Corrosion Protection of Steel (2003)

ANSI/NSF 61/WRAS-BS 6920 Drinking Water System Components - Health Effects

SSPC Guide 6 Guide for Containing Surface Preparation Debris Generated During Paint Removal Operations

ISO Sa 2.5 Shot blasting / Surface prep for Near White Finish

NACE TPC-9 User's Guide to Hot Dip Galvanizing

NACE SP 0394 or Application, Performance, and Quality Control of Plant-Applied Fusion Bonded Epoxy External Pipe Coating

SSPC PA 2 Measurement of Dry Film Thickness with Magnetic Gauges

Reference Material Provided During Exam

No reference material provided. It is closed book exam.

What to expect on test day

Arriving at the Person Test Center

When you go to the Pearson Testing Center, there are a few things you should know. Please visit this link for information you should know before you go.

<https://home.pearsonvue.com/test-taker/security.aspx>

Computer Based Test Demonstration

Once you are in the testing room and at the computer, you will start with agreeing to the non-disclosure agreement and have a brief tutorial of using the system. Please visit this link for a demonstration of the computer based exam. You will have the opportunity to practice answering a variety of questions to help you get familiar with how it all works.

<https://wsr.pearsonvue.com/demo/>