

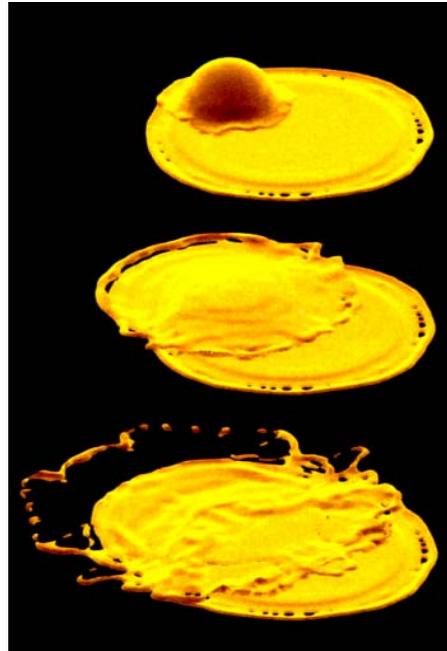
$$\frac{\partial(\rho_F \vec{V})}{\partial t} + \nabla \cdot (\rho_F \vec{V} \vec{V}) = -\nabla P + \nabla \cdot (\mu_F \nabla \vec{V}) + \vec{F}_b$$

# SimDrop

**SimDrop** is a specialized simulation software tool for analyzing various droplet impact scenarios. The package provides valuable solutions to engineers, manufacturers, and researchers who are developing or designing new water and agricultural spray systems, coating and cooling systems, painting systems and other coating applications.

## Applications & Features

1. Analyze the effects of various liquid types.
2. Determine optimal nozzle parameters and characteristics such as droplet velocity, size distribution and ideal liquid temperature.
3. Find the spread size and the thickness of the liquid film.
4. Includes a library of different liquid and substrate material.
5. Easy to use Quick Help guides and comprehensive manual with an in-depth section on CFD fundamentals
6. Drop Prop Utility  
Software allows users to create their own library of property files.



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## Benefits

- Now you can simulate any type of droplet impact and solidification scenario on any type of angled surface.
- Unlike other CFD software packages, Simulent Drop 1.0 is specialized for droplet impact and solidification using free surface flow algorithms.
- Saves time and cost of prototyping & experimentation.
- Provides valid results that resemble real life behavior.
- Simulates the entire drop impact process including deposition and solidification of a single or multiple droplets on an angled substrate.

## Applications

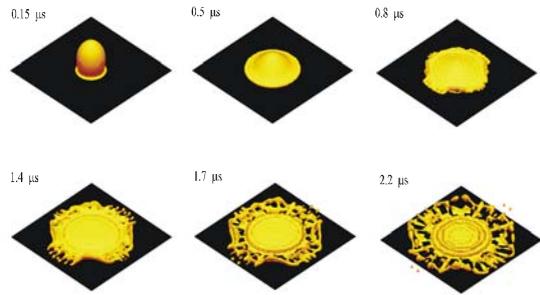
- Analyze and develop various types of liquids and molten metals for coating applications.
- Determine optimal parameters and characteristics such as droplet velocity, size distribution and temperature of the liquid and the substrate.
- Find the thickness of solidified liquids on a substrate.

## Accurate, Reliable and Precise

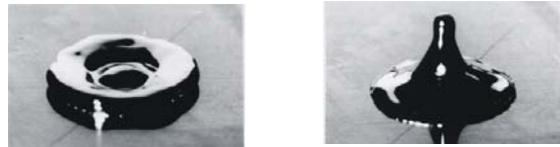
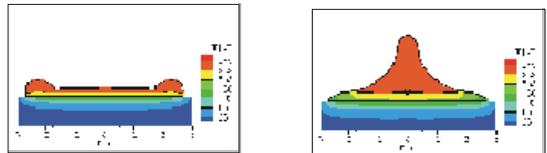
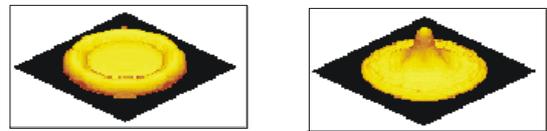
The results of the software have been extensively tested and validated through experimentation under various conditions and parameters; some of the tests conducted are represented in the figures to the right.

## About Simulent

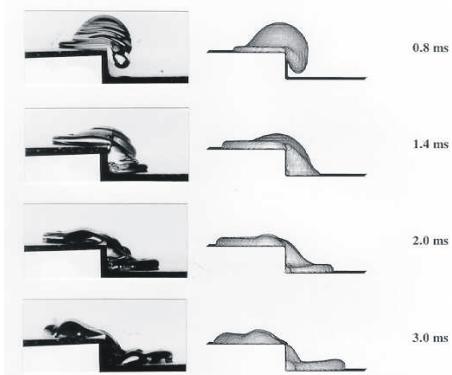
Simulent is the leading CFD software development, marketing and consulting company specializing in free surface flow simulation and analysis.



*Simulation of the impact of a molten nickel droplet on a hot surface.*



*3D movie with corresponding thermal gradient and experimental result.*



*Photographs (left) and simulation (right) results of a 2.0 mm water droplet impacting onto a stainless steel edge.*