

Ultimate Piles Carrying Capacity for All Buildings in UiTM Pulau Pinang Campus

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ABSTRACT

Pile is one of many solutions in foundation engineering practice. Buildings supported on piles were suitable in places such as coastal areas of Peninsular Malaysia that consist of very deep soft clay layers, which are highly compressible. In designing the pile, there were two important parameters that influence and affect the pile carrying capacity. They are the base resistance and skin friction. In this research, these parameters will be determined in order to compare the different methods of finding ultimate pile carrying capacity. Three methods in determining the ultimate pile carrying capacity: Chin's Method, Meyerhof Method, and Hiley Formula were used. The results of the three methods will be compared and comparison with the 2 times working load of the pile will also be carried out. It was observed that in Universiti Teknologi Mara (UiTM) Pulau Pinang, generally almost all piles were having maximum variation percentage of ultimate pile carrying capacity of less than 20% except for Pusat Islam (27.95%), Hotel (33.65%), and Pusat Pelajar (42.57%). The lowest maximum variation percentage of ultimate pile carrying capacity is 4.85% (Hostel Zamrud), while the highest maximum variation percentage is 42.57% (Pusat Pelajar).

Keywords: *ultimate pile carrying capacity, end bearing capacity, skin friction capacity*