

# FLOW VISUALIZATION IN FLAME HOLDERS

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## Abstract

Flame holders are studied with various contours and their effectiveness is understood through the flow separation characteristics and recirculation points. The Experiments made in Water channel are matched with simulations from OpenFoam and studied. The objective of the project is to achieve flow visualization (2D) results through the open source software.

The following contours are compared at various velocities:

- 1) Plane Conical
- 2) Saw tooth Conical



Fig. Saw tooth Conical flame Holder

Flow Characteristics

Velocities : 9m/s,15m/s

Density : 1000 kg/m<sup>3</sup>

Pressure : 1 atm

**Keywords:** *Flow visualization, Water channel, Vortices, Recirculation, Jet flow*