

Improved Structure and Performance by Shape Change of Foam Monitor

Authors : Tae Gwan Kim, Hyun Kyu Cho, Young Hoon Lee, Young Chul Park

Abstract : Foam monitors are devices that are installed on cargo tank decks to suppress cargo area fires in oil tankers or hazardous chemical ship cargo ships. In general, the main design parameter of the foam monitor is the distance of the projection through the foam monitor. In this study, the relationship between flow characteristics and projection distance, depending on the shape was examined. Numerical techniques for fluid analysis of foam monitors have been developed for prediction. The flow pattern of the fluid varies depending on the shape of the flow path of the foam monitor, as the flow losses affecting projection distance were calculated through numerical analysis. The basic shape of the foam monitor was an L shape designed by N Company. The modified model increased the length of the flow path and used the S shape model. The calculation result shows that the L shape, which is the basic shape, has a problem that the force is directed to one side and the vibration and noise are generated there. In order to solve the problem, S-shaped model, which is a change model, was used. As a result, the problem is solved, and the projection distance from the nozzle is improved.

Keywords : CFD, foam monitor, projection distance, moment

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