

# **Experimental determination of the discharge characteristics of a flighted rotary drum operated at optimum loading**

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## **Abstract**

The loading state of a rotary drum strongly affects its overall performance. Hence, assessing the optimum (design) loading of the rotary drum is a critical issue. In the present work, a lot of experiments were carried out on a 500 mm diameter and 150 mm length batch rotary drum designed internally with rectangular flights. Different loadings were examined through image analysis processing of the recorded videos from under loading to over loading, including design loading. free flowing glass beads with different particle diameters and angles of repose, varied rotational speeds (from 1 to 5rpm) and two flight length ratios (0.375 and 0.75) were researched. A comparison is conducted between the experimental results and some available design loading models from literature.

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