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reviewer4@nptel.iitm.ac.in ▾

NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » **Fundamentals of Surface Engineering: Mechanisms, Processes and Characterizations (course)**

Announcements (announcements)

About the Course (https://swayam.gov.in/nd1_noc19_me69/preview) Ask a Question (forum)

Progress (student/home) Mentor (student/mentor)

Unit 12 - Week 11

Course
outline

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Assignment No. 11

The due date for submitting this assignment has passed. Due on 2019-10-16, 23:59 IST. As per our records you have not submitted this assignment.

1) Densification of flame sprayed coatings can be achieved through

1 point

- Compaction technique
- Iso-static pressing at high temperature
- Rolling
- All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

All of the above

2) Densification of flame sprayed coatings by compaction leads to

1 point

- Grain coarsening
- Increase in pore size
- Fracturing of inclusions
- All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Fracturing of inclusions

3) The gases used in HVOF process include

1 point

Surface modification techniques: Improving the performance of flame spray coating (unit? unit=75&lesson=76)

Surface modification techniques: HVOF and Detonation spraying (unit? unit=75&lesson=77)

Surface modification techniques: Cold spraying, arc spraying (unit? unit=75&lesson=78)

Surface modification techniques: Plasma spraying, electroplating, electroless plating (unit? unit=75&lesson=79)

Characterization of modified surfaces: Surface roughness and thickness I (unit? unit=75&lesson=80)

Quiz : Assignment No. 11 (assessment? name=105)

Solution for Assignment No. 11 (unit? unit=75&lesson=119)

Week 12

FEEDBACK FORM

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- I. Oxygen
- II. Acetylene
- III. Compressed air
- IV. Nitrogen

- I & II
- I, II & III
- II & III
- I, II, III & IV

No, the answer is incorrect.
Score: 0

Accepted Answers:
I, II, III & IV

4) The coating material (like Ni-Co-Cr-W-C) is not completely melted during detonation spray process due to **1 point**

- Very low velocity of coating material
- Very low temperature attained during the process
- Less exposure time during spraying
- All of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Less exposure time during spraying

5) Cold spraying process involves **1 point**

- High kinetic energy of particles and heating of gas up to 300-400°C
- Low kinetic energy of particles and heating of gas up to 3000-4000°C
- High kinetic energy of particles and heating of gas up to 3000-4000°C
- Low kinetic energy of particles and no heating of gas

No, the answer is incorrect.
Score: 0

Accepted Answers:
High kinetic energy of particles and heating of gas up to 300-400°C

6) In cold spraying, the mechanism of coating of constituent particles on the substrate material is **1 point**

- Mechanical interlocking
- Plastic deformation of particles through high energy impact
- Both a and b
- Fine atomized molten metal drops are sprayed over the substrate

No, the answer is incorrect.
Score: 0

Accepted Answers:
Both a and b

7) During Electroless plating, the rate of deposition will be highest at solution temperature of **1 point**

- 30°C
- 30°C
- 60°C
- 60°C

No, the answer is incorrect.
Score: 0

Accepted Answers:

60°C

8) The coating process which does not use electrode is

1 point

- Carburizing
- TIG remelting
- Plasma arc spray process
- Flux cored arc welding

No, the answer is incorrect.

Score: 0

Accepted Answers:

Carburizing

9) Chemical composition of the modified surface layer primarily affects

1 point

- Phases and nature of micro-constituents
- Mechanical properties
- Corrosion resistance
- All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

All of the above

10) Prolonged exposure of modified surface of steel at high temperature (near lower critical temperature) can cause

1 point

- Grain refinement
- Remelting and solidification of modified surface
- Spheroidization
- All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Spheroidization