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Courses » Advances in Welding and Joining Technologies

Announcements Course Ask a Question Progress Mentor

Unit 8 - Week 7: Welding and Joining of Non-Metals

Course outline

How to access the portal

Week 1: Fundamentals of Welding and Joining

Week 2: Laser and Electron Beam Welding

Week 3: Solid State Welding Processes

Week 4: Computational Welding Mechanics

Week 5: Micro and Nano Joining Processes

Week 6: Welding Metallurgy

Week 7: Welding and Joining of Non-Metals

- Lesson 1: Welding and Joining of Non-Metals Part I
- Lesson 2: Welding and Joining of Non-Metals Part II
- Quiz : Assignment 7
- Lecture Content (WEEK 7)

Assignment 7

The due date for submitting this assignment has passed. **Due on 2018-03-25, 23:59 IST.**

Submitted assignment

1) Lead glass crystals used in glass welding becomes weldable at temperature around 1 point

- 670 °C
- 870 °C
- 550 °C
- 1250 °C

No, the answer is incorrect.

Score: 0

Accepted Answers:

870 °C

2) Which is the best economical method for joining ceramics 1 point

- Electron-beam welding
- Laser Beam welding
- Brazing
- Friction welding

No, the answer is incorrect.

Score: 0

Accepted Answers:

Brazing

3) Spin welding is similar to which welding process 1 point

- Ultra short pulse laser welding
- Vibration welding
- Ultrasonic welding
- Friction welding

No, the answer is incorrect.

Score: 0

Accepted Answers:

Friction welding

4) In hot-plate welding, when the work-piece cools down, the polymer molecules become 1 point

- Linear polymer

Assignment 7
(Solution)

**Week 8: Metal
Transfer in
Welding and
Metal Printing**

- Cross linked polymer
- Branched polymer
- Fiber polymer

No, the answer is incorrect.

Score: 0

Accepted Answers:

Cross linked polymer

5) In which of the welding process, the material must have high dielectric loss **1 point**

- Radio frequency welding
- Laser welding
- Electron Beam welding
- Ultrasonic welding

No, the answer is incorrect.

Score: 0

Accepted Answers:

Radio frequency welding

6) Which one of the following processes is NOT suitable for the joining of biocompatible plastics with metal ? **1 point**

- Adhesive bonding
- Laser beam welding
- Laser transmission welding
- Resistance welding

No, the answer is incorrect.

Score: 0

Accepted Answers:

Adhesive bonding

7) In which one of the following welding processes, very slow cooling rate should be followed to avoid cracking? **1 point**

- Glass welding
- Plastic welding
- Welding of stainless steel
- Brazing of ceramics

No, the answer is incorrect.

Score: 0

Accepted Answers:

Glass welding

8) Which one of the following welding processes for plastics is mainly used for packaging, such that the welds are cosmetically appealing? **1 point**

- Spin welding
- Friction stir welding
- Radio frequency welding
- Hot gas welding

No, the answer is incorrect.

Score: 0

Accepted Answers:

Radio frequency welding

9) Which one of the following welding processes of thermoplastic follows the principle of dielectric hysteresis losses? **1 point**

- Ultrasonic welding

- Vibration welding
- Radio frequency welding
- Ultra short pulse laser

No, the answer is incorrect.

Score: 0

Accepted Answers:

Radio frequency welding

10) Which one of the following types of material, is used for welding in furnace operation? **1 point**

- Ceramics
- Titanium and alloys
- Polymeric materials
- Superalloys

No, the answer is incorrect.

Score: 0

Accepted Answers:

Ceramics

11) The acoustic vibration used in ultrasonic welding have frequency range of **2 points**

- 20 to 70 kHz
- 10 to 60 GHz
- 10 to 60 Hz
- 20 to 70 GHz

No, the answer is incorrect.

Score: 0

Accepted Answers:

20 to 70 kHz

12) Which of the following welding process can be used to weld different glass materials, such as, fused silica, borosilicate glass and ultra-low expansion glass? **2 points**

- Glass welding
- Ultra short pulse laser welding
- Friction welding
- Hot Gas welding

No, the answer is incorrect.

Score: 0

Accepted Answers:

Ultra short pulse laser welding

13) Radio frequency welding is also referred as **2 points**

- Ultrasonic welding
- Vibration welding
- Dielectric welding
- Ultra short pulse laser welding

No, the answer is incorrect.

Score: 0

Accepted Answers:

Dielectric welding

14) In ultra-fast laser, the pulse duration is in the range of **2 points**

- 10 fs to 10 ps
- 10 ps to 1 ns
- 1 ns to 1 μ s

1 μ s to 10 ms

No, the answer is incorrect.

Score: 0

Accepted Answers:

10 fs to 10 ps

15) In welding of polymeric materials, which one of the following statements is correct? **2 points**

- Pressure is not required to improve melt flow across the interface
- Semi-crystalline polymers must be heated below melting temperature
- Thermosets can be welded without the addition of tie-layers
- Healing of the interfaces is basically diffusion of polymer chains across the interface

No, the answer is incorrect.

Score: 0

Accepted Answers:

Healing of the interfaces is basically diffusion of polymer chains across the interface

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