

Fundamental approach to measure hopper flow using Particle Image Velocimetry

박준영*
금오공과대학교
(pcello@kumoh.ac.kr*)

In the field of plant industry and chemical industry, 80% of final products or intermediate products have particulate type such as naphthalene. To store these products temporarily, hopper (also called "Silo") is often used. Most critical factor deciding hopper design is flow type such as core flow or mass flow. The measurement of flow properties has a key role in designing and operating the hopper, because stored materials and shape of hopper depends on the flow type. Thus, we measure the particulate flow in hopper using Particle Image Velocimetry (PIV) often used in the field of fluid flow measurement. The measurement result is compared to that of theoretical approach.