

## Concept design and testing of multi-nozzle water mist fire suppression system

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### Abstrak

In this work a flexible design of multi-nozzle arrangement of water mist fire suppression system was studied. The source of fire was a 65 mm diameter cooking oil fire. An investigation on the impact of nozzle arrangement on the temperature profile of fires was conducted. The occurrence of oil splash due to the application of water mist was also studied. The water mist systems developed in the present work can effectively extinguish cooking oil fires and prevented them from re-ignition. The spray angle, discharge pressure, and water flow rate were important factors to determine the effectiveness of water mist in extinguishing cooking oil fires.