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Courses » Advances in Welding and Joining Technologies

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Unit 9 - Week 8: Metal Transfer in Welding and Metal Printing

Course outline

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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

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Week 7: Welding and Joining of Non-Metals

Week 8: Metal Transfer in Welding and Metal Printing

Lesson 1: Metal Transfer in Welding and Metal Printing

Quiz : Assignment 8

Lecture Content (WEEK 8)

Assignment 8

The due date for submitting this assignment has passed. **Due on 2018-04-01, 23:59 IST.**

Submitted assignment

1) In cold metal transfer process (CMT), the temperature of metal transfer as compared to regular gas metal arc welding process (GMAW) is 2 points

- $T_{CMT} < T_{GMAW}$
- $T_{CMT} = T_{GMAW}$
- $T_{CMT} = 2T_{GMAW}$
- $T_{CMT} = 4T_{GMAW}$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$T_{CMT} < T_{GMAW}$

2) Cold metal transfer (CMT) is a subset of 2 points

- Gas tungsten arc welding
- Submerged arc welding
- Gas metal arc welding
- Laser welding

No, the answer is incorrect.

Score: 0

Accepted Answers:

Gas metal arc welding

3) Which one of the following additive manufacturing processes is powder based system? 2 points

- Stereolithography
- Selective Laser Melting
- Jetting Systems
- Sheet Stacking Technologies

No, the answer is incorrect.

Score: 0

Accepted Answers:

Selective Laser Melting

4) In which of the following phases of cold metal transfer, the liquid fracture and transfer of material into the welding pool occurs? 2 points

Assignment 8
(Solution)

- Peak current phase
- Background current phase
- No metal transfer occurs
- Short-circuiting phase

No, the answer is incorrect.

Score: 0

Accepted Answers:

Short-circuiting phase

5) Which one of the following additive manufacturing processes is liquid based system? **2 points**

- Jetting systems
- Selective laser sintering
- Selective laser melting
- Electron beam melting

No, the answer is incorrect.

Score: 0

Accepted Answers:

Jetting systems

6) Which one of the following mode of metal transfer is not at all suitable for metal printing process? **2 points**

- Globular transfer
- Short-circuittransfer
- Spray transfer
- Dip transfer

No, the answer is incorrect.

Score: 0

Accepted Answers:

Globular transfer

7) Which one of the following metallic materials, the establishment of selective laser melting (SLM) process is more difficult due to carbon content? **2 points**

- Stainless steel
- High carbon steel
- Nickel and nickel alloy
- Maraging steel

No, the answer is incorrect.

Score: 0

Accepted Answers:

High carbon steel

8) In which one of the following metal printing processes, continuous filament of a material is used? **2 points**

- Direct metal deposition (DMD)
- Fused deposition modeling (FDM)
- Selective laser melting (SLM)
- Selective laser sintering (SLS)

No, the answer is incorrect.

Score: 0

Accepted Answers:

Fused deposition modeling (FDM)

9) In which of the following process, almost all powders are transferred into solid? **2 points**

- Direct metal deposition (DMD)
- Selective laser melting (SLM)
- Selective laser sintering (SLS)
- Direct metal laser sintering (DMLS)

No, the answer is incorrect.

Score: 0

Accepted Answers:

Direct metal deposition (DMD)

10) In cold metal transfer (CMT) process, the role of the phase “background current” is

2 points

- ignition of the welding arc
- formation of droplets
- to prevent the globular transfer of little liquid droplet
- to promote liquid fracture and transfer of material into the welding pool

No, the answer is incorrect.

Score: 0

Accepted Answers:

to prevent the globular transfer of little liquid droplet

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