



Raked Piles

In modern harbour construction, laborious quay wall constructions are required in order to satisfy the high demands on the arising loads. As a general rule, these constructions are created with anchored sheet piling.

The bracing of the sheet piling head tends to be done with raked piles, which pass the tractive forces into the foundation through the jacket friction. These raked piles are inserted using vibration or ramming or a combination of the two.

Various steel profiles can be used as anchor piles, e.g. PSp or PSt profiles. These profiles have established themselves through the fact that they also offer high levels of resistance, if, for example, additional forces are exerted on the raked piles, through settlements as a result of filling, excavation unloading or the creation of additional piles behind the sheet piling.

The raked piles are either constructed “free riding” with a special “hanging leader” or leader-guided. The anchor lengths depend on the relevant load and the properties of the existing soil. The lengths that can be constructed are only limited by the foundation. The anchor piles can be lengthened accordingly using professional welding joints. The raked piles are inserted in inclines up to 1:1.

Depending on requirements, the exterior load bearing capacity can be increased through an additional pressing operation with cement mortar.

With prestressed piles and vibratory injection pile, the pile cross section is expanded through a ramming shoe or through welded bridges or flange plates. These displacement elements create a cavity with the ramming or vibrating, which is compressed with a cement suspension and increases the shaft resistance of the pile.



Leader-guided ramming of raked piles