Spray Coated Paint Based on Glass Bubbles for Buildings

Tech ID: 32468 / UC Case 2021-756-0

BRIEF DESCRIPTION

Developing optical materials with a high solar reflectivity and high mid-infrared emissivity is important for coating the outdoor buildings. The authors proposed a spray coated paint based on glass bubbles which can be used to maintain the thermal environment of constructions.

SUGGESTED USES

·The presented method can be used for coating the large-scale buildings and the lightweight constructions to efficiently control the buildings' temperature.

FEATURES/BENEFITS

·The created material is cost-effective compared to available methods which use silicon as the base material.

·The created material can be used for large-scale applications due to its low cost and high efficiency.

TECHNOLOGY DESCRIPTION

Applying appropriate coating materials with high solar reflectivity and high mid-infrared emissivity is important for controlling the temperature of the buildings and saving energy. The current approaches are either expensive or complicated, which limit large-scale use.

The researchers at the University of California, Irvine, created a unique spray coated paint consisting of glass bubbles formulated with a novel binder.The mixture can be utilized to coat concrete surfaces and, when the coating is allowed to dry, the coating shows a broadband, high solar reflectivity across a wide spectrum of the solar wavelength and high mid-infrared emissivity such that the coated structure displays a temperature reduction up to 20°C.

STATE OF DEVELOPMENT

Additional research and testing has been planned.

PATENT STATUS

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Published Application	WO 2022/212376	10/06/2022	2021-756

Additional Patent Pending

CONTACT

Ben Chu
ben.chu@uci.edu
tel: .

INVENTORS

» Lee, Jaeho
» Nie, Xiao

OTHER INFORMATION

CATEGORIZED AS

» **Environment**
» Other
» **Materials & Chemicals**
» Chemicals
» Polymers

RELATED CASES

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5270 California Avenue / Irvine,CA
92697-7700 / Tel: 949.824.2683