Bridge Coatings Inspector - Level 1 Theory Exam

Exam Preparation Guide

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Introduction

The Bridge Coatings Inspector Theory Exam Level 1 is designed to assess whether a candidate has the requisite knowledge and skills that a minimally qualified Bridge Coatings Inspector (Level 1) must possess. A candidate should have entry-level knowledge in the fundamentals of how to inspect surface preparation and application of protective coatings on bridge steel. These fundamentals are applicable to those who inspect coating work both in the shop and in the field. The exam covers unique situations that will affect inspection in the field (e.g., containment, field safety hazards, changing weather conditions), as well as the fundamental inspection skills required to inspect new bridge steel-painted in the shop, in the field, or maintenance systems applied in the field.

Test Name	Bridge Coatings Inspector Level 1 Theory Exam
Test Code	BridgeCtgsIn1
Total Seat Time[+]	2 Hours (120 minutes)
Number of Questions	100
Format	Computer-Based Testing (CBT)

NOTE: A **Pass/Fail** result is provided at the end of the exam.

[+]Total Seat Time includes 10 minutes for a Tutorial & Non-Disclosure Agreement and 110 minutes for the Exam.

Requirements

Requirements for Bridge Coatings Inspector Level 1

- Prerequisites
- Certification Exams
- Additional Requirements

Prerequisites
Successfully complete the following courses: **Bridge Coatings Inspector (BCI) Level 1 Course** **Ethics for the Corrosion Professional Course or an equivalent training**
BCI Level 1 Certification Exam Requirements
Practical Exam
Theory Exam (CBT)
Additional Requirements
Complete the AMPP Terms of Service, Candidate Agreement, and Code of Professional Conduct (in **My Certification Portal**)

Certification renewal requirements

- Recertification application***** required every 3 years
- 1.5 years (18 months) of bridge work experience in coating inspections
- 8 Professional Development Hours (PDHs) since last renewal
- Must have satisfied Ethics requirements

Upon successful completion of requirements, the candidate will be awarded an **AMPP Bridge Coatings Inspector Level 1 Certification**.

****Approval required***

Exam Blueprint

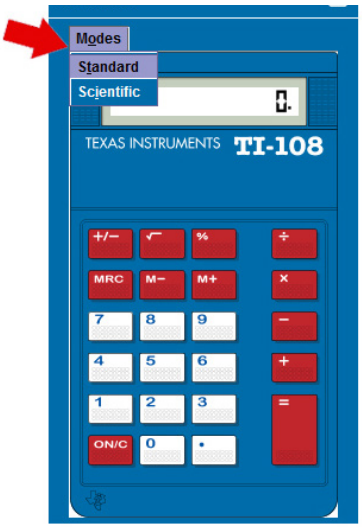
NOTE: At the end of the computer-based exam, candidates will receive a bar chart of strengths and weaknesses that correspond to these Domains.

1. **Ambient Condition (1% - 5%)**
2. **Bridge Component (5% - 10%)**
3. **Coating Application (15% - 20%)**
4. **Coating Defect (5% - 10%)**
5. **Coating Inspection (10% - 15%)**
6. **Coating Material (1% - 5%)**
7. **Health & Safety (5% - 10%)**
8. **Project Specification (15% - 20%)**
9. **Standards (25% - 30%)**
10. **Surface Preparation (10% - 15%)**

Calculators

Candidates will have access to either a TI Standard or TI Scientific calculator for use during the CBT Exam.

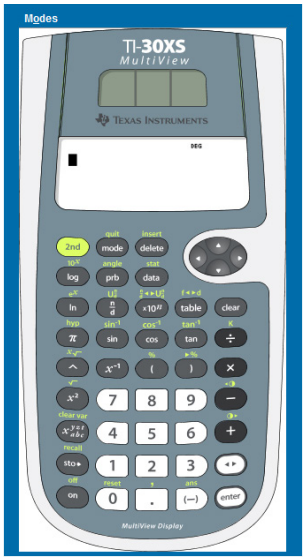
Standard Calculator



Standard Mode Functions

Add	+	
Subtract	-	
Multiply	X	
Divide	÷	
Negative	(-)	
Percentage	%	
Square Root	√	Example: 4 √
Reciprocal (Inverse)	x	Example: 1 ÷ 2 =
Store value to variable	M+	Example: 3 * 5 = M+
Access variable	MRC	Example: 7 + MRC =
Clear variable	M- MRC	

Scientific Calculator



Scientific Mode Functions

Add	+	
Subtract	-	
Multiply	X	
Divide	÷	
Negative	(-)	
Percentage	2nd [%]	
Square Root	√	Example: 2nd √ 4 enter
Reciprocal (Inverse)	X^{-1}	Example: 2 X^{-1} enter
Store value to variable	sto▶ X^{yzt}	Example: 3 * 5 enter sto▶ X^{yzt} enter
Access variable	X^{yzt} or 2nd [recall]	Example: 7 + 2nd [recall] enter enter

Numeric Notation

Standard (Floating Decimal) Notation (digits to the left and right of decimal	mode menu options **NORM** SCI ENG e.g. 123456.78 FLOAT 0 1 2 3 **4** 5 … e.g. 123456.7800
Scientific Notation (1 digit to the left of decimal and appropriate power of 10)	mode menu options NORM **SCI** ENG e.g. 1.2345678*105
Engineering Notation (number from 1 to 999 times 10 to an integer power that is a multiple of 3)	mode menu options NORM **SCI** ENG e.g. 123.45678*103

Fractions

Simple fractions	n/d
Mixed numbers	2nd [Un/d]
Conversion b/w simple fraction and mixed number	2nd [n/d ◄► Un/d]
Conversion b/w fraction and decimal	2nd [f ◄► d]

Powers, roots, and inverses

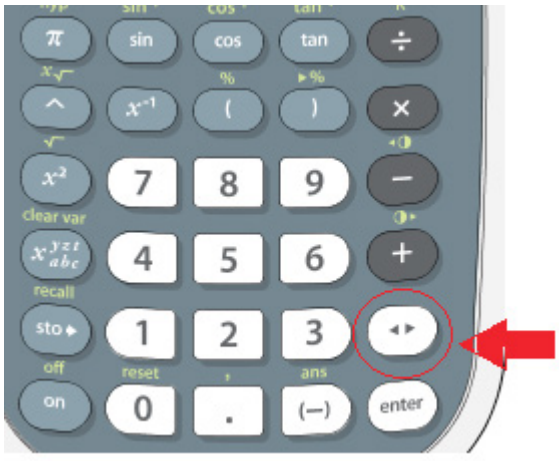
Square a value	x^2	
Cube a value	^	
Raise value to specified power	^	Example (2^4) 2 ^ 4
Square root	2nd [√]	Example (√16): 2nd [√] 16
Reciprocal	x^{-1}	Example (n^{th} root): 5^{th} root of 8: 5 2nd [^{x}√] 8

Pi

PI (π)	π	

Toggle

The scientific calculator might show the results of certain calculations as a fraction - possibly involving pi or a square root. To convert this kind of result to a single number with a decimal point, you will need to use the "toggle answer" button circled in the picture below. Pressing this button will change the display from a fractional to a decimal format.



Answer Toggle

◄►

Press the ◄► key to toggle the display result between fraction and decimal answers, exact square root and decimal, and exact pi and decimal.

Example

Answer toggle	2nd [√‾] 8 enter	√8 2√2
	◄►	√8 / 2√2 2√2 2.828427125

If you find this on-screen calculator difficult to use, raise your hand and ask the Test Administrator to provide you with a hand-held scientific calculator. If available, you will be provided with a scientific or non-scientific calculator. Candidates are not permitted to bring their own calculator into the testing room.