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Path #7. In this path we will see 47 closed book questions to be studied for the API 653 Certification Examination. They are all based on ASME V.

The following questions were extracted from the standards by me. The format is a Q&A one, different from the multiple choice question format from other courses I have seen online. I prefer this method because it takes away all the clutter that leads to confusion when treating these standards. I advise you to copy this info and paste it in a spaced repetition software like Anki or Supermemo, as the Q&A format allows, and start studying right away. Please edit the questions yourself looking to the references if you have difficulty remembering any of them.

266. Q: What is the thickness of the lead symbol "B" that shall be attached to the back of each film holder during each exposure to determine if backscatter radiation is exposing the film?
A: 1/16 Ref: T-223 ASME V
267. Q: If a densitometer is not used, what shall be used instead for judging film density?
A: A step wedge Ref: T-225 ASME V
268. Q: If a step wedge is not used, what shall be used instead for judging film density?
A: A densitometer Ref: T-225 ASME V
269. Q: Wire-type IQIs shall be manufactured and identified in accordance with the requirements of
A: SE-747 Ref: T-233.1 ASME V
270. Q: Hole-type IQIs shall be manufactured and identified in accordance with the requirements of
A: SE-1025 Ref: T-233.1 ASME V
271. Q: Which standard is used for calibration step tablets to be used in United States?
A: NIST Ref: T-262.1 ASME V

272. Q: Densitometers shall be calibrated at least every ____ days during use
A: 90 Ref: T-262.1 ASME V
273. Q: How many steps minimum shall a national standard step tablet used for densitometer calibration have?
A: 5 Ref: T-262.1 ASME V
274. Q: Neutral densities of any national step tablet used for densitometer calibration should be between 1 and ____
A: 4 Ref: T-262.1 ASME V
275. Q: Neutral densities of any national step tablet used for densitometer calibration should be between ____ and 4
A: 1 Ref: T-262.1 ASME V
276. Q: The densitometer used for film evaluation is acceptable if the density readings do not vary by more than ____ density units from the actual density stated on the national standard step tablet or step wedge calibration film
A: 0.05 Ref: T-262.1 ASME V
277. Q: Step wedge comparison films shall be verified
A: _____ Ref: T-262.2 ASME V
278. Q: The step wedge comparison film is acceptable if the density readings do not vary by more than ____ density units from the density stated on the step wedge comparison film
A: 0.01 Ref: T-262.2 ASME V
279. Q: The density of the steps on a step wedge comparison film shall be verified by _____
A: a calibrated densitometer Ref: T-262.2 ASME V

280. Q: Periodic calibration verification of densitometers shall be performed at the beginning of each shift, after 8hr of continuous use, or _____, whichever comes first
A: after change of apertures Ref: T-262.3 ASME V
281. Q: Periodic calibration verification of densitometers shall be performed at the beginning of each shift, after _____, or after change of apertures, whichever comes first
A: 8hr of continuous use Ref: T-262.3 ASME V
282. Q: Periodic calibration verification of densitometers shall be performed at _____, after 8hr of continuous use, or after change of apertures, whichever comes first
A: the beginning of each shift Ref: T-262.3 ASME V
283. Q: Periodic densitometer verification needs to be documented. True or false?
A: False Ref: T-262.4 ASME V
284. Q: Location markers shall be placed on _____
A: The part Ref: T-275 ASME V
285. Q: Maximum value for geometric unsharpness in a film used to evaluate a material under 2 inches thick
A: 0.020 in Ref: T-274.2 ASME V
286. Q: If an IQI is going to be used on a weld with a reinforcement, the thickness on which the IQI is based is _____
A: the nominal single-wall thickness plus the estimated weld reinforcement Ref: T-276.ASME V

287. Q: The transmitted film density through the radiographic image of the body of the designated hole-type IQI adjacent to the essential hole or adjacent to the essential wire of a wire-type IQI and the area of interest shall be ____ minimum for radiographs made with an X-ray source

A: 1.8

Ref: T-282.1 ASME V

288. Q: The transmitted film density through the radiographic image of the body of the designated hole-type IQI adjacent to the essential hole or adjacent to the essential wire of a wire-type IQI and the area of interest shall be ____ minimum for radiographs made with a gamma ray source

A: 2.0

Ref: T-282.1 ASME V

289. Q: The maximum density in a radiographic image shall be ____

A: 4

Ref: T-282.1 ASME V

290. Q: For composite viewing of multiple film exposures, each film of the composite set shall have a minimum density of ____

A: 1.3

Ref: T-282.1 ASME V

291. Q: The density of the radiograph anywhere through the area of interest shall not vary vs the density of the essential IQI component in which way?

A: vary more than minus 15% or plus 30% from the density through the body of the designated hole-type IQI adjacent to the essential hole or adjacent to the essential wire of a wire-type IQI

Ref: T-282.2 ASME V

293. Q: When a radiograph has areas with density variation of more than minus 15% or plus 30% from the essential hole or wire, what should be done?

A: an additional IQI shall be used for each exceptional area and the radiography retaken

Ref: T-282.2 ASME V

294. Q: Material thickness for recommended geometric unsharpness limitation is based in _____
A: The thickness on which the IQI is based Ref: T-274.2 ASME V
295. Q: Source size verification can be made by _____
A: checking the equipment manufacturer's or supplier's publications, documenting actual or maximum source size or focal spot Ref: T-261.1 ASME V
296. Q: Maximum weld reinforcement for a weld to be radiographed in 3/8 inch plate according to API 650
A: 1.5mm (1/16") Ref: 8.1.3.4 API 650
297. Q: Definition of inspection
A: the observation of any operation performed on materials and/or components to determine its acceptability in accordance with given criteria Ref: I-130 ASME V
298. Q: The term inspection applies to
A: the functions performed to the Authorized inspector Ref: T-170 ASME V
299. Q: Examination applies to
A: those quality control functions performed by personnel employed by the manufacturer Ref: T-170 ASME V
300. Q: Which section of the ASME BPVC code contains requirements and methods for nondestructive examination
A: ASME V
301. Q: The employer's written practice for NDE personnel qualification must be in accordance with which ANSI standard?
A: ANSI/ASNT CP-189 Ref: T-120 ASME V

302. Q: How many copies of each NDE procedure shall be available to the NDE personnel?

A: 1

Ref: T-150 ASME V

303. Q: All nondestructive examination procedures shall be

A: demonstrated to the satisfaction of the Inspector

Ref: T-150 ASME V

304. Q: When qualification of the written NDE procedure is needed, it shall be demonstrated

A: on a minimum of one test specimen having flaws whose size, location, orientation, quantity and characterization have been determined prior to the demonstration and are known only by the supervising Level III Examiner, by a Level II or Level III, under observation of the supervising Level III

Ref: T-150 ASME V

305. Q: Who must sign the procedure qualification record of NDE examinations?

A: The supervising level III and the witnessing Inspector

Ref: T-150 ASME V

306. Q: Non Destructive Examination is

A: the development and application of technical methods to examine materials in ways that do not impair future usefulness and serviceability, in order to detect, locate, measure, interpret and evaluate flaws

Ref: I-130 ASME V

307. Q: Indication is

A: the response or evidence from a NDE that requires interpretation to determine relevance

Ref: I-130 ASME V

308. Q: At least how many steps national standard step tablets or step wedge calibration films should have?

A: 5

Ref: T-262.1 ASME V

309. Q: A lead letter F shall be used in a radiography when:

A: the IQI is placed in the film side

Ref: T-277.1 ASME V

310. Q: What is the minimum amount of IQIs that shall appear in any radiographic film?

A: 1 minimum

Ref: T-277.2 ASME V

311. Q: Who is responsible for the review, interpretation, evaluation and acceptance of the completed radiographs to assure compliance with the requirements of article 2 of ASME V?

A: The manufacturer

Ref: T-285 ASME V

312. Q: The radiographic review form required by T-292 shall be completed

A: during evaluation

Ref: T-285 ASME V

This pdf is part of a series on API 653 questions. For more questions, see the following

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2. [Path #2](#)
3. [Path #3](#)
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