

## 1. Composition

- **Metal Substructure:**
  - Made from alloys such as:
    - **High Noble:** Gold, platinum, or palladium-based.
    - **Noble:** Palladium or silver-based alloys.
    - **Base Metal:** Nickel-chromium or cobalt-chromium alloys.
  - Provides strength and durability.
- **Ceramic Layer:**
  - Porcelain or other ceramic materials layered over the metal for aesthetics.

## 3. Applications

- **Crowns and Bridges:** Full or partial coverage restorations for damaged or missing teeth.
- **Veneers:** Thin shells bonded to the front surface of teeth for cosmetic improvements.
- **Inlays and Onlays:** Indirect restorations for repairing cavities or fractures.
- **Orthodontic Brackets:** Clear or tooth-colored ceramic brackets used in braces.
- **Implant Abutments:** Ceramic components used in dental implants.

## 2. Properties

- **Strength:** The metal substructure offers high fracture resistance.
- **Aesthetic:** Ceramic provides a tooth-like appearance, though it may be slightly less natural compared to all-ceramic restorations.
- **Durability:** Can last for many years with proper care.
- **Biocompatibility:** Depends on the metal alloy; high-noble alloys are more biocompatible.

Ceramics are widely used in dentistry due to their excellent properties for restoring teeth and improving oral aesthetics. Here are some basic facts about ceramics in dentistry:

### 1. Composition

- Dental ceramics are typically made of non-metallic, inorganic materials, primarily silicate-based compounds.
- Common types include feldspathic ceramics, lithium disilicate, zirconia, and alumina.

## 2. Properties

- **Aesthetic:** Ceramics can closely mimic the natural appearance of teeth, including translucency and color.
- **Biocompatibility:** They are highly biocompatible, causing minimal irritation to oral tissues.
- **Strength:** Some ceramics, like zirconia, are extremely strong and resistant to fracture.
- **Wear Resistance:** Ceramics resist wear and do not degrade over time.
- **Brittleness:** They are prone to chipping or cracking under extreme force.