

## **HYDRODYNAMIC STUDY WITH SPECIAL EMPHASIS ON VELOCITY PROFILE AND PRESSURE DROP IN 135° PIPES BENDS**

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### **Abstract**

Pipeline water flow of mono-dispersed particles through horizontal bend is numerically simulated by implementing Eulerian model in FLUENT software. A hexagonal shape and Cooper type non-uniform three-dimensional grid is chosen to discretize the entire computational domain, and a control volume finite difference method is used to solve the governing equations. The study of concentration profile, velocity profile and pressure drop has been done and compared. It was observed that outer surface of the bend is effected more due to impact and the pressure drop and velocity profile is affected more at the bend.

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**Keywords** : Hydrodynamic Analysis, Pneumatic Conveying, Slurry Pipeline, Coal Pipeline, 135° Bend, CFD Analysis in 135° bend.