Serial Report

Terminologies in Press-in Engineering (Part 3)

IPA Editorial Committee

Following Terminologies Press-in Engineering (Part 2) in Volume 2, Issue 3, Part 3 presents “Press-in data” as follows:

Press-in data

press-in data	an equivalent term to monitoring data obtained during pile installation, such as actual press-in force, extraction force, penetration and extraction speed, and etc. Depending on the ground condition, they may/may not be different from those determined in advance for operation
monitoring data	items displayed and recorded on Press-in Data Monitoring System, such as press-in speed and to be used for proper piling control
press-in force	a static force generated by the in hydraulic pressure by the main cylinders of Silent Piler to press-in pile/sheet pile. The maximum value is determined as press-in parameter to control the operation. Actual data obtained as the press-in data are displayed on a monitor and recorded by Press-in Data Monitoring System
penetration resistance	force acting as resistance during press-in mainly due to toe resistance of piles/sheet piles, shaft friction and friction along the sheet pile interlocking
reaction force	a force required to either press-in or extract piles/sheet piles
penetration length [ℓp]	penetration length of pile/sheet pile during penetration and extraction operation
penetration speed	the speed of a pile/sheet pile penetration. One of the important press-in parameters to control pile installation efficiency. Actual data obtained as press-in data are displayed on a monitor then recorded by the Press-in Data Monitoring System
extraction force	static force generated by the hydraulic pressure in the main cylinders of Silent Piler to extract pile/sheet pile. One of the press-in data to be displayed on a monitor and recorded by Press-in Data Monitoring System
extraction length [ℓe]	extracted length of pile/sheet pile during a cycle penetration and extraction operation
extraction speed	the speed of a pile/sheet pile extraction. One of the important press-in parameters to control pile installation efficiency. Actual data obtained as press-in data are displayed on a monitor and recorded by Press-in Data Monitoring System
repeated penetration and extraction	an operation to repeat "penetration" and "extraction" of the pile/sheet piles during press-in operation, in the case where the penetration resistance is large. This will reduce shaft friction and toe resistance
net pressed-in length [ℓp - ℓe]	net pressed-in length of pile/sheet pile per single penetration and extraction operation
Pile Penetration Test	one of the systems to make the better use of the press-in data. The Pile Penetration Test analyzes monitored data and evaluates the ground condition. The term may be used as an equivalent term to Press-in Data Monitoring System

(to be continued on Part 4)