Analysis of Particle Orientation in Compacted Unbound Aggregate

Robert Henderson — Philip Herrington — John Patrick
Padmanathan Kathirgamanathan — Shaun Cook

Opus International Consultants, Central Laboratories
PO Box 30 845, Lower Hutt
New Zealand
John.Patrick@opus.co.nz

ABSTRACT. *A method for the analysis of particle orientations in unbound granular basecourse is described. The positions and orientations of the aggregate particles in compacted specimens of aggregate were fixed by filling the air voids with a low-viscosity epoxy resin. Digital images of specimen cross sections were analysed and the average angle of inclination to the horizontal and vector magnitude calculated. The orientation of particles in uncompacted specimens was significantly different than those in compacted material but no difference was observed between the five-compaction methods studied.*

KEYWORDS: *Aggregate, Base-Course, Compaction, Image Analysis, Orientation.*

DOI:10.3166/RMPD.12.115-127