

Some questions and answers from Ch 10(Ceramics)

1. What is the bonding agent used in concrete?

Ans: The bonding agent in concrete is Portland cement

2. What is the most common composition of cemented carbides?

Ans: Tungsten carbide with a cobalt binder is the most common composition of cemented carbides.

3. What subsection of the ceramics industry makes up the biggest portion of the revenue?

Ans: The electronics business makes up the biggest portion of the revenue in the ceramics industry.

4. What is a general rule for using glasses in corrosive environments?

Ans: A general rule to follow when using glasses in corrosive environments is to not use a solution with a pH greater than 10 at 100°F.

5. What are the three major components of concrete?

Ans: The three major components of concrete are sand, cement, and aggregate.

6. What is a cermet?

Ans: A cermet is a mixture of Ceramic particles and metal [CERamic METal]

7. How many Valence electrons does a Carbon atom have?

Ans: 4

8. Why do Ceramics resist corrosion?

Ans: They are found naturally in nature and have no driving force to corrode.

9. Manufacturing processes of nearly all ceramic products require _____.

Ans: High temperatures

10. What is a primary characteristic of all ceramics?

Ans: Brittleness

11. Describe the molecular arrangement of a glass.

Ans: An amorphous crystal with no regular, repeating patterns.

12. Which type of Structural Ceramic is the most easily machined?

Ans: Glass-Bonded Mica.

13. What are the two types of ceramic magnets?

Ans: Soft and Hard, temporary and permanent.

14. Give an example of a use for soft and hard magnets:

Ans: Solenoid Core and Magnetic Seals