

# **Design and Analysis of Projectiles aft body with slots normal to base**

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## **Abstract**

The objective of the project is to design and analyse a projectiles body to enhance the reduction of base drag. The specimen is designed in CATIA and is analysed using OPENFOAM software.

The model suggested in this paper includes attachments of rectangular slots along the periphery of the base body of the projectile. The slots are placed in an angle +6 degrees to the base area. The concept of slots aids in easy flow mixing in the low pressure area and thus reduces the negative pressure gradient. The flow leaks through the intervals between slots and helps effective reduction of base drag.

The missile body is designed with the above specification and is analysed using OpenFoam software for the following conditions :

Flow Model : Laminar, Steady, Compressible

Test Conditions:

Mach Number : 2

Temperature : 300 K

Velocity : 649 m/s

Density : 1.17 kg/m<sup>3</sup>