

Failure Mechanism in Geobag Structure

AYSHA AKTER

School of Built Environment
Heriot Watt University
Riccarton, Edinburgh
UNITED KINGDOM
aa462@hw.ac.uk

GRANT WRIGHT

School of Built Environment
Heriot Watt University
Riccarton, Edinburgh
UNITED KINGDOM

MARTIN CRAPPER

School of Engineering and Electronics
The University of Edinburgh
The King's Buildings, Edinburgh
UNITED KINGDOM

GARETH PENDER

School of Built Environment
Heriot Watt University
Riccarton, Edinburgh
UNITED KINGDOM

Abstract: - This paper presents observed failure modes for a geobag structure from a series of physical model tests. Six hundred bags were employed to observe the failure in terms of friction force, water depth, flow rate and bag aging. Three different failures are reported. An analysis of the effect of bag aging shows that 52% of saturated bags gain weight in the range 0 to 5% and about 70% of initially dry bags gain weight in the range 10 to 20%. The outcome indicates the importance of bag aging in the 'incipient failure'. These observations will eventually be used to validate an existing numerical model.

Key-Words: - Geobag, failure modes, bag aging, failure mechanisms, Jamuna River.