Multi-directional Slurry Oscillation Stirring Method “WILL-m method”

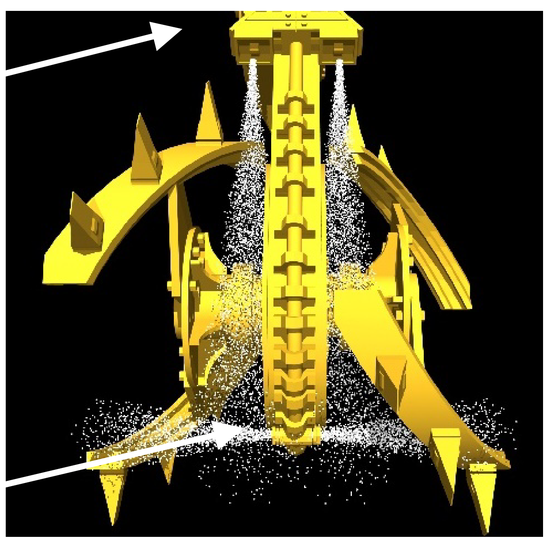
New jetting mechanism boosts construction efficiency by 20%

Overview of Technology

The WILL method is classified as a mid-depth mixing technique among soil-cement mixing methods. It creates improved structures by mixing cement slurry and the original ground using a special mixing tool. The "WILL-m method" was developed by adding a new jetting mechanism to the conventional WILL method. This mechanism ejects cement slurry at high pressure from a newly installed upper outlet, significantly improving the mixing performance.

Comparison “WILL method” and “WILL-m method”

	Outlet	Pressure	Slurry Supply Amount (L/min)
WILL method	Lower	1MPa	240
WILL-m method	Upper	**Over 10MPa**	**400**
	Lower	1MPa	

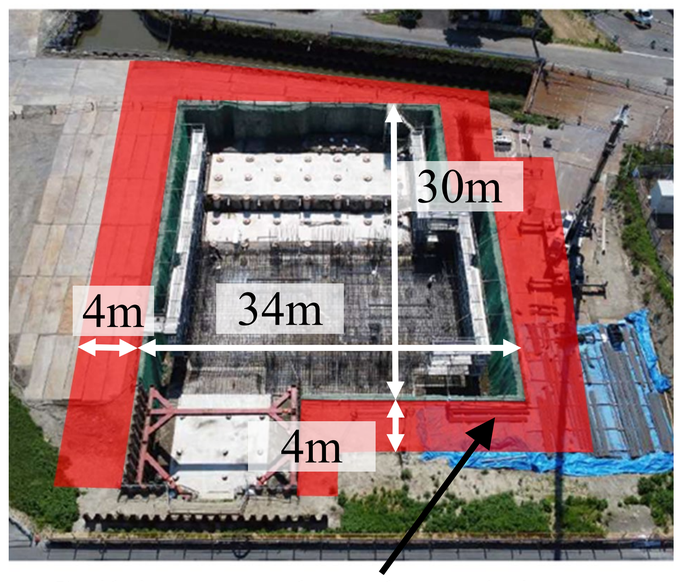


Stirring blades of WILL-m method

Construction machine of WILL-m method

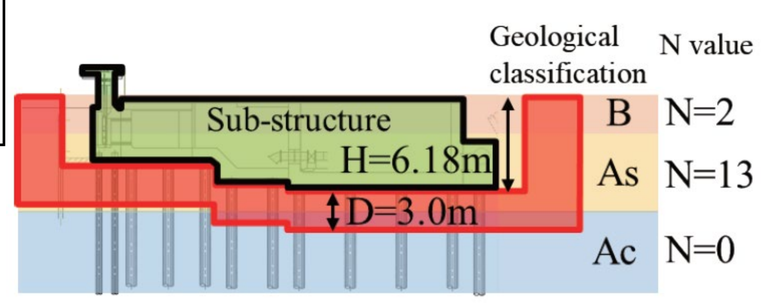
Effect of Technology

The WILL-m method was applied to construct a soil-improved earth retaining structure in agricultural pump station construction. Compared to the conventional WILL method, the mixing time was reduced by approximately 18%, and it was confirmed that the newly developed method achieves a quality equivalent to or higher than the conventional type.

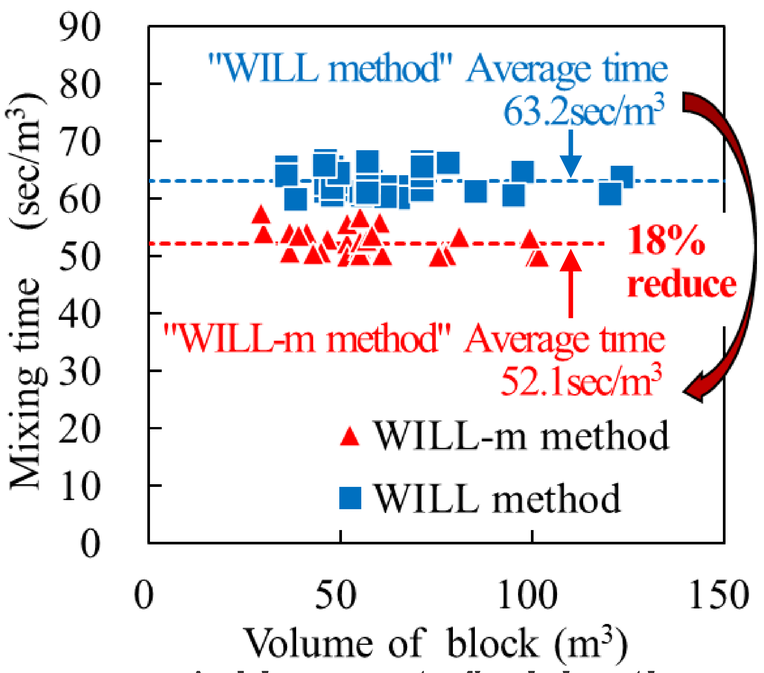


Soil-improved earth retaining
(Design strength:0.28MPa)

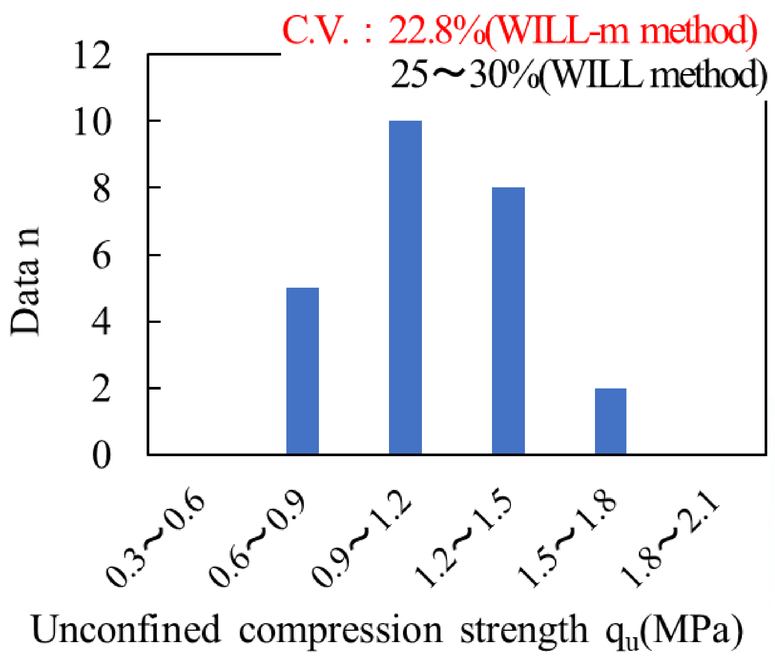
(a)Overview picture



(b)Cross-section



Achievement of mixing time (WILL-m method and WILL method)



Distribution of UC Strength (WILL-m method)

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