

ABSTRAK

Fondasi adalah bagian dari konstruksi yang berfungsi untuk menahan suatu bangunan dan meneruskan bangunan ke atas (struktur atas). Fondasi menyalurkan beban ke dalam tanah untuk menentukan kokoh suatu bangunan. Jika tanah pendukung mampu menerima beban dari fondasi, bangunan tersebut dianggap stabil. Selama berdirinya suatu fondasi, kondisi tanah dan beban terpikul di lapangan harus disesuaikan. Dua jenis tiang berbeda yang dapat dipilih berdasarkan kemampuan mereka untuk mendukung beban. Tiang end bearing diletakkan pada ujung atau pada posisi lapisan tanah keras. Tiang friction diletakkan apabila tanah keras sangat dalam dan meneruskan beban ke tanah melalui gesekan antar dinding tiang dengan tanah disekitarnya. Namun Penelitian pada skripsi ini bertujuan untuk menganalisis efisien penggunaan tiang fondasi friction pile. Dalam penelitian pada jurnal ini akan menganalisis fondasi tiang bor menggunakan tiang gesek (friction pile) dengan tujuan menganalisis tiang fondasi tersebut akan mengalami differential settlement atau tidak dan daya dukung yang diperoleh dari tiang tersebut. Dalam hasil akhir penelitian ini bahwa tiang akan mengalami differential settlement pada kedalaman < 14 m dikarenakan nilai tekanan konsolidasi tanah lebih besar daripada tegangan efektif di lapangan dan mencapai optimum serta efisien dari tiang bor tersebut ada pada kedalaman 21 m dengan diameter tiang 60 cm dan penurunan tanah sebesar 12,8 cm.

Kata kunci : Fondasi, daya dukung, penurunan, tiang ujung, *friction pile*.

ABSTRACT

The foundation is the construction part that is responsible for holding the building and continuing the upper structure. The construction component that supports the building and keeps the higher structure going is the foundation. If the supporting soil can support the weight from the foundation, the building can be said to be stable. The foundation transmits the load into the ground to assess whether or not a building is strong. When choosing a foundation, it is important to take into account the weight of the load, the soil's ability to support the foundation, and the field's soil quality. There are two types of piles available, and they can be distinguished by how they support the load., the first is the type of end bearing pile which is a pole that is placed at the end or which is in the position of a layer of hard soil, then the second is a type of friction pile which is a pole that is Defined when hard soil is at a great depth and this pile transmits the load to the ground through friction between the pile wall and the surrounding soil. However, the research in this thesis aims to analyze the efficient use of friction piles for foundation piles. In research in this journal will analyze drilled pile foundations using friction piles by analyzing the purpose of the foundation piles will experience differential settlement or not and the bearing capacity obtained from these piles. In the final results of this study that the pile will experience differential settlement at a depth of <14 m because the soil consolidation pressure value is greater than the effective stress in the field and achieves the optimum and efficiency of the drilled pile at a depth of 21 m with a pile diameter of 60 cm and soil settlement by 12,8 cm.

Keywords: *Foundation, bearing capacity, settlement, end pile, friction pile.*