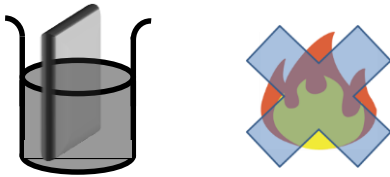


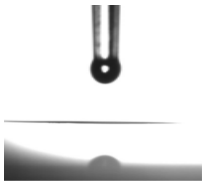
# Coating Technologies: Anti-scratch Super-hydrophilic Coating



IMRE scientists have developed a fully inorganic, transparent coating material that can be used to coat surfaces to enhance their anti-scratch and super-hydrophilic properties.



Substrate dipped into a solution of the coating material at room temperature



Drop of IMRE-developed coating material spreads completely on substrate, demonstrating super-hydrophilic property

## Potential Applications

- Self-cleaning glass surfaces such as window panels, mirrors and shower screens to help reduce maintenance costs
- Anti-fog car windows for safety and better maneuverability
- Anti-fog and anti-scratch lenses and goggles

## Key Features

- The coating material is in the form of a solution and can be evenly applied onto the substrate by immersing the item to be coated in the solution (dip-coating) or by brush painting or spray painting.
- Coating can be carried out at room temperature which translates into:
  - ease of application onto existing windows or surfaces
  - lower processing costs
- The coating exhibits:
  - anti-scratch properties and is highly durable with a pencil hardness of 9H on glass and 3H on polycarbonate surfaces due to the hardness and pure inorganic content of the coating material used;
  - super-hydrophilicity, even at night, as the coating material does not require UV exposure to activate its super-hydrophilic property, unlike  $\text{TiO}_2$  coatings.

## Collaboration Opportunities

- Partner with companies to produce anti-fog lenses and develop other useful applications
- Collaborate with coating companies to develop coating capability further



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