Assignment 4

The due date for submitting this assignment has passed. Due on 2018-09-26, 23:59 IST.

As per our records you have not submitted this assignment.

1) In aluminium containing advanced high strength steels, which metallurgical reaction occurs first when the weld pool is formed?

- δ-ferrite stabilisation
- formation of oxide inclusions
- acicular ferrite formation
- austenite formation

No, the answer is incorrect.
Score: 0

Accepted Answers:
formation of oxide inclusions

2) δ-ferrite gets stabilised in fusion and grain boundaries in TRIP steels welds by

- silicon enrichment
- carbon enrichment
- aluminium enrichment
- manganese enrichment

No, the answer is incorrect.
Score: 0

Accepted Answers:
aluminium enrichment

3) The primary nucleation sites for acicular ferrite is

- fusion boundaries
- ferrite grain boundaries
- martensite lath boundaries
- non-metallic inclusions.

No, the answer is incorrect.
Score: 0

Accepted Answers:
non-metallic inclusions.

4) Which (one) of the following element(s) is/are known to minimise phosphorous segregation at the weld centre line?

- Boron
- Manganese
- Rare earth elements
- Hydrogen.
No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
Boron

5) Which (one) of the following element(s) diffuse(s) out of liquid to solid during solidification of TRIP steels ?
- Carbon
- Phosphorous
- Sulphur
- Aluminium.

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
Aluminium.

6) Which (one) of the following microstructural constituents in steels is/are paramagnetic at room temperature ?
- Ferrite
- Martensite
- Austenite
- Non-Metallic Inclusions

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
Austenite  
Non-Metallic Inclusions

7) When the retained austenite fraction increases, the saturation magnetisation of TRIP steels
- decreases
- do not change
- increases
- increases exponentially.

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
decreases

8) The width of heat affected zone (HAZ) in welded TRIP steels is in general larger than conventional steels because of
- Pearlite formation
- Oxidation during welding
- decomposition of retained austenite
- Vaporisation.

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
decomposition of retained austenite

9) Softening of heat affected zone in welded DP steels is due to
- Spheroidisation of pearlite
- Tempering of Martensite
- Formation of Martensite
- Retained austenite.
Double pulsing resistance spot weld thermal cycle improves the mechanical properties of the welds by

- changing the primary weld nugget size
- homogenising elemental segregation
- expulsion
- key-hole formation.

No, the answer is incorrect.

Score: 0

Accepted Answers:
- homogenising elemental segregation