

Examination research regarding common duct maintenance

[Point]

For economic design of common duct, prediction of displacement amount by liquefaction in large scale earthquake, and establishment of rational design method using displacement amount as checking items are necessary. However, regarding common duct behavior in liquefaction condition, there are still many unclear things, we need to clarify the factors effecting on common duct behavior in liquefaction condition. Then, in this research, we aimed clarification of the factors effecting on uplift phenomenon of common ducts by seismic liquefaction, performed dynamic centrifuge model test.

As a result, by dynamic centrifuge model test, we clarified relationship among common duct uplift amount, ground relative density, input acceleration, and resistivity against liquefaction. Moreover, we clarified that the effect of earth covering thickness on uplift amount is small, and the effect of common duct width and liquefaction layer thickness under common duct are large, as well as clarified relationship among, common duct width, liquefaction layer thickness under common duct, and common duct uplift amount.

Keyword : common duct, liquefaction, uplift, centrifuge model test