

Lecture 17 보충자료 #2 (Fast Draining Methods)

◎ 연직배수재의 종류

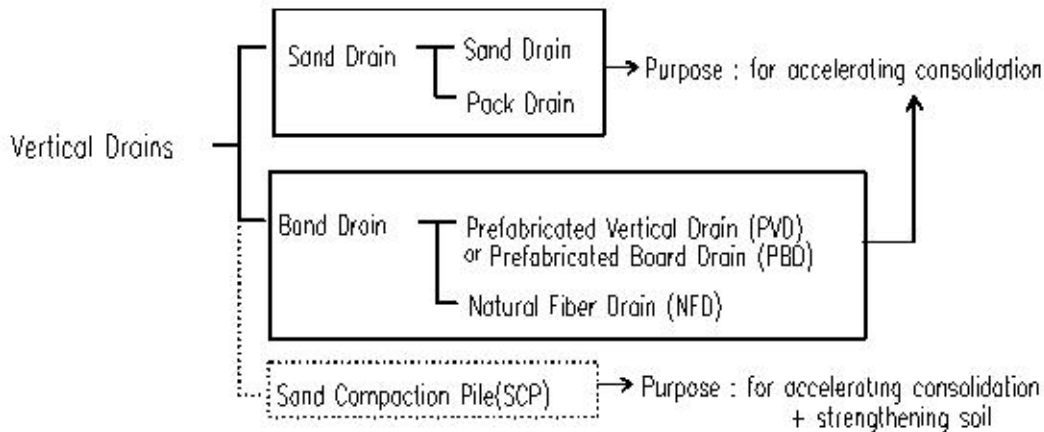


Table 1. Types of vertical drains

Drain type	Common installation methods	Drain diameter(m)	Typical spacing(m)	Maximum Length(m)
Sand Drain	Driven or vibratory closed-end mandrel (displacement type)	0.15-0.6	1-5	≤30
Sand Drain	Hollow stem continuous-flight auger (low displacement type)	0.3-0.5	2-5	≤35
Sand Drain	Jetted (non-displacement)	0.2-0.3	2-5	≤30
Pack Drain	Driven or vibratory closed-end mandrel (displacement type)	0.06-0.15	1.2-4	≤30
Prefabricated Vertical Drain	Driven or vibratory closed-end mandrel (displacement)	0.05-0.1*	1.2-3.5	≤60
Sand compaction pile	Driven or vibratory closed-end mandrel (displacement)	0.5-1.0	1.0-2.0	≤35

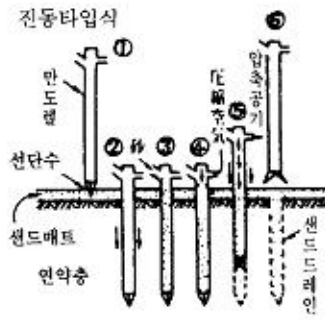
* Equivalent diameter

Table 2. Dimensions and materials of some PVD & NFD

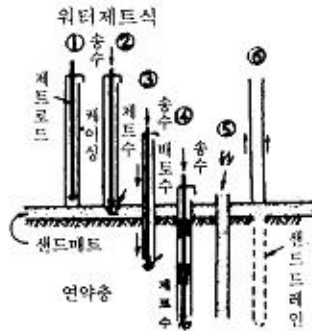
Drain type	Dimensions		Materials	
	Width(mm)	Thickness(mm)	Filter	Core
Kjellman	100	3	Paper drain	Paper drain
Alidrain	100	6.1	Geotextile	Polyethylene
Colbond	300	4	Geotextile	Polyester
Geodrain	96	3.5	Geotextile	Polyethylene
Mebradrain	95	3.4	Geotextile	Polyethylene
OV Drain	103	-	Geotextile	Polyester
Fiber Drain	80-100	8-10	Jute	Coconut stem

◎ 연직배수재 설치 방법

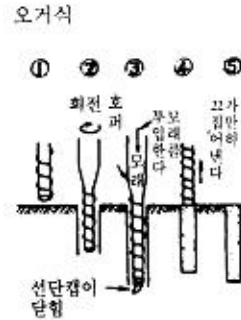
▶ Sand Drain



[진동타입식]
(Displacement type)

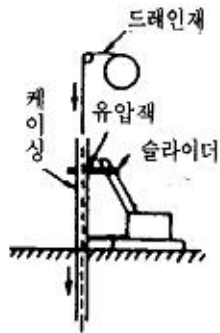


[위터제트식]
(Nondisplacement type)

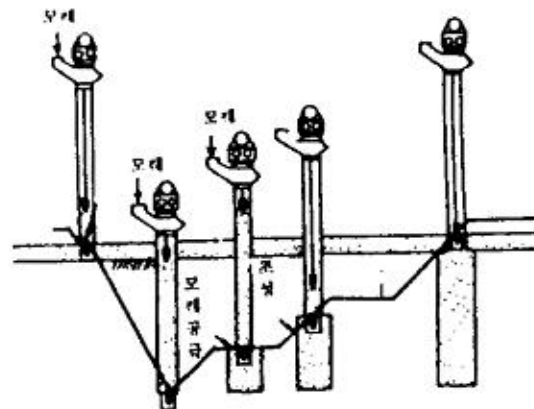


[오거식]
(Low displacement type)

▶ Prefabricated Vertical Drain & Sand Compaction Pile



[유압식 - PVD]
(Displacement type)



[선단진동다짐식 - SCP]
(Displacement type)