

AMCT16 REFRACTORIES I

UNIT-1 INTRODUCTION

- 1.1 Definition- production
- 1.2 Demand & growth of refractories in India
- 1.3 Layout of a refractory plant
- 1.4 Classification of refractory
- 1.5 Fundamental properties of refractories
- 1.6 Factors for selection and use of refractories.

UNIT-2 SILICA REFRACTORIES

- 2.1 Raw materials & composition
- 2.2 Manufacturing process steps
- 2.3 Phase transformation of quartzite
- 2.4 Properties & uses.

UNIT-3 ALUMINOSILICATE REFRACTORIES

- 3.1 Al₂O₃- SiO₂ phase diagram,
- 3.2 Types of raw materials
- 3.3 Different alumino silicate refractories
- 3.4 Manufacturing steps – properties & applications.

UNIT-4 BASIC REFRACTORIES

- 4.1 Manufacturing process
- 4.2 Properties and uses of magnesite,
- 4.3 Forsterite, dolomite and chrome based refractories.

UNIT-5 SPECIAL REFRACTORIES

- 5.1 Different Carbide & nitride refractories
- 5.2 Carbon and carbon based refractory
- 5.3 Zirconia- beryllia - thoria refractory
- 5.4 Fused cast refractories- cermets- ceramic fibers.

References Books:

1. B.M.Coope & E.M.Dickson, Raw Materials for the Refractories Industries, an Industrial Minerals Consumer Survey, 1981.
2. Shaw K, Refractories & Their Uses, App, Science Publishers, UK, 1972.