CSWIP 3.1 Theory Part 2

WPS and Welder Certifications | 15 Free Practice Questions

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1. During a procedure test, the actual welding current differs from the planned current but the test is permitted to continue. Which value belongs in the as-run record?

A. The midpoint of the planned current range
B. The current shown in an unrelated qualified WPS
C. The actual measured welding current
D. The intended current only

Correct answer: C. The actual measured welding current

Explanation: The as-run record must reflect what actually happened during qualification. Substituting intended parameters would undermine the evidence used to establish the qualification range.

2. A draft WPS permits 12-25 mm thickness and 100-180 A. Its supporting qualification record permits 10-30 mm and 120-200 A. Which revision makes both proposed ranges fully supported while preserving the draft thickness range?

A. 12-25 mm and 120-180 A
B. 12-32 mm and 120-180 A
C. 8-25 mm and 120-180 A
D. 12-25 mm and 100-200 A

Correct answer: A. 12-25 mm and 120-180 A

Explanation: The thickness range is already contained in 10-30 mm. The overlap of the draft current range with the qualification is 120-180 A. The alternatives retain unsupported values or expand thickness beyond qualification.

3. A production WPS specifies minimum preheat 100 C and maximum interpass 220 C. Recorded preheat is 95 C and interpass is 205 C. Which finding is correct?

A. Both temperature requirements are violated
B. Only the preheat requirement is violated
C. Only the interpass requirement is violated
D. Both temperature requirements are satisfied

Correct answer: B. Only the preheat requirement is violated

Explanation: 95 C is below the minimum preheat of 100 C. The interpass value of 205 C is below the stated maximum of 220 C. Other requirements are not assessed here.

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4. A supervisor asks which document a welder should consult for the permitted production welding parameters before striking an arc. Which document is appropriate?

A. The final NDT report

B. The welder qualification certificate

C. The approved WPS

D. The material inspection certificate

Correct answer: C. The approved WPS

Explanation: The WPS provides the instructions for making the production weld. A welder certificate demonstrates personal qualification, while material and NDT records provide different types of evidence.

5. Which sequence correctly describes a typical test-based procedure qualification?

A. Perform mechanical tests, prepare pWPS, weld coupon, issue record

B. Issue qualified WPS, certify coupon, prepare pWPS, perform tests

C. Issue welder certificate, release production, weld procedure coupon, record results

D. Prepare pWPS, weld and record coupon, perform required tests, complete qualification record, issue supported WPS

Correct answer: D. Prepare pWPS, weld and record coupon, perform required tests, complete qualification record, issue supported WPS

Explanation: The proposed procedure precedes welding; actual parameters and test results provide evidence for the qualification record. A production WPS is then supported by the accepted qualification.

6. Before a proposed procedure qualification test coupon is welded, which document should specify the intended test conditions?

A. Completed procedure qualification record

B. Production weld acceptance report

C. Preliminary welding procedure specification (pWPS)

D. Final welder qualification certificate

Correct answer: C. Preliminary welding procedure specification (pWPS)

Explanation: The pWPS sets out the proposed conditions for the test weld. The qualification record is completed using actual conditions and test results after the test.

7. A production WPS permits 8-20 mm thickness; a welder certificate permits 12-25 mm for the same thickness criterion. Assuming all other requirements are met, what common thickness range is available?

A. 12-20 mm

B. 20-25 mm

C. 8-12 mm

D. 8-25 mm

Correct answer: A. 12-20 mm

Explanation: The common range is the intersection: the greater minimum is 12 mm and the smaller maximum is 20 mm. Both procedure and personnel qualification must cover the production conditions.

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8. What is the main purpose of a manual welder qualification test?

A. Determine the chemical composition of the parent material

B. Establish all mechanical properties of every production joint

C. Demonstrate the welder's ability to follow instructions and produce an acceptable weld

D. Approve all future WPS revisions

Correct answer: C. Demonstrate the welder's ability to follow instructions and produce an acceptable weld

Explanation: A performance test assesses the individual's practical ability to produce acceptable welds within the qualification scope. Procedure qualification has a different primary purpose.

9. A qualification record permits only the as-welded condition. A production WPS specifies post-weld heat treatment. What is the correct review finding?

A. The WPS is supported because PWHT always improves properties

B. The WPS is supported if the joint thickness is unchanged

C. The WPS is supported if the welder certificate is current

D. The proposed heat-treatment condition is not supported by the stated record

Correct answer: D. The proposed heat-treatment condition is not supported by the stated record

Explanation: The supplied record explicitly excludes PWHT. Heat treatment can alter mechanical properties; a compatible qualification basis is required for the production condition.

10. Which standard family is specifically associated with welding procedure tests for arc and gas welding of steels and arc welding of nickel and nickel alloys?

A. ISO 9712

B. ISO 9606-1

C. ISO 15614-1

D. ISO 17637

Correct answer: C. ISO 15614-1

Explanation: ISO 15614-1 addresses procedure qualification by welding procedure testing for those material and process categories. ISO 9606-1 concerns welder qualification for steels; the other standards address inspection or NDT personnel.

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11. A job requires process 141, position PC and 10 mm thickness. The WPS covers process 141, PC and 6-18 mm. Welder A covers 141, PC and 8-12 mm; B covers 141, PA and 8-12 mm; C covers 135, PC and 8-12 mm; D covers 141, PC and 12-20 mm. All certificates are current. Who meets all stated requirements?

A. Welder A

B. Welder C

C. Welder D

D. Welder B

Correct answer: A. Welder A

Explanation: A matches process, position and thickness. B lacks PC, C lacks process 141, and D does not cover 10 mm. The production WPS also covers all three job conditions.

12. A welder certificate requires confirmation every six months. The last confirmation was 10 January 2026, and the project rule does not allow late confirmation. On 20 August 2026, what is the status?

A. The required confirmation is overdue

B. The certificate remains current until 10 January 2027

C. The certificate is automatically extended by six months

D. The certificate remains current because the WPS is approved

Correct answer: A. The required confirmation is overdue

Explanation: The next confirmation was due by 10 July 2026 under the stated rule. By 20 August it is overdue. The certificate must be resolved under applicable validity requirements before use.

13. A WPS permits heat input of 0.8-1.2 kJ/mm. For a pass at 24 V, 200 A and 240 mm/min, use efficiency 0.8 and HI = efficiency x V x A x 60 / (1000 x speed). What is the finding?

A. 1.44 kJ/mm, above the permitted range

B. 1.20 kJ/mm, within the permitted range

C. 0.96 kJ/mm, within the permitted range

D. 0.60 kJ/mm, below the permitted range

Correct answer: C. 0.96 kJ/mm, within the permitted range

Explanation: Arc energy is 24 x 200 x 60 / (1000 x 240) = 1.20 kJ/mm. Multiplying by 0.8 gives heat input 0.96 kJ/mm, inside the supplied limits.

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14. A qualification test report identifies coupon Q17, but the WPQR references Q71. No reconciliation is recorded. What is the primary concern?

A. The welder is automatically unqualified for every process

B. The procedure is automatically invalid because the current is too high

C. The report is acceptable if both coupon numbers have two digits

D. The mechanical test evidence is not demonstrably traceable to the qualification coupon

Correct answer: D. The mechanical test evidence is not demonstrably traceable to the qualification coupon

Explanation: The conflicting identifiers break the documented link between test evidence and the procedure coupon. Resolve the discrepancy using controlled records before relying on the results.

15. A variable is classified as essential by the governing procedure qualification standard. The proposed change exceeds its qualified limit. What is necessary before use?

A. Accept the change after visual inspection alone

B. Obtain applicable additional qualification or use an already qualified supporting procedure

C. Revise the WPS without qualification evidence

D. Obtain only a new welder identity number

Correct answer: B. Obtain applicable additional qualification or use an already qualified supporting procedure

Explanation: Essential variable changes outside the qualified range cannot be authorized simply by editing the WPS. Suitable qualification evidence must support the intended conditions.

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