HCI Conduit and Drainage

Plate of Conduit

Field of Application

- The conduit and drainage of water leakage after shotcrete in tunnel
- The conduit and drainage of water leakage for the retaining wall of slope
- The conduit and drainage of leakage for the underground slurry wall
- The conduit and drainage for leakage of the basement walls
- The conduit and drainage for water leakage of the top plates in cut and cover underground construction
- The conduit and drainage for water leakage on top of the landfill
- The conduit and drainage used for other Geotechnical engineering

Specification

Item	Fin sheet drain element
Material	HDPE
Numbers of knobs per square meter	1400
Compressive strength	400 kPa (40 tons/square meter)
Tensile strength (EN ISO 10319)	≧10 kN/square meter
Elongation at tensile (EN ISO 10319)	≧ 50%
Chemical resistance	High

AT Drainage Pipe

System Description

- The AT-Drainage System is another application of Austrian ALWAG-TECHMO AT-casing System(Please check the catalog of HCI AT-Casing System for further details).
- The System is used for ground improvement and waterproofing in combination with all tunnel construction methods.
- The components of HCI Drainage System include the main drill bit, single-use ring drill bit, extendable steel pipes, extendable drill rods, and the drainage pipe. Customers can only purchase the drainage pipe if the AT-Casing System already has been used on site.
- The drilling, tubing and drainage piping can be done continually in one single operating cycle to prevent possible borehole collapsing
- The drainage pipe is made by PVC. The surface of the pipe body will receive special process and cut with fissures to allow the water to be drained more efficiently
- System can be installed by various drilling machines on site

Specification

Item/Specification	Material	External Diameter (mm)	Internal Diameter (mm)	Thickness (mm)	Width of Saw Teeth (mm)
AT114 Drainage Pipe	PVC	118	108	5	2

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Comparison between AT drainage pipe and traditional drainage pipe

comparison	AT drainage pipe	Traditional drainage pipe (PVC pipe with non-woven fabric inside)
application	All rock stratum	Hard rock stratum only
installation description	Drilling and piping at same time, then insert the drainage pipe	Predrilled borehole needed, then insert the drainage pipe
Borehole collapsing	Collapsing is unlikely to happen as the borehole is protects by the AT pipe	High possibility of borehole collapsing after drilling, leading to a high failure rate
installation time	Short	Long
Borehole collapsing	AT drainage pipe won't cause obstruction and will drain water more efficiently with the capillarity on its body.	PVC pipe with non-woven fabric inside, obstruction of the fabric will happen easily and the water drainage will fail possibly
Cost Effective	Better	Worse

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