

## Reflector Arrangement Effect on Ultraviolet Lamp Performance by CFX Simulation

**Authors :** William Sidharta, Chin-Tu Lu

**Abstract :** Fluorescent ultraviolet lamp generates ultraviolet light which is commonly used in industrial field with certain purposes especially for curing process. Due to the value of inefficiency, there are changes in energy from electrical energy to the heat energy and this would make a defect on the industrial product caused by high temperature of lamp tube during ultraviolet light emission. The condition of industrial scale is further worsening, since commonly using dozens of fluorescent ultraviolet lamps to support huge production process and then it will generates much more heat energy. The maximum temperature of fluorescent ultraviolet lamp will get affected by arranging the lamp tube reflector and this study presents CFX simulation results of the maximum lamp tube temperature with some different reflector arrangements on purely natural convection phenomena. There exists certain spaces value of the reflector and the lamp tube to obtaining lower maximum temperature of the fluorescent ultraviolet lamp.

**Keywords :** CFX simulation, fluorescent UV lamp, lamp tube reflector, UV light

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