



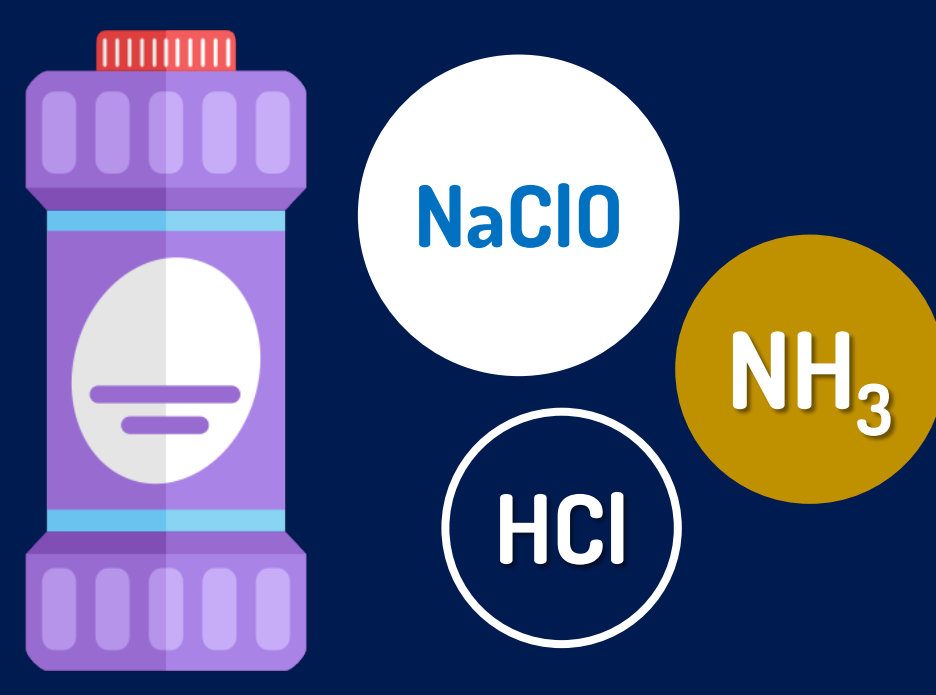
IKTO High Efficiency Eco-Friendly Superhydrophobic Light Weight Tiles for Bathroom Floors to Reduce the Risk of Slipping and Falling Accidents

PROBLEM STATEMENT

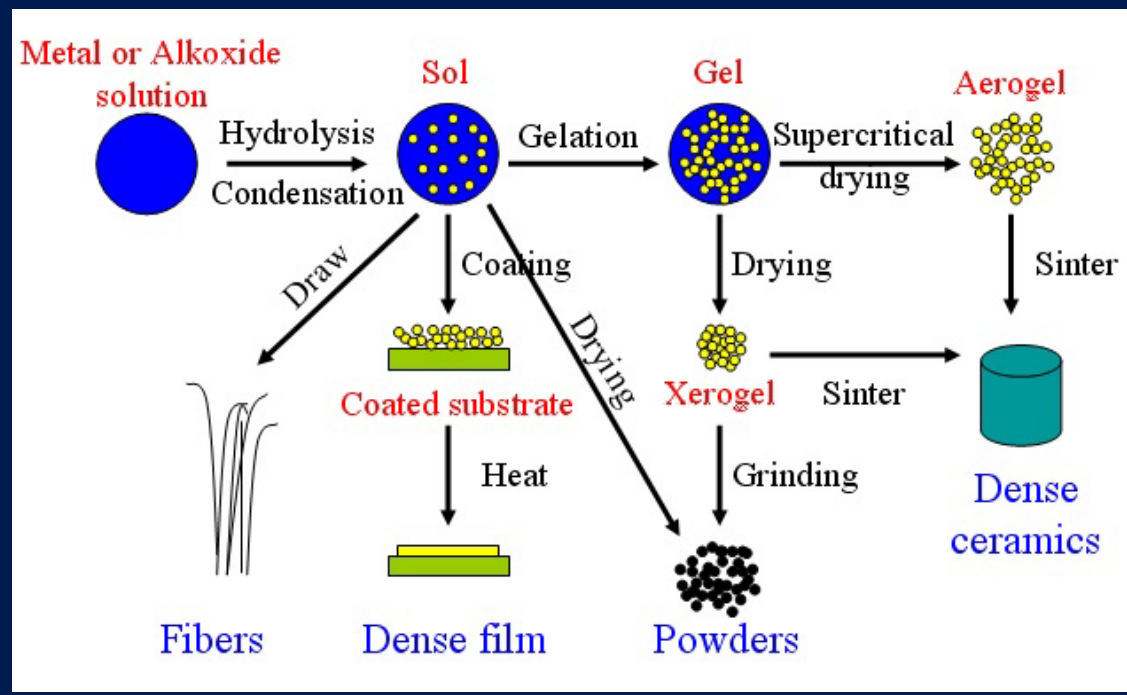
CORE-TECHNOLOGIES



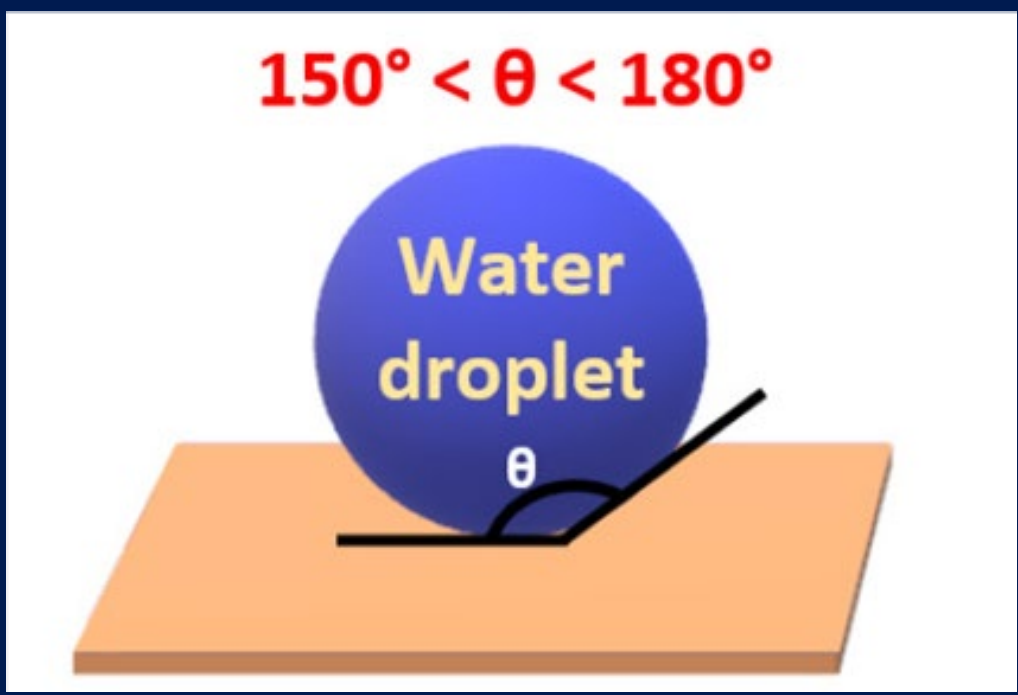
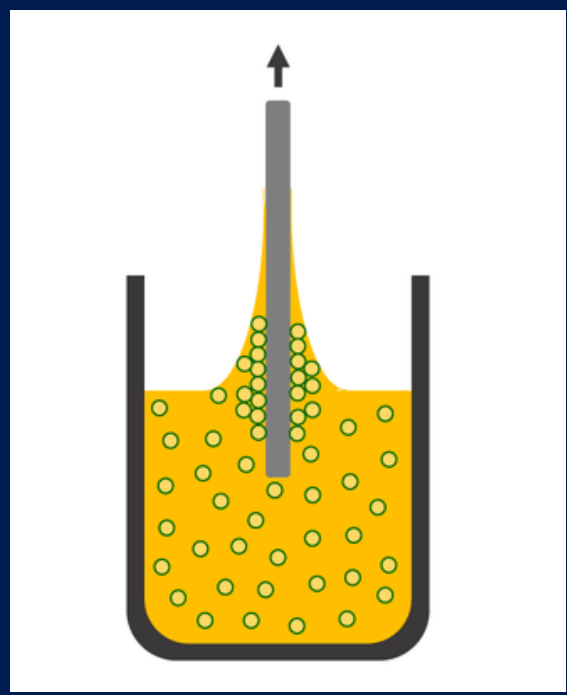
Common Bathroom Tile
Bacteria can accumulate and form the dirty and slippery biofilm, which increasing the risk of accidents in the bathroom.



Current Solution
Most of the bathroom cleaners contain chemicals like bleach, ammonia, or acids, which can harm the respiratory system and increase accident risks.



Sol-Gel
The Sol-Gel process synthesizes materials like thin films, coatings, and ceramics by transitioning from a liquid (sol) to a solid (gel) through hydrolysis and polycondensation of metal alkoxides or other precursors. It enables the creation of materials with tailored properties.



Superhydrophobic Surfaces
Have extremely high-water contact angles and low surface energy, which makes water droplets roll off easily due to less resistance. These surfaces are studied for their ability to control droplet movement when exposed to external factors like electricity, magnetism, light, sound, and mechanical stress.

INNOVATION & BENEFITS & SDGs

CHF 15.- Per Square Meter

9 INDUSTRY INNOVATION AND INFRASTRUCTURE

>30% Weight Reduction

LESS HEAVY

3 GOOD HEALTH AND WELL-BEING

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

ECO-MATERIALS

Made from Fly Ash a Byproduct of Power Generation

Reduce Slipping Risk by Minimizing Surface Water Adhesion

MORE SECURE

PRODUCTION



Rice Husk



Fly Ash

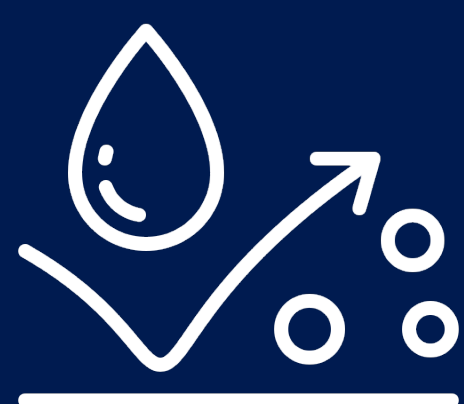


Alkali Activator

Curing & Dip Coating
Ambient curing for 28 days in accordance with ASTM C192M and dip coating with Sol-Gel

Testing Standards
ASTM C373, ASTM C424, ASTM C650, ASTM C1027, ASTM D2047

PERFORMANCE



Reducing Water Adhesion
A water contact angle on the Tile surface is greater than 90° which is the feature of superhydrophobic



Weight Reduction
A high physical property and good durability with an ability to reduce the weight of tiles by more than 30% compare with the regular ceramic tile



Surface Texture
The surface has a rough texture and good friction that appropriate for using in the bathroom.

COSTUMER SEGMENTS

Bathroom in Public Places

that have a Large Number of Users and the Accidents High Risk User group such as Elderly and Children



Hospital



School



Gas Station

BUSINESS MODEL



Key Partner
Mae Moh Coal Power Plant Under the Electricity Generating Authority of Thailand (EGAT)

Marketing

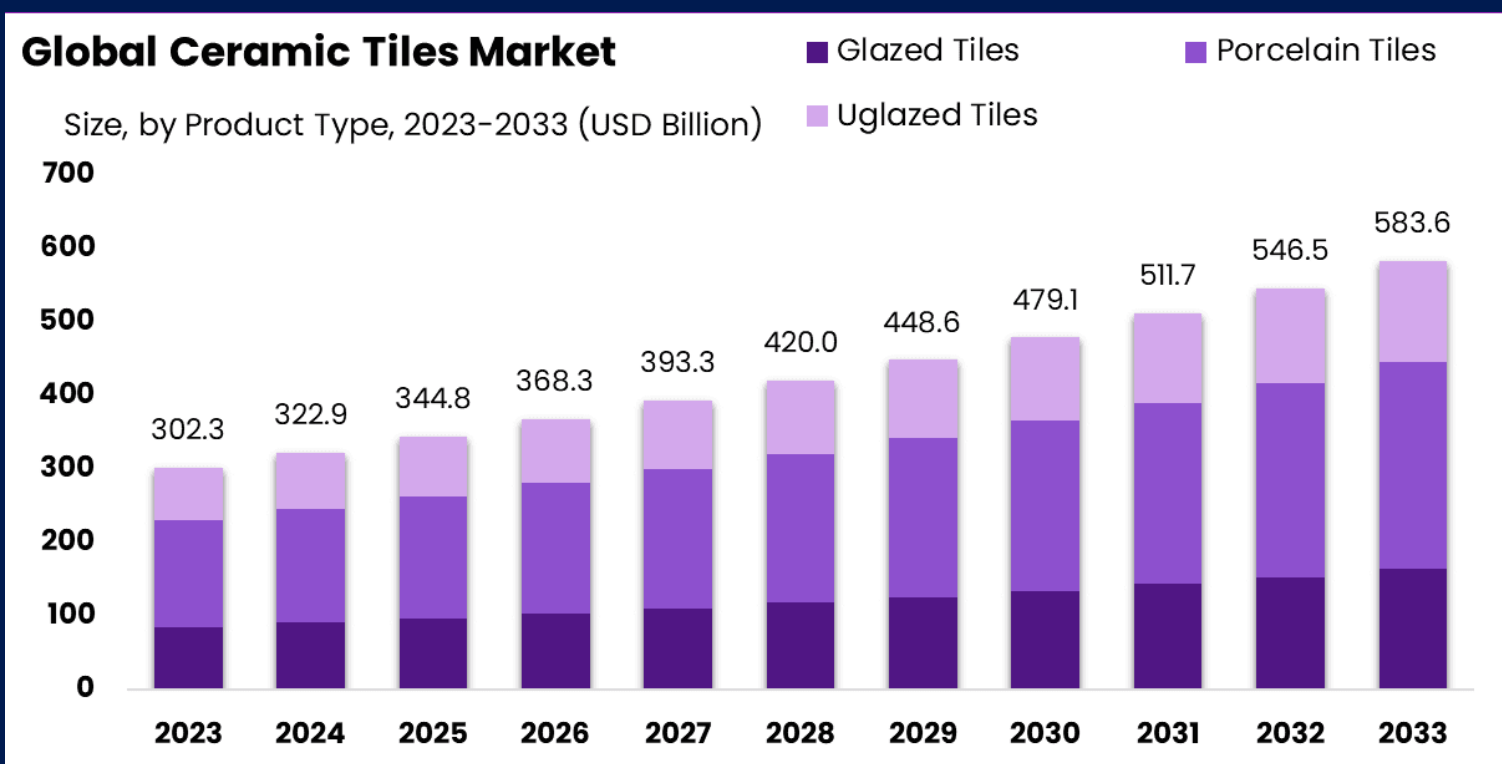
Offline Presence :
Building Material Store

Online Presence :
Building Material Online Store and Social Media Marketplace

Public Relations :
Advertisement via Building Material and Health Catalogs or Social Media Blog



BUSINESS OPPORTUNITY



Global Ceramic Tiles Market Size is Growing Rapidly

USING INSTRUCTION

For Bathroom Flooring

Cleaning

Simply pour water on the tiles until the dirt stains are removed.

Not recommended

Bathroom Cleaning or Chemical Products



SELECTED REFERENCES

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