Up-to-date Questions and Answers from authentic resources to improve knowledge and pass the exam at very first attempt. ----- Guaranteed.

AMPP-BCI-L1 MCQs
AMPP-BCI-L1 Exam Questions
AMPP-BCI-L1 Practice Test
AMPP-BCI-L1 TestPrep
AMPP-BCI-L1 Study Guide

killexams.com

AMPP

AMPP-BCI-L1

Bridge Coatings Inspector

ORDER FULL VERSION

https://killexams.com/pass4sure/exam-detail/AMPP-BCI-L1

Question: 1665

An inspector is using a Low-Voltage Wet Sponge holiday detector on a bridge's intermediate coat. The coating thickness is measured at 550 μm (22 mils). Is this the correct tool for the task?

A. Yes, but only if the sponge is moved at a rate of 1 m/s
B. Yes, as long as a wetting agent (surfactant) is added to the water
C. No, low-voltage testers cannot be used on intermediate coats
D. No, low-voltage testers are generally limited to coatings up to 500 μm (20 mils)

Answer: D
Explanation: According to ASTM G62 and NACE SP0188, low-voltage wet sponge testers are appropriate for coatings up to 500 μm (20 mils). For thicker coatings, the moisture may not reach the substrate through a pinhole, leading to false negatives. A high-voltage spark tester is required for coatings exceeding this thickness.

Question: 1666

After SSPC-SP 1 and SSPC-SP 11 on bridge fasteners, the surface is bare metal with 1.1 mil average profile but localized Bresle readings of 6 µg/cm² chlorides in crevices (limit 4 µg/cm²). What root cause and sequence ensure compliance with standards for non-visible contaminants?

A. Power tools inherently introduce chlorides; abandon SP 11
B. Bresle is not applicable after power tool cleaning
C. Crevice geometry likely retained residues from incomplete SP 1 rinsing or power tool debris; repeat solvent cleaning with thorough rinsing, re-tool if needed, dry, and re-test Bresle until below limit
D. Profile meets minimum so salts are secondary; coat immediately

Answer: C
Explanation: SSPC-SP 11 achieves bare metal and ≥1 mil profile but does not guarantee removal of embedded or crevice-trapped soluble salts. SSPC-SP 1 solvent cleaning must precede it to remove solubles, with emulsifying/steam methods demanding complete rinsing to avoid ionic residues that Bresle detects as elevated conductivity (chlorides here). Crevices exacerbate retention. The corrective sequence —re-clean solvent with verified rinsing/drying, re-apply power tools maintaining profile, then re-Bresle— ensures low salts critical for preventing hidden corrosion on bridge components. Salt limits are independent of visual/profile standards.

Question: 1667

Which of the following is a common "rule of thumb" for the maximum allowable Relative Humidity (*RH*)

for applying most conventional bridge coatings?

A. 50%
B. 70%
C. 98%
D. 85%

Answer: D
Explanation: While specific coatings (like moisture-cured urethanes) have different requirements, the industry standard for conventional epoxies and urethanes used on bridges typically sets the maximum allowable relative humidity at 85%. Above this level, the risk of moisture interference and poor film formation increases significantly.

Question: 1668

Deep pitting (0.020 in.) on a submerged bridge pile requires repair per NACE SP0178 before coating. After SSPC-SP 1, what is the correct sequence?

A. Chemical etch pits
B. Weld fill, grind smooth, blast
C. Blast first, then weld
D. Power tool only, no fill

Answer: B
Explanation: NACE SP0178 for fabrication and repair of pitting >0.010 in. (0.25 mm) on immersion-service bridge steel requires solvent cleaning (SSPC-SP 1) first, then weld metal fill to cap the pit, followed by grinding flush to match surrounding profile, and final blast cleaning to generate uniform anchor pattern. Blasting before welding contaminates the weld pool, power tools don't restore metal loss, and chemical etching worsens pitting without structural repair.

Question: 1669

A specification requires 3-5 mils (75-125 microns) DFT for the organic zinc-rich primer. The inspector records an average of 4 mils but notes 2 mils on some sharp edges despite stripe coating. What is the concern?

A. The primer thickness is excessive and will interfere with the polysiloxane topcoat adhesion
B. Stripe coating eliminates all need for DFT checks on edges
C. No concern, as average DFT satisfies cathodic protection requirements
D. Edge thinning can reduce the effectiveness of cathodic protection in those areas, allowing corrosion to

initiate before the barrier epoxy and UV topcoat can provide full protection

Answer: D
Explanation: The correct answer is the option stating "Edge thinning can reduce the effectiveness of cathodic protection in those areas, allowing corrosion to initiate before the barrier epoxy and UV topcoat can provide full protection". Uniform coverage is critical for zinc-rich primers.

Question: 1670

A bridge is being blasted with "Steel Grit." What is the advantage of using grit over "Steel Shot" for bridge maintenance?

A. Grit is angular and creates an anchor profile for better adhesion.
B. Grit does not rust.
C. Grit is round and creates a smoother surface.
D. Grit is cheaper to transport.

Answer: A
Explanation: Steel grit is an angular abrasive that cuts into the steel, creating a sharp, jagged "anchor profile" that provides a mechanical bond for the coating. Steel shot is round and tends to "peen" the surface, which is less ideal for most coating systems requiring a profile.

Question: 1671

Air temperature 62°F, RH 80% measured with sling psychrometer (dew point 55°F), surface on girder bottom flange 52°F, top flange 65°F, wind 14 mph. The coating requires no application if surface <5°F above dew point or wind >15 mph. Select the determination for this girder component.

A. Average surface temperature across the girder meets the rule, allowing full application.
B. No need to differentiate between flange locations for ambient compliance.
C. Bottom flange violates the 5°F rule with a -3°F delta, requiring halted work on this hard-to-access area prone to moisture accumulation; top flange complies but wind is approaching the limit.
D. Wind speed is acceptable for all girder surfaces.

Answer: C
Explanation: Girder bottom flanges are often shaded and difficult to access, leading to lower surface temperatures that violate the 5°F dew point rule and increase condensation risk in areas where moisture can accumulate. Top flanges may comply while bottom sections do not, requiring zoned decisions. Approaching wind limits can still affect spray uniformity on vertical girder webs.

Question: 1672

During thermal spray coating application on a bridge, the inspector notes uneven thickness and poor bond in some areas. Select Two most likely causes and the required corrective action.

A. Inconsistent gun traverse speed, standoff distance, or surface preparation can cause uneven deposit and weak bonding; the inspector must require correction of technique and re-blasting of affected areas if bond is compromised.
B. Conventional spray equipment can be used to touch up TSC defects.
C. Poor bond is acceptable if average thickness meets specification.
D. TSC thickness variation is normal and does not require correction.

Answer: A
Explanation: Thermal spray coating quality on bridges depends on consistent applicator technique, including uniform gun speed and standoff distance, as well as high-quality surface preparation. Variations in these parameters lead to uneven thickness and reduced bond strength. The inspector requires the contractor to demonstrate proper technique and may mandate re-blasting and re-application of defective areas to ensure mechanical interlock and specified performance.

Question: 1673

If a bridge specification calls for "Commercial Blast Cleaning," which joint standard should the inspector reference?

A. SSPC-SP 7 / NACE No. 4
B. SSPC-SP 10 / NACE No. 2
C. SSPC-SP 6 / NACE No. 3
D. SSPC-SP 5 / NACE No. 1

Answer: C
Explanation: SSPC-SP 6 / NACE No. 3 is the standard for Commercial Blast Cleaning, which allows for up to 33% staining of the surface.

Question: 1674

Holiday detection on FBE-lined bridge pipe interior (20 mils thick): voltage setting and method?

A. 67V wet sponge
B. 15kV high DC pulse
C. 5kV low sponge

D. 30kV AC

Answer: B
Explanation: High-voltage DC pulse (100V/mil approximate, 15-20kV for 20 mils) detects discontinuities >0.5 mil on non-conductive linings per AMPP 018/SP 018; low-voltage for wet films.

Question: 1675

Stripe coat ZR on welds: DFT target over spray?

A. 200
mu
m
B. 50
mu
m
C. 100-150
mu
m
D. Same as spray

Answer: C
Explanation: 100-150
mu
m stripe DFT (50% over spray) ensures galvanic throw into weld toes/crevices, bridging holidays; brush saturates for edge protection lasting 15 years.

Question: 1676

When inspecting for "undercutting" at a bridge scratch or mechanical damage site, what is the inspector evaluating?

A. Whether the coating was thinned with too much solvent
B. The lateral progression of corrosion underneath the intact coating film
C. The speed at which the coating is eroding from the surface
D. The depth of the scratch in the steel

Answer: B
Explanation: Undercutting (or creep) is the process where corrosion starts at a break in the coating (like a scratch) and moves laterally under the edges of the intact film, lifting it as rust products expand. This is a critical indicator of the system's ability to provide sacrificial or barrier protection.

Question: 1677

Confined space beneath a pier has H2S at 15 ppm, O2 at 18%. Attendant detects entrant distress via radio. Per OSHA 1910.146, what is the rescue team's minimum equipment for non-entry retrieval?

A. Tripod winch with 50 ft lifeline
B. SCBA and harness for entry
C. Mechanical retrieval with non-incapacitating chest strap
D. External ventilation blower only

Answer: C
Explanation: OSHA 1910.146(c)(9) mandates non-entry rescue systems like tripod/mechanical winch with lifeline attached to dorsal D-ring (not chest/legs to avoid constriction). H2S 15 ppm (above 10 ppm IDLH threshold) and low O2 require immediate retrieval without entry; SCBA entry escalates to permit-specified rescue service.

Question: 1678

Inspector observes $T_s = 50^\circ\text{F}$, sling-derived $T_d = 46^\circ\text{F}$ (RH=88%). Midway through monitoring, wind drops RH to 75%, recalculating $T_d = 43^\circ\text{F}$. What dynamic adjustment ensures rule compliance?

A. Spread now 7°F; extend monitoring to hourly
B. Spread now 7°F; proceed without further checks
C. Original spread 4°F violation persists
D. Recalibrate sling only

Answer: A
Explanation: Initial spread $50 - 46 = 4^\circ\text{F}$ violated; improved conditions yield $50 - 43 = 7^\circ\text{F}$, now compliant. Dynamic bridge environments require extended monitoring (hourly) post-improvement to catch reversals, using sling for accurate RH/dew point in variable winds—do not assume stability.

Question: 1679

Sa 3 white metal blast bridge tower: Post-blast flash rust at 1% after 2 hr exposure. ISO 8501-1 acceptance?

A. Reblast immediately
B. SP 5 equivalent

C. Reject, any flash rust
D. Accept if faint and uniform

Answer: D
Explanation: ISO 8501-1 Sa 3 permits faint, uniform flash rust (grade F light) post-prep if <4 hr to coating; 1% compliant for bridge delays.

Question: 1680

When applying a stripe coat by brush to the edges of a bridge flange, the inspector should ensure the applicator:

A. Applies the coating in a circular motion to increase friction
B. Scrubs the coating into the surface to ensure it fills pits and crevices
C. Brushes the coating away from the edge to prevent "beading"
D. Uses a "dry brush" technique to minimize the amount of material applied

Answer: B
Explanation: Stripe coating by brush is preferred over spray because the physical action of the bristles helps "work" the coating into irregular surface profiles, welds, and crevices, ensuring better mechanical adhesion and complete coverage compared to a spray pass that might bridge over small gaps.

Question: 1681

Factors the inspector must verify in the daily inspection report when a non-conformance for blistering is resolved on a bridge beam.

A. Contractor's estimated cost savings from the repair.
B. Reference to the original NCR number and photos showing before-and-after conditions.
C. Updated environmental conditions during repair and confirmation that the hold point status changed to released.
D. Description of the repair method, re-inspection results including DFT per SSPC-PA 2 and holiday detection if applicable.

Answer: B,C,D
Explanation: Resolution of NCRs for defects like blistering requires detailed recording in the daily report of the corrective actions taken, re-verification measurements (DFT according to SSPC-PA 2 and other tests), updated conditions, hold point status, and supporting evidence to close the issue properly and ensure long-term coating performance.

Question: 1682

How structural geometry of bridge connections affects ambient condition evaluation.

A. Crevices and overlapping plates at bolted or riveted connections trap cooler air and moisture, leading to lower surface temperatures.
B. Open geometry on main girders allows more uniform heating and drying compared to detailed connections.
C. Geometry has minimal impact if wind speed is low.
D. Welded gusset plates create heat sinks or thermal bridges that alter local surface temperatures.

Answer: A,B,D
Explanation: Connections with crevices, laps, or overlaps retain cooler air and moisture longer, resulting in surface temperatures that more readily fall below dew point. Welded details can act as thermal bridges or sinks, creating localized variations. Simpler girder surfaces experience more uniform conditions, highlighting the need for targeted measurements at complex geometry.

Question: 1683

Why stripe coating is a critical step in bridge coating application systems.

A. Stripe coating builds additional thickness in critical areas to ensure long-term corrosion protection.
B. Brush stripe coating provides superior wetting and penetration into irregularities that spray cannot achieve.
C. Spray application often deposits thinner film on edges, welds, rivets, and bolts due to the Faraday cage effect and edge thinning.
D. Stripe coating is optional when using high-build airless spray.

Answer: A,B,C
Explanation: Conventional and airless spray on bridge steel tends to deposit less coating on sharp edges, welds, and fasteners due to electrostatic effects and surface geometry. Brush stripe coating compensates by working material into these areas for better wetting and adhesion. The additional thickness provided by striping helps meet overall system requirements and improves durability at vulnerable details. Stripe coating remains necessary even with high-build spray systems.

Question: 1684

When using a "Surface Profile Comparator," the inspector must ensure the disc or plate matches:

A. The temperature of the steel

B. The abrasive type (Grit, Shot, or Sand)
C. The steel thickness
D. The coating thickness

Answer: B
Explanation: Comparators are specific to the abrasive used; a "G" disc is used for grit-blasted surfaces, and an "S" disc is used for shot-blasted surfaces, as the morphologies differ.

Question: 1685

The contractor submits a request to close a hold point after topcoat application. The daily inspection report references SSPC-PA 2 measurements showing an area average of 6.2 mils (spec 5-8 mils) but one spot at 3.1 mils with a single gage reading of 2.4 mils. Select Two inspector actions before approving.

A. Discard the low spot if it is not repeatable in adjacent readings.
B. Issue or reference an NCR for the thin spot, preventing hold point closure until repaired to full specification.
C. Require additional spot measurements around the low area to confirm extent and evaluate against 80% restriction level of the minimum specified thickness.
D. Accept based on the overall average since SSPC-PA 2 prioritizes area measurement.

Answer: B,C
Explanation: SSPC-PA 2 emphasizes both area averages and individual restrictions; a spot significantly below the minimum (or individual gage readings below 80% of minimum) indicates a potential defect area on bridge steel. The inspector must investigate further, document via NCR if non-compliant, and ensure repair before releasing the hold point to maintain coating system integrity.