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Path #8. ASME V, Article 23. In this path we will see 19 questions to be studied for the API 653 Certification Examination.

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.

The following questions correspond to ASME V, Article 23, SE-797

313. Q: Article 23, SE-797, provides guidelines for measuring the thickness of materials using the contact pulse-echo method at temperatures not to exceed _____
A: 93°C (200°F) Ref: ASME V, Article 23
314. Q: Which condition must be met in regard to wave speed of ultrasonic pulses in any material to be inside SE-797's scope?
A: Constant velocity Ref: ASME V, Article 23
315. Q: Which ultrasound technique is considered in SE-797?
A: Pulse-echo method Ref: ASME V, Article 23
316. Q: Which types of display elements exists for ultrasonic instruments?
A: _____ Ref: ASME V, Article 23
317. Q: Ultrasonic measurements in the pulse echo-technique are made from both sides of the object. True/False _____
A: False Ref: ASME V, Article 23
318. Q: Regarding surface for ultrasonic examination, which condition shall be specified in the contractual agreement?
A: Surface preparation Ref: ASME V, Article 23

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319. Q: Besides 1) Flaw detectors with an A-scan display readout, 2) Flaw detectors with an A-scan display and direct thickness readout and [...], which other thickness-measurement instrument group exists?
A: Direct thickness readout Ref: ASME V, Article 23
320. Q: Besides 1) Flaw detectors with an A-scan display readout, [...] and 3) Direct thickness readout, which other thickness-measurement instrument group exists?
A: Flaw detectors with an A-scan display and direct thickness readout Ref: ASME V, Article 23
321. Q: Besides [...], 2) Flaw detectors with an A-scan display and direct thickness readout and 3) Direct thickness readout, which other thickness-measurement instrument group exists?
A: Flaw detectors with an A-scan display readout Ref: ASME V, Article 23
322. Q: Thickness, when measured by the pulse-echo ultrasonic method, is a product of velocity of sound x _____
A: one half the transit time through the material Ref: ASME V, Article 23
323. Q: How many items, according to Article 23, SE-797, are subject to contractual agreement between the parties?
A: 4 Ref: ASME V, Article 23
324. These are the 4 items that need to be subject to contractual agreement according to SE-797 1) _____, 2) Qualification of Nondestructive Agencies, 3) Procedures and techniques, 4) Surface preparation Personnel Qualification Ref: ASME V, Article 23
325. Q: These are the 4 items that need to be subject to contractual agreement according to SE-797 1) Personnel qualification, 2) _____, 3) Procedures and techniques, 4) Surface preparation
A: Qualification of Nondestructive Agencies Ref: ASME V, Article 23

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326. Q: These are the 4 items that need to be subject to contractual agreement according to SE-797 1) Personnel qualification, 2) Qualification of Nondestructive Agencies, 3) _____, 4) Surface preparation
A: Procedures and techniques Ref: ASME V, Article 23
327. Q: These are the 4 items that need to be subject to contractual agreement according to SE-797 1) Personnel qualification, 2) Qualification of Nondestructive Agencies, 3) Procedures and techniques, 4) _____
A: Surface preparation Ref: ASME V, Article 23
328. Q: For thicknesses less than about 0.6mm, what is the minimum frequency of the delay line search unit?
A: 10MHz or higher Ref: ASME V, Article 23
329. Q: Highest accuracy for ultrasonic examination can be obtained from materials with _____ or _____ surfaces
A: parallel or concentric Ref: ASME V, Article 23
330. Q: The apparent ultrasonic thickness measurement reading obtained from steel walls having elevated temperatures is high by a factor of about ___% per 55°C
A: 1 Ref: ASME V, Article 23
331. Q: The apparent ultrasonic thickness measurement reading obtained from steel walls having elevated temperatures is high by a factor of about 1% per _____ °C
A: 55 Ref: ASME V, Article 23

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

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2. [Path #2](#)
3. [Path #3](#)
4. [Path #4](#)
5. [Path #5](#)

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6. [Path #6](#)
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