

MSE-401
COMPOSITES
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Interface between matrix and reinforcement (fiber) in a composite material.

- # The primary dimension of any composite is the interface.
- # The interface is the area where the different materials in a composite coincide.
- # In order to have a successful, applicable composite, one must form an interface that is strong and favorable towards maximum compatibility.
- # A good interface is imperative for a material to survive under stress.

Types of Matrix Materials Metals:

- # **Aluminum Titanium Copper**
 - Higher use temperature range
 - # Aluminum matrix composite – use temperature range above 300°C and titanium at 800 °C
 - Higher transfer transfer strength, strength, toughness(toughness(in contrast contrast with brittle brittle behavior behavior of polymers and ceramics)
 - The absence of moisture & high thermal conductivity (copper)
- Disadvantages:
- Heavier
 - More susceptible to interface degradation at the fiber/matrix interface and to corrosion