

Table Of Contents

Corrugated sheathing for DCP bolt	2
Centralizer / Spacer	6
Pregrout Bolt	8
CT-Bolt with Rib sheathing.....	10
Raking Drain.....	11
PC Strand.....	12
Hollow Bar.....	14
Strip Drain.....	16
Construction Template.....	18



SOIL NAIL

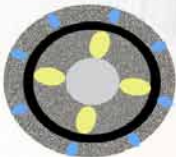
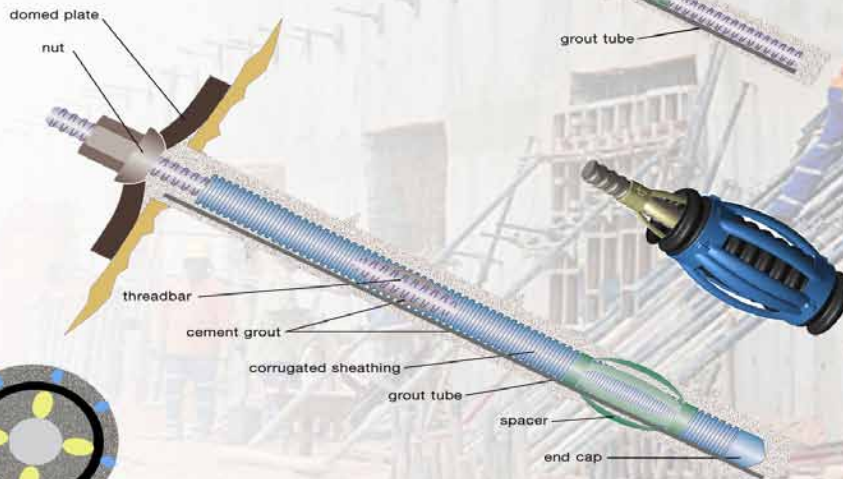


Standard Soil Nail



Soil Anchors are generally used to support structures for excavations such as sheet pile walls, soldier piles and lagging, drilled piles and slurry walls. Counteract uplift forces in structures subjected to buoyancy lateral loads. Transfer external forces to the ground; e.g., wind, earthquake. Stabilize eccentrically loaded foundations. Stabilize material or excavated slopes. Multistrand Anchors manufactured 15.2 mm strand are available in sizes up to 11 strands. Stabilize eccentrically loaded foundations, slopes, rock walls and cuts. Stabilize underground excavations and mines. Increase the stability of dams.

Double Corrosion Protected (DCP) Soil Nail



CORRUGATED SHEATHING

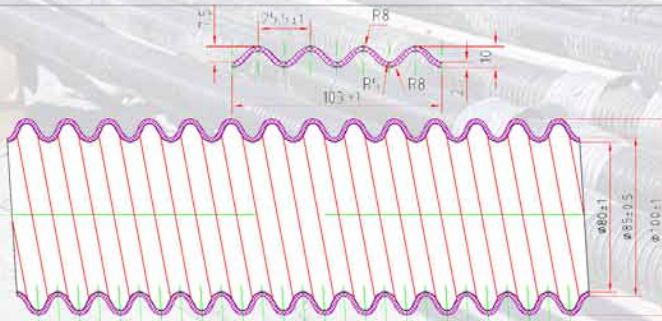
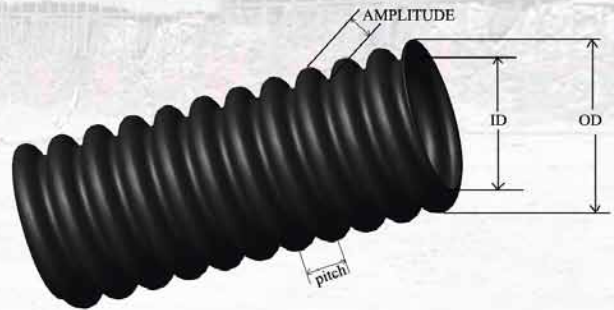


- ▶ HDPE corrugated sheathing for DCP soil nail system was widely used for more than 40 years.
- ▶ ASTM D3350 -335533c with CNAS approval suitable for most countries standard all over the world.

- ▶ Usually we cut it into piece and sealed in advanced before loading, engineer and worker in worksite can assemble them easily, save much time and labor cost.

HDPE Corrugated Sheathing Specification

Model	ID(mm)	OD(mm)	Thick(mm)	Length
CS4250	42	50	1.5	300m/coil
CS5065	50	65	2	200m/coil
CS6585	65	85	2	150m/coil
CS80100	80	100	2	120m/coil
CS100125	100	125	2	100m/coil



- ① Double corrosion protection anchors are recommended for anchors with a long service life and for an environment where aggressive materials or stray electrical currents are expected. A HDPE corrugated sheathing with heat shrinkable plastic end cap is installed over the full length of the anchor.
- ① The annular space between threadbar and sheathing is fully grouted before the anchor is installed. To accommodate the bar elongation during stressing, a short length of threadbar is left free of the corrugated sheathing under the stressing anchorage. A steel pipe welded to the anchor plate and filled with corrosion preventive compound or grout protects the free end of the bar against corrosion.
- ① The corrugated plastic sheathing acts as a protective membrane preventing intrusion of any corrosive substances. The cement grout around the threadbar provides corrosion protection by embedding the bar in an alkaline environment. The threadbar deformations minimize the width and control the distribution of any cracks that develop in the free stressing length, fully maintaining the protective action of the grout cover.
- ① A protective plastic or steel cap filled with a corrosion preventive compound is installed over the anchor nut after stressing, completing the full encapsulation of the anchor tendon. The cap is removable for checking and/or adjusting the force level in the anchor tendon at any time in the future.
- ① ASTM D3350 -335533c with CNAS approval suitable for most countries standard all over the world.



No.	Test items	Test result	Test method
1)	Modulus of elasticity in bending, MPa	960	ASTM D790-10
2)	Tensile strength at yield, MPa	22.1	ASTM D638-10
3)	Carbon black content, %	2.3	ASTM D1603-12
4)	Density, g/cm ³	0.9598	ASTM D1505-10
5)	Melt flow rate(MFR), g/10min	0.37	ASTM D1238-10

Presealed corrugated sheathing for DCP soil nail.



Centralizer / Spacer



- ▶ HDPE olivary internal spacer is perfect fit the thread bar, inside the wall has projections lock the thread of the rebar.
- ▶ Light-weight, strong, easy to assemble, advanced design, and lower cost make our spacer very popular in the civil works.
- ▶ Olivary design makes the soil nail can be put inside the drillhole easily.

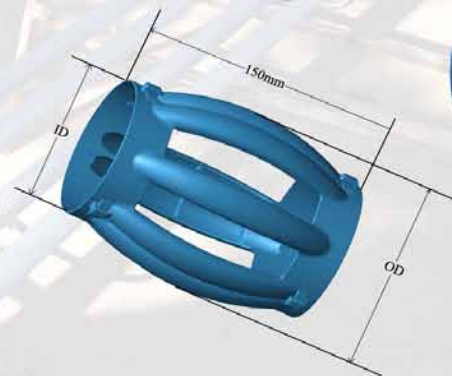
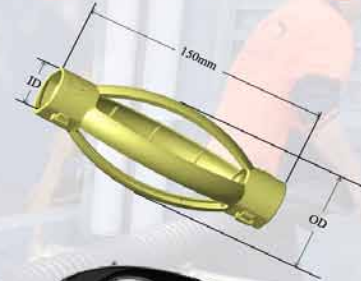
Model	ID(mm)	OD(mm)	Rebar
CAU2540	25	40	Y25
CAU2550	25	50	Y25
CAU2565	25	65	Y25
CAU3265	32	65	Y32
CAU2580	25	80	Y25
CAU3280	32	80	Y32

- ▶ Special Strengthen Centralizer:

CAU121-29	25	120	Y25
-----------	----	-----	-----

- ▶ External spacer is same olivary design, the smooth and olivary shape make the DCP soil nail can be put inside the drillhole easily.

Model	ID(mm)	OD(mm)	Sheathing
SAU50100	50	100	CS4249
SAU65100	65	100	CS5065
SAU85120	85	120	CS6585
SAU100150	100	150	CS80100

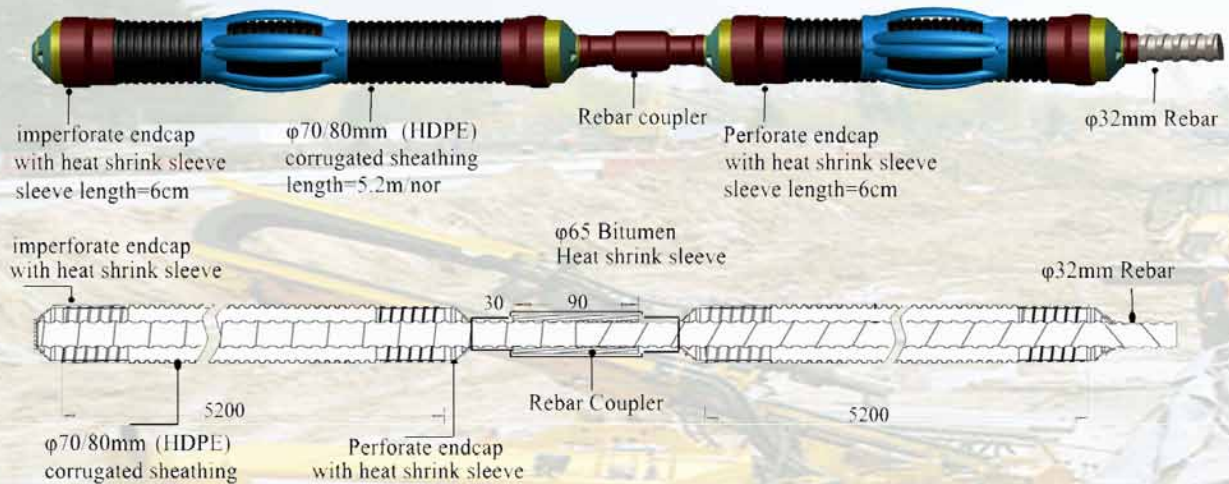




PREGROUT DCP BOLT



🔴 Pregrout double corrosion protection bolt:



🔴 Pregrout DCP Bolt's sheathing is cut into piece in advance, rebar with internal centralizer cross the perforate endcap and heatshrinkable sleeve seal the rebar and endcap, cement grout inside, rebar coupler join the section of pregrout bolt and sealed with heatshrinkable sleeve also.

Rib Sheathing for Rock Bolt



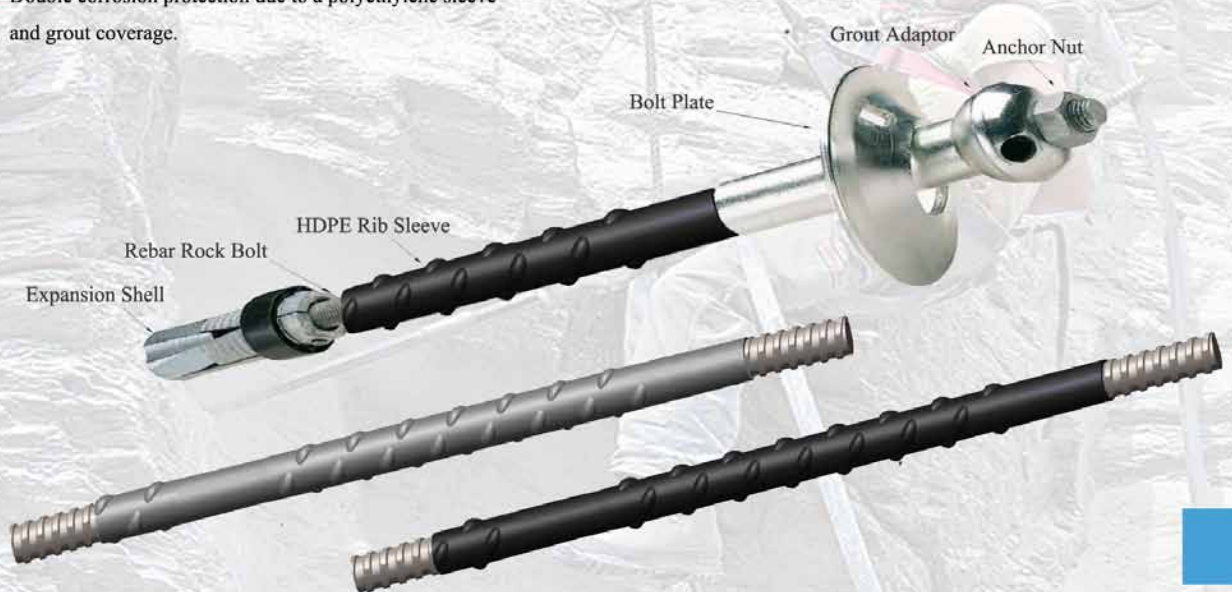
- ▶ HDPE Rib sheathing is for DCP Bolt with expansion shell providing corrosion protection over the bolt length.
- ▶ Length can be cut to fit the size of rock bolt length, and easy to assemble with the system.

Specification:

model no.	id (mm)	od (mm)	rebar size	length (m)	weight (g)	thickness (mm)	fireproof
RS3145	31	45	Y25	free	200g±10	1.6~2.0	Y/N

- ▶ Durable HDPE sheathing allows for inner and outer annuluses to be grouted in single pass.
- ▶ Double corrosion protection for the bar out of the groundwater or acid and alkaline soil corrosion.

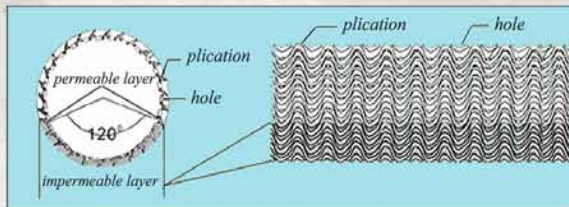
- ▶ Double corrosion protection due to a polyethylene sleeve and grout coverage.



Raking Drain Pipe

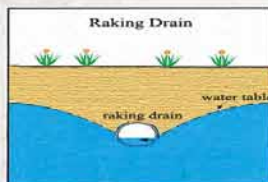


- ▶ HDPE Raking Drain Pipe-3 is 3-D perforated design, two-thirds permeable layer opening up can filter the groundwater quickly and efficiently inside the slope or under ground.



- ▶ Specification:

model no.	id (mm)	od (mm)	thickness (mm)	length (m/unit)
SF-49	40mm	49mm	4.5mm	4
SF-75	65mm	75mm	5mm	4
SF-89	79mm	89mm	5mm	4



- ▶ High-density polyethylene material can stand high pressure, extreme temperature, acid or alkaline soil.
- ▶ Approved by ASTM test standard.

No.	Test item	Test result	Test Method
1)	Flexural strength	25.9MPa	ASTM D790-07
2)	Compressive strength	24.0MPa	ASTM D695-02a
3)	Tensile strength	27.7MPa	ASTM D638-08
4)	Elongation at break	71%	ATM D638-08



PC Strand



- ▶ 15.2mm diameter 7 wire steel strand P.C. strand for concrete is high efficient steel product for architecture recommended, it is widely used in road, railway, dam and bridge projects, long span architectures, high buildings, nuclear power stations and water conservancy projects.
- ▶ The P.C. strand has the excellent performance of high ductility and low relaxation.
- ▶ Manufacture can be conducted in accordance with ASTM A416, GB/T5224, BS5896, AS/NZS 4672, ISO 6934, JISG 3536, JG161, EN 10138 P.C. strand specification.



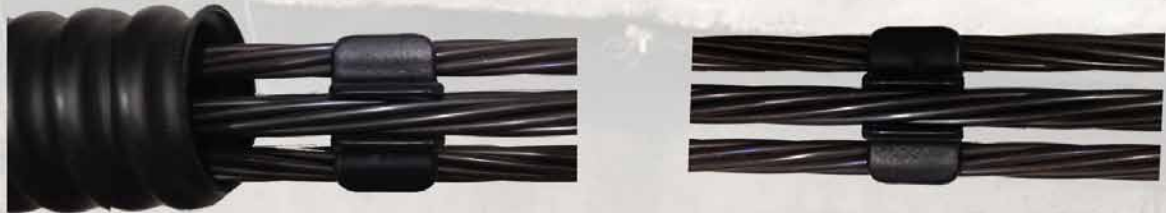
model no.	Dia (mm)	Tolerance Dia (mm)	Grade	Normal Steel Area (mm)	Normal Weight (g/m)	Breaking Strength (kN)	Elongation
15.2	15.2	+0.026/-0.006	250/270	140.00	1102	260.7	3.5%

- ▶ Durable HDPE sheathing allows for inner and outer annulus to be grouted in single pass.
- ▶ Double corrosion protection for the bar out of the groundwater or acid and alkaline soil corrosion.





- ▶ The cable bolt bulbs can be modified, in frequency and diameter, so that geotechnical engineers are able to design specific reinforcement products to suit ground conditions being encountered.
- ▶ In some cases de-bonding tube can be added to the lower section of the bolt to allow for pre-tensioning.



- ▶ Cable bolts can be used with cementitious grouts as well as resin anchors when early support is required. Surface confinement is provided by flat or domed plates and barrel and wedge anchors. Please refer to appropriate pages for slotted or multiple hole plates, barrel and wedge anchors, grout and breather tubes.
- ▶ Strand Spacer:





Self Drilling Hollow Anchor Bolt

- ▶ Self Drilling Hollow Anchor Bolt combines drilling, grouting and anchoring together, it ensures the anchoring effect in complex ground condition.
- ▶ Self drilling hollow bolt is suitable for tunneling, slope stabilization, micro pile reinforcement for the foundation.
- ▶ Drilling and grouting can be done simultaneously, with good grouting spread radius and reliable anchoring quality, fractures can be filled effectively.
- ▶ The anchor bar with standard full thread can be cut according to your requirement, or prolonged by coupler.
- ▶ Use of small dimensioned drilling equipment. No predrilling need under limited space conditions. Simultaneous drilling and grouting in a single operation.

R-Thread Hollow Anchor Bolt



T-Thread Hollow Anchor Bolt



▶ R-Thread Hollow Bar

model	id (mm)	od (mm)	ultimate load (KN)	yield load (KN)	weight (kg/m)
R25N	12	25	200	150	2.3
R32N	18	32	280	230	3.5
R38N	19	38	500	400	6
R51N	33	51	800	630	8.5

▶ Coupler

model	id (mm)	od (mm)	length (mm)	weight (kg)
R25N-C	25	36	150	0.6
R32N-C	32	42	160	0.85
R38N-C	38	51	220	1.7
R51N-C	51	63	220	2

▶ Hex Nut

model	key size (mm)	length (mm)	weight (kg)
R25N-HN	41	35	0.25
R32N-HN	46	45	0.35
R38N-HN	50	50	0.4
R51N-HN	75	70	1.55

▶ Spherical Nut

model	key size (mm)	length (mm)	weight (kg)
R25N-SN	41	39	0.3
R32N-SN	46	50	0.5
R38N-SN	52	60	0.7
R51N-SN	--	--	--

▶ Dome Plate

model	dimension (mm)	thickness (mm)	hole dia (mm)	weight (kg)
R25N-DP-1	150x150	8	30	1.4
R25N-DP-2	200x200	10	32	3.1
R32N-DP-1	150x150	8	35	1.3
R32N-DP-2	200x200	10	35	3.2
R38N-DP-1	200x200	12	41	3.6

▶ Flat Plate

model	dimension (mm)	thickness (mm)	hole dia (mm)	weight (kg)
R32N-FP-1	95x95	25	35	1.6
R32N-FP-2	120x120	30	35	3.2
R38N-FP-1	140x140	35	41	5
R51N-FP-2	180x180	45	56	10.5

▶ Drill Bit

model	x	ex	exx	ess-f
R25N	R25/42(0.35) R25/51(0.38)	R25/42(0.3) R25/51(0.3)	R25/42(0.3)	R25N/42(0.3)

Soil Stripdrain



- ▶ Stripdrain is a plastic inner core overwrapped with a geotextile filter fabric. It is normally installed vertically in the ground so that it has a deep rectangular cross-section containing a continuous plastic core.



- ▶ Lightweight, flexible, strong, easy to join, and less cost make it to be widely used and reliable.

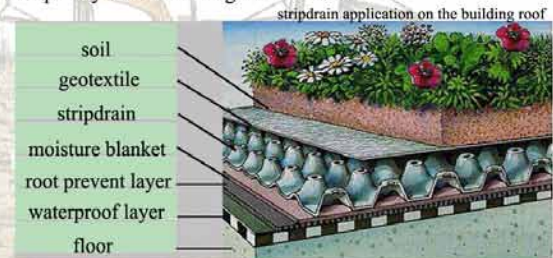


- ▶ Stripdrain provides a far great contact area through which water can pass, thereby permitting more rapid, efficient drainage compared to conventional subsurface drainage system.

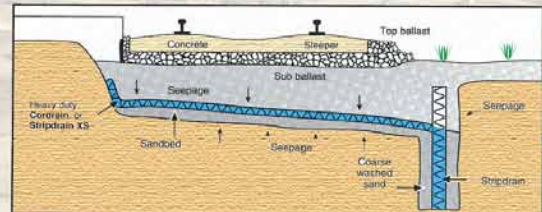
- ▶ Larger sizes of stripdrain can be used as cut-off drains, as the impervious inner core provides a posit intercept for controlling subterranean flow in cuttings and embankments.

model	wide(mm)	high(mm)	length(m)	core thick(mm)	geotextile
SD-20	20	25	16m/roll	1	200g
SD-30	30	25	16m/roll	1	200g

- ▶ Stripdrain is used extensively to protect structural elements road, realways and building foundations because of its ability to quickly draw down high water tables.



- ▶ In association with blanket drain:

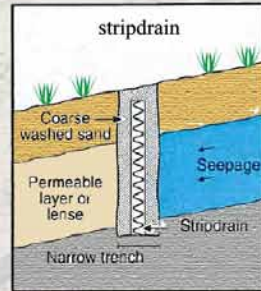
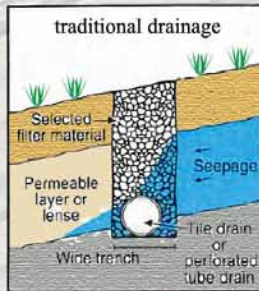




1) Stripdrain has great advantages than traditional drainage system.

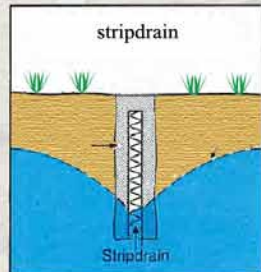
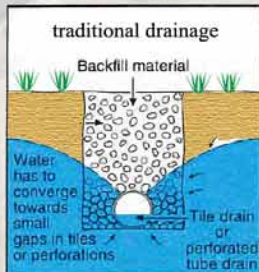
1) Complete interception seepage flow

Stripdrain's deep fin geometry means it can achieve full interception by physically blocking the seepage and then transporting the water away.



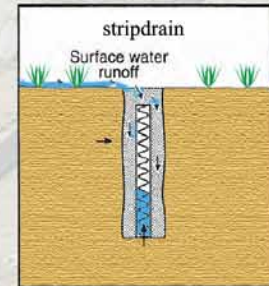
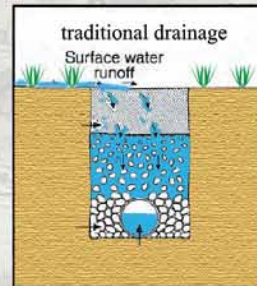
2) Rapid drainage of high water table.

Stripdrain has a superior infiltration rate to conventional surface drains, resulting in rapid drawdown of the water table.



3) Easy removal of surface water run-off

Stripdrain's deep fin geometry means that larger sizes can be installed deeply enough to lower the water table and also remove water run-off directly from near the ground surface.



4) Slope stabilisation

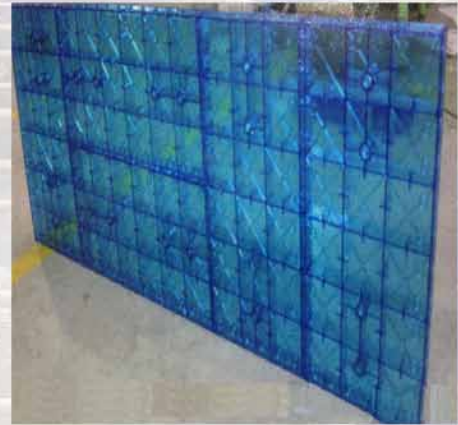
Stripdrain usually installed just across the contours of the slope to give it some grade, but still take full advantage of its interception capability by lowering the water table and reducing erosion caused by surface water run-off. Typically, the large stripdrain sizes will be required.



PLASTIC BUILDING TEMPLATE



- ▶ Combined multi-function plastic building template is a type of new design for gully drain, it's widely used in highway, railway, roadway's drainage.
- ▶ Light weight and simple locker make it easy to be installed as order size. Smooth wall make it very easy stripping from concrete.



- ▶ Easy to be installed and adjudged the thickness, width, length, high or shape of the drainage.
- ▶ All template can be reused, save cost and easy to be store.

