

# Whitest Paint

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**IN News:** Recently, Engineers from Purdue University in the US have created whitest paint yet.

## About Whitest Paint

- The team of researchers at the university created an ultra-white paint in October pushing the limits of how white paint can be.
- This older formulation was made of calcium carbonate, while the new one is made up of barium sulphate, which makes it more white.
- This paint is closest equivalent to the blackest black paint called “Vantablack ” that is able to absorb up to 99.9 percent of visible light.

## What makes the paint so white?

- There are two features
  - One is the paint’s high concentration of a chemical compound called barium sulfate, which is also used to make photo paper and cosmetics white.
  - Second feature is that the team has used different sized particles of this chemical compound, which means different sizes scatter different amounts of light.
- In this way, a varying size of particles of the compound make sure that the paint can scatter more of the light spectrum from the sun.
- There is a little bit of room to make the paint whiter, but not much without compromising the paint.
- This is because while a higher particle concentration can be used to make something whiter, tweaking this concentration or making it higher too much makes it easier for the paint to break or peel off.

## Significance of Whitest Paint

- The newer paint is whiter and keeps the surface areas it is painted on cooler than the formulation before this could.
- If this new paint was used to cover a roof area of 1,000 square feet, it may be able to get a cooling power of 10 kilowatts.
- Most ovens use up about 2.3 kilowatts to run for an hour and a 3 ton 12 Seasonal Energy Efficiency Ratio (SEER) air conditioner uses up about 3 kilowatts to run for an hour.
- Paint is so white, that the paint can keep surfaces 19 degrees Fahrenheit cooler than their ambient surroundings at night.
- It can also cool surfaces 8 degrees Fahrenheit below their surroundings under strong sunlight during noon hours.