

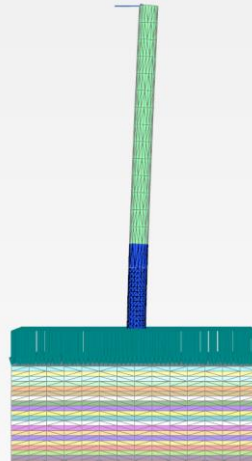
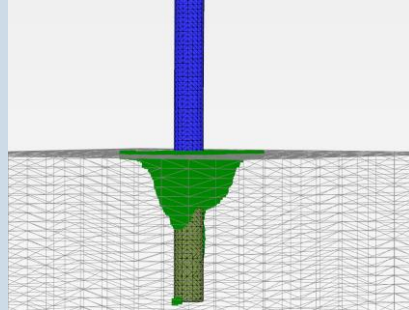
Comparative study of the design methods for large diameter offshore monopiles (proceedings of the EWEA OFFSHORE 2015, Paris)

Authors	Attari, Azadeh Murphy, Gerry Doherty, Paul
Publication Date	11/2015
Available online	Only four-day conference delegates at EWEA 2015 and EWEA members http://www.ewea.org/annual2015/conference/proceedings/
Abstract	<p>The conventional method of determining the lateral resistance of piles by using the load-displacement (p-y) springs has been initially developed for the oil&gas industry, and is based on the behaviour of piles at much smaller diameters compared to those common today in the offshore wind industry. The large diameter monopiles are expected to mobilise higher resistances in soil due to the contribution of rigid body behaviour. Hence, it is generally believed that the conventional methods underestimate the capacity of these monopiles. In the absence of abundant full-scale test data for supporting this theory and determining the extent of divergence between the predicted vs. actual capacity, this study employs Finite Element modelling for predicting the lateral resistance of monopiles with variable diameters. A comparative study is undertaken to investigate the disparity in the capacity of monopiles determined using numerical vs. analytical methods. The impact of the design method on the estimated lateral capacity of large diameter monopiles is discussed, as well as the impact of monopile diameter on the accuracy of conventional design approaches.</p>



leanwind

Related Pictures
(if any)



Supported by:

