Modeling of Vertical Resistance of the Small Diameter Screw Pile for the Railway Structure

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Recently, the screw pile which has wings at the tip of a steel pipe pile and is driven in the ground by rotation has been developed. Especially the small diameter screw pile (in general 400mm or less) has the advantage that the driving machine for it is small and it can be constructed at the place of narrow space. However, in Design Standards for Railway Structures, the design model of the small screw diameter pile is not defined, because the diameter of the pile generally used for a railway structure is larger than its diameter. Therefore, the modeling of the design value for its vertical resistance is proposed in this paper using the reliability design method.