

FURNACES AND REFRACTORIES

Test your knowledge on furnaces and refractories through this quiz with ten multiple choice questions.

Name: _____

Organization: _____

Date: _____

1. For optimum fuel consumption, the pressure at which furnaces operate should be

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|---|---|
| <input type="checkbox"/> a. Slightly negative | <input type="checkbox"/> c. Neutral |
| <input type="checkbox"/> b. Slightly positive | <input type="checkbox"/> d. Highly positive |

2. Which of the following statements is correct with regard to the energy efficiency performance of a furnace?

- | | |
|--|--|
| <input type="checkbox"/> a. Infiltration of air is more harmful than exfiltration of air | <input type="checkbox"/> c. Infiltration and exfiltration of air are equally harmful |
| <input type="checkbox"/> b. Exfiltration of air is more harmful than infiltration of air | <input type="checkbox"/> d. Infiltration and exfiltration of air have no impact |

3. Which of the following statements is not correct? The thermal efficiency of a furnace is increased by

- | | |
|--|---|
| <input type="checkbox"/> a. Increasing the furnace loading | <input type="checkbox"/> c. Increasing the excess air flow rate |
| <input type="checkbox"/> b. Reducing the surface heat loss | <input type="checkbox"/> d. Minimizing the CO loss and unburnt loss |

4. The axis of the burner in a furnace should be kept

- | | |
|---|--|
| <input type="checkbox"/> a. Slightly inclined/tilted towards the roof | <input type="checkbox"/> c. Parallel to the stock |
| <input type="checkbox"/> b. Slightly inclined/tilted toward the stock | <input type="checkbox"/> d. Sharply inclined/tilted towards the roof |

5. The emissivity of ceramic coatings used in the furnace

- | | |
|--|---|
| <input type="checkbox"/> a. Decreases with increasing temperatures | <input type="checkbox"/> c. Remains constant with increasing temperatures |
| <input type="checkbox"/> b. Increases with increasing temperatures | <input type="checkbox"/> d. Decreases with increasing furnace pressure |

6. The normal operating temperature of a rolling mill furnace is about

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|------------------------------------|-------------------------------------|
| <input type="checkbox"/> a. 800 °C | <input type="checkbox"/> c. 1000 °C |
| <input type="checkbox"/> b. 90 °C | <input type="checkbox"/> d. 1200 °C |

7. In a reheating furnace, scale losses will

- | | |
|--|--|
| <input type="checkbox"/> a. Increase with excess air | <input type="checkbox"/> c. Not be impacted by excess air |
| <input type="checkbox"/> b. Decrease with excess air | <input type="checkbox"/> d. Increased with nitrogen in the air |

8. The most common form of refractory materials used in the construction of a small furnace is

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|--|---|
| <input type="checkbox"/> a. Silica brick | <input type="checkbox"/> c. Chrome magnesite bricks |
| <input type="checkbox"/> b. Fire brick | <input type="checkbox"/> d. Calcium silicate bricks |

9. Alumina is a _____ type of refractory

- | | |
|-----------------------------------|-------------------------------------|
| <input type="checkbox"/> a. Acid | <input type="checkbox"/> c. Neutral |
| <input type="checkbox"/> b. Basic | <input type="checkbox"/> d. Inert |

10. The type of furnace in which preheating of air temperature will be maximum with respect to waste heat recovery system is a

- | | |
|---|---|
| <input type="checkbox"/> a. Recuperative type | <input type="checkbox"/> c. Convective type |
| <input type="checkbox"/> b. Regenerative type | <input type="checkbox"/> d. None of the above |

Test your knowledge: Furnaces and Refractories

ANSWERS				
1. b	2. a	3. c	4. a	5. b
6. d	7. d	8. b	9. c	10. b