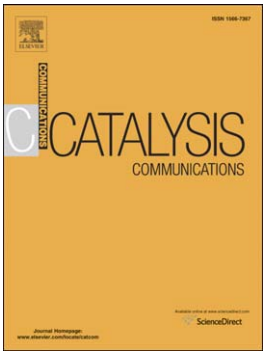

The synergistic degreasing treatment of background irradiated photocatalysis and microreactor

Zhannan Peng, Xuefeng Liu, Guanqun Lin

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The synergistic degreasing treatment of background irradiated photocatalysis and microreactor

Zhannan Peng [a,*], Xuefeng Liu [a,b], Guanqun Lin [a]

[a] School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing 100083, Beijing, China

[b] Beijing Laboratory of Metallic Materials and Processing for Modern Transportation, University of Science and Technology Beijing, Beijing 100083, Beijing, China

Abstract: The microreactor principle was applied to the photocatalytic degreasing process by using the self-made simple equipment. The results show whether alone by using the background irradiated photocatalysis or just by using the microreactor to the degreasing treatment of the copper foil surface, the photocatalytic degreasing rate is very low. On the contrary, the two synergistic effects of the background irradiated photocatalysis and the microreactor are not only much larger than that of single function, but much higher than that of their cumulative effect. When the light source power is 100W and the irradiating time is 30 min, the degreasing efficiency of two synergistic effects is more than 90%.

Key words: Synergistic effect; Degreasing treatment; Background irradiated; Photocatalysis; Microreactor; Contact angle method

1. Introduction

The rapid development of high and new technology has increasingly demand for metal surface quality, and the surface treatment technology has become an important part of the metal processing techniques. Pre-degreasing before surface treatment not only is an essential step, but closely related to the surface quality of the subsequent treatment. Therefore, degreasing treatment has become an important research of the metal processing techniques. The traditional methods include chemical degreasing [1], electrolytic degreasing [2], mechanical degreasing [3], etc., which is a large-scale use of chemical agents to bring great harm to the environment, the use of the sophisticated equipment in electrolytic methods brings a high cost energy, the mechanical methods have a certain degree of damage on the metal surface and internal. In short, there is still environment pollution, high cost, high energy consumption, damage of metal and so on in

* Corresponding author at: School of materials science and engineering, University of Science and Technology Beijing, Xueyuan Road 30, Haidian District, Beijing, China.
E-mail address: pengzncz@163.com.