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## Decomposition of formaldehyde by EPD photocatalyst filters in HVAC

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Industrial Education

*Research output: Contribution to journal > Article*

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Citations

### Abstract

This study used electrophoretic deposition (EPD) to apply titanium oxide (TiO<sub>2</sub>) coating on stainless steel filters and investigated the effectiveness of photocatalytic oxidation of formaldehyde by TiO<sub>2</sub> under various conditions of heating ventilation air conditioning (HVAC). The results showed photocatalytic efficiency could reach 35.59% at 21 °C and 36.39% at 26 °C with 7 photocatalyst filters and 5 UVC lamps, the overall efficiency of formaldehyde removal of 52.37% at 21 °C, and 56.8% at 26 °C. By all experimental data can be found that the temperature for the photocatalytic performance is not obvious in the range of this study. © 2011 Chinese Society of Particuology and Institute of Process Engineering, Chinese Academy of Sciences.

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