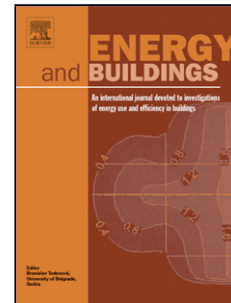


## Accepted Manuscript

Title: Designing multifunctional pigments for an improved energy efficiency in buildings

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PII: S0378-7788(16)31360-3  
DOI: <http://dx.doi.org/doi:10.1016/j.enbuild.2017.04.081>  
Reference: ENB 7577

To appear in: *ENB*

Received date: 27-10-2016  
Revised date: 21-3-2017  
Accepted date: 27-4-2017

Please cite this article as: Estibaliz Aranzabe, María Isabel Arriortua, Aitor Larrañaga, Ana Aranzabe, Pedro María Villasante, Ricard March, Designing multifunctional pigments for an improved energy efficiency in buildings, Energy and Buildings <http://dx.doi.org/10.1016/j.enbuild.2017.04.081>

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## Designing multifunctional pigments for an improved energy efficiency in buildings

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### Highlights:

- A multifunctional pigment having a phase change material adsorbed on its surface and a high total solar reflectance has been manufactured.
- The Multifunctional pigment was conveniently dispersed in a water based paint
- The thermal performance of the pigment was evaluated and compared with the reference
- In the tested conditions, the contribution of both effects was quantified.

### Abstract

Materials science offers solutions that when are combined can offer important energy savings in the building sector. In this study, high reflectance coating and thermal storage capacity are combined with the aim of improving energy efficiency in buildings. For this issue a multifunctional pigment having a phase change material adsorbed on its surface and a high total solar reflectance has been manufactured.

The total solar reflectance of the pigment will make the paint to reflect the sunlight radiation in the infrared part of the spectrum reducing the amount of absorbed radiation.

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