

Ceramics: An Overview

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- INTRODUCTION
- PROPERTIES OF CERAMICS
- USES AND COST BENEFIT ANALYSIS OF CERAMICS
- RECYCLING

THE ROLE AND IMPORTANCE OF CERAMICS

INTRODUCTION

Modelling of clay, before heating

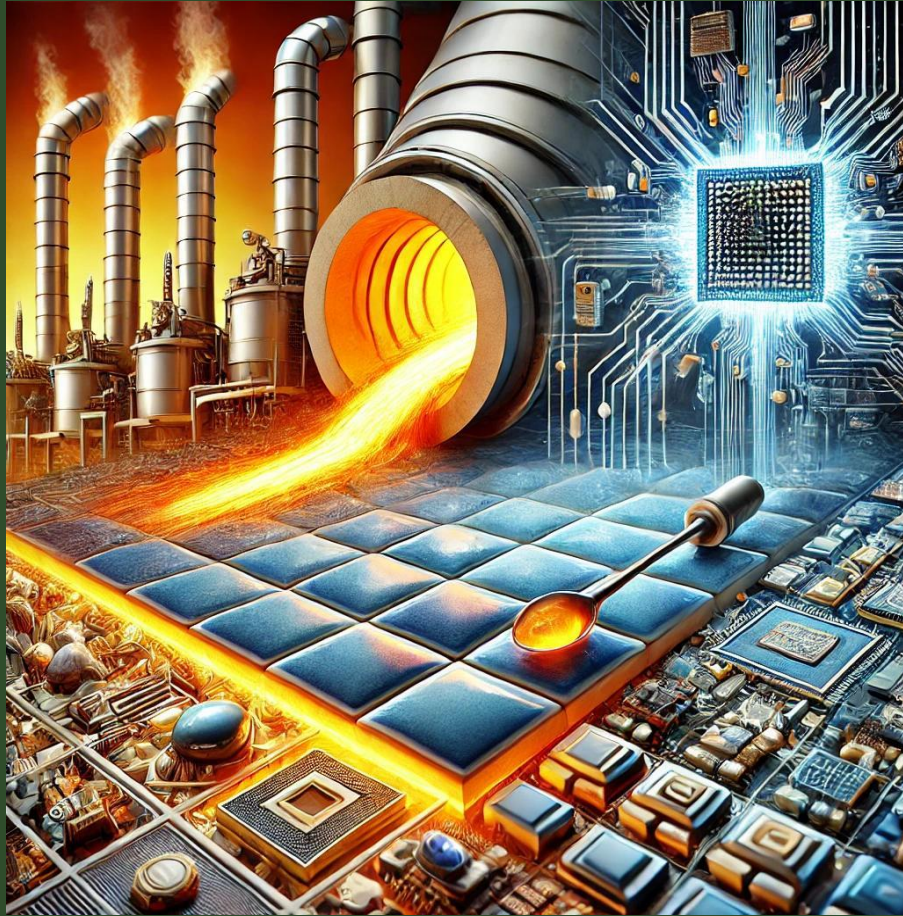


- Ceramics are non-metallic, inorganic materials formed by shaping and heating natural or synthetic substances, such as clay, at high temperatures. This process results in strong, durable products used in a wide range of applications.

PROPERTIES OF CERAMICS

1. Hard and brittle
2. They are stiffer and stronger than metals.

USES OF CERAMICS



Pictorial

- Building materials (Tiles, Bricks)
- Semi conductors (used in computer chips)
- Insulators in high voltage power lines and electrical systems
- Lining furnaces

RECYCLING OF CERAMICS

1. Recycling companies.
2. Products of recycled ceramics.
3. Advantages and disadvantages of recycling ceramics.

Advantages and Disadvantages

Advantages

- Reduced pollution
- Creation of jobs
- Reduced production costs

Disadvantages

- **Difficulty in processing** – *Ceramics are difficult to crash and melt because they are hard and brittle, so need special equipments which may be expensive or don't exist.*
- **Energy intensive** – *crashing and melting needs energy.*
- **Contamination** – *Ceramics waste may be mixed with other wastes such as plastics or metals which further complicates the process.*

Recycling Companies in Kenya

- **Eco Waste Solutions Kenya** – *does recycling of construction and industrial wastes and could also include ceramics.*

Products of recycled ceramics

- **Tiles** – *broken tiles can be ground and then used as a raw materials or mixed with the raw materials to make new tiles.*
- **Construction materials** – *Broken ceramics, eg the ceramic cups or dishes, the tiles can be ground and mixed with clay to make bricks.*

COST – BENEFIT ANALYSIS

COST

- **Initial investment** – *Setting up a recycling plant needs cost for the machineries that does crashing etc.*
- **Energy consumption** – *crashing, melting needs energy, coals or electricity maybe used but are generally expensive due to the nature of ceramics.*
- **Transport and collection** of the wastes from sites especially in multiple locations may always not be easy.

BENEFITS

- **Reduced pollution**

CONCLUSION

So, jumping into the ceramics recycling business? It might feel a bit... mysterious. You'll be the hero saving the planet, reducing pollution, and making the world a cleaner place. But let's be real, from a business perspective, you might end up with more environmental credit than cash in your pocket. 😞 😞

It's a tough one—less pollution is great, but when it comes to making a profit, recycling ceramics might not exactly be your golden ticket. Still, if you're in it for the planet, you'll sleep well at night—even if your wallet isn't as full as you'd hoped! 🌍

END