

CORPORATE PROFILE









Tk GROUP

The T.K. Group of Industries is one of the largest conglomerates in Bangladesh with diversified investment in the area of Petrochemical products, Chemical manufacturing, Ship Building, Tank Terminals, Cement, Hatchery, Edible Oil etc. It touches most of the sectors in Bangladesh market. This family contributes a significant amount in the GDP of Bangladesh. T.K Group of Industries have achieved tremendous success and continues to do so because of its rich integration of some of the most talented, hard-working, dependable, experienced, accomplished and important names of the country in its dynamic and progressive panel of management.

Inspired by the success of the mercurial Mir Ahmed Showdagar, his sons Mohammed Abu Tayab and Mohammed Abul Kalam laid the company's humble foundations in 1972. With their determination, foresight and dexterity T. K. Group has expanded its production facilities at diversified areas within four decades and becomes one of the fastest growing conglomerates in Bangladesh. And today touches the customer's lives everyday by supplying different types of products like vegetable oil & consumer products, steel, leather, textiles, chemicals & petrochemical, paper, cement, tea, particles board, etc.

It is controlling over 400 manufacturing units. In order to accelerate the diversification each production unit is running under individual management team.

400+

**Manufacturing
Units**

15+

Awards

50k+

Employees

43+

Factories



Modern Engineering advancement in infrastructure sectors :

Modern era demands modern solution. In this technological advanced era, infrastructure has become so important without fast and efficient solution, it cannot sustain. Our Technical Solution corresponds to application which are defined by four functions: Retain, Stability, Strength, Precast. Retain as the we are partnered with the inventors of Reinforced Earth, Terre Armee, a wide range of retain structures are offered. Stability: A solution to stabilise the critical structural problem which are used to protect and stabilise embankment of coastal area. Strength : Our engineered solution for foundations of structure using high strength concrete and prestressed bar for faster and efficient solution for every structural foundation needs. Precast: Many problems, one solution, which easy to construct, easy to place and complete unexpectedly less time.



With a vision of reinventing the Infrastructure Industry as we see it, Samuda Construction Limited (hereinafter referred to as 'SCL') was incorporated as a Private Limited Company in year 2021 under the Companies Act, 1994.

The Company's main focus of area is to reinvent the traditional construction process with introduction of Precast Concrete structure and elements to fast track the conventional process, with aim of modernizing the real-world construction, it has already started to manufacture and to construct different precast structures.

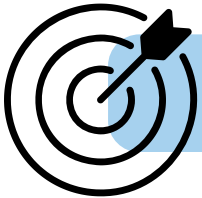
The Company has also established a plant at Mirsharai, Chattogram which is manufacturing Pre-tensioned High Strength Concrete Piles (PHC Piles) concentrating on domestic as well as foreign market. Our Industry Division, led by Samuda Construction Limited, is first manufacturer of High Performance Pretensioned High Strength Concrete Piles in Bangladesh. The company aims to maintain its market leadership through extensive research & development to improve the quality of its products and services beyond the standards and to concerted export strategy.

Samuda Construction Limited has started to provide advanced engineering solutions and applications in many sectors. The company has touched several sector of advanced engineering via different types of structural solution such of kind that is bound to take a new leap in Infrastructure Industry .



Vision

Samuda construction provide economical, sustainable & faster solution with commitment towards creating a legacy.



Mission:

We are determined to provide quality service to our esteemed customers. As dependable and steadfast performers we seek to provide our customers with high technical expertise in engineering product and methods.



Core Values :

Company core values are the clearly stated principles about the organization's vision, mission, and principles. That way, everyone is aligned around a guiding philosophy to serve employees, customers, and the broader community. Our core values are :

1. Integrity :

Acting with strong ethics is a priority for everyone representing the organization as well as the company's behavior as a whole.

2. Honesty :

It's not just the best policy. It's a core business practice to act in a transparent, trustworthy manner that earns the respect of colleagues, customers, and the public.

3. Fairness :

Treating everyone with the common decency we all deserve and expect.

4. Accountability :

Accepting responsibility for your actions (and inactions) is the ultimate way to build trust internally and externally.

5. Promise to Customers :

Creating a great customer experience begins with staying true to the words we speak and the bonds we make.

6. Diversity and Inclusion :

Organizations succeed by bringing different lived experiences and a range of life backgrounds into a shared environment where everyone has equal opportunity.

7. Learning :

No one has all the answers. A culture of humility and continuous learning is a bedrock principle of successful companies.

8. Teamwork :

When people work together, they can create something greater than themselves as individuals.

9. Passion :

Having a joy not just for the work itself but also the people around us, so that everyone can be bold, innovative, and creative.

10. Quality :

Companies are judged by the craftsmanship of their products and services, so the highest standards must be maintained.



Our policies:



Environmental Management Policy :

SCL consistently monitors and reviews operations to ensure our projects are undertaken in a manner that will reduce any impact on the environment. SCL has developed its own Environmental Management System (EMS)

SCL is committed to protecting the environment. We are committed to ensuring our operations are conducted in a manner that prevents pollution, preserves natural resources and conserves all heritages. We are focused on pursuing our corporate responsibility to minimize impact to land, water, air, flora and fauna.

To achieve our environmental corporate responsibilities is committed to ensuring our operations:

Comply with environmental legislative, contractual and regulatory requirements;

Maintain a management system that conforms to ISO 14001 requirements and integrate environmental considerations into business and decision-making processes;

Investigate, report and respond to all environmental incidents and implement corrective actions to prevent recurrence;

Collect and analyze performance indicators and incident data to drive the continuous improvement processes of our environmental performance;

Demonstrate appropriate leadership in our field of consulting and encourage clients to make informed decisions with respect to managing their environmental impacts, including the management of premises, plant, equipment, vehicles, substances, heritage listed items, waste management, land and water;

Conduct an environmental aspect assessment where necessary when purchasing or using premises, plant, equipment, vehicles, substances and systems of work;

Reinforce to employees and sub-contractors their environmental obligations through our programs of induction, education and training;

Cause managers and supervisor to be responsible and accountable for the environmental performance of their operations and activities;

Document, regularly review and assess processes, procedures, objectives, targets and the environmental impacts of our operations;

Communicate our policy to employees, sub-contractors and other stakeholders including the public.

We are committed to responding to the daily environmental challenges that we encounter in our business and hope to contribute to the foundation of an environmentally sustainable future for our community and future generations. This policy shall be approved by top management, communicated and agreed to by all staff and subcontractors so that all persons working for or on behalf of SCL are committed to environmental protection while going about their work.



Occupational Health and Safety Policy :

SAMUDA Construction Limited (SCL) appreciate the benefits of an organization with a 'safety conscious' attitude. We recognize that by maintaining a safe work environment will come, not only a minimization of the risk of injury, but also improved productivity as the workforce is able to confidently focus on its job at hand.

SCL's commitment towards the Health, Safety and Welfare of our employees is of extreme importance within our operations. Scarceness and accepts our responsibility towards ensuring the Health, Safety and Welfare of all SCL employees and contractors, wherever they are working.

Resources, conducive to the SCL's emphasis towards Occupational Health and Safety, have been made available to provide and maintain for the physical and psychological well-being of all SCL employees.

The Management will demonstrate, through policy development and review, and compliance with current Acts, Regulations, Standards and Codes of Practice, that health and safety receive priority attention on a continual basis. Management will also establish and monitor OHS objectives and targets so that we can be assured that our obligations for OHS are continually met and improved.

All Managers will be responsible for the implementation and promulgation of all matters dealing with the health and safety of employees and Sub-Contractors under their control.

All employees, contractors, sub-contractors and visitors will be expected to demonstrate a willingness, to embrace the concept of safe work practices, and a safe working environment. Employees, contractors and sub-contractors will be required to work in a healthy and safe manner, whilst discouraging others from working in an unsafe manner.

Education/Training of all employees, contractors and sub-contractors on Health and Safety issues is considered to be a natural course of employment, and all employees will be encouraged to embrace this concept.

This policy is an outline of the commitment, which this SCL places upon Occupational Health and Safety within the workplace.



Our policies:



Quality Management Policy

One of SCL 's key focus areas is to return to the fundamental ideal of delivering a quality product, on time for a fair price. SCL prides itself in delivering customer satisfaction through services guided by its Quality Management System (QMS). In order to ensure that SCL projects are delivered with the highest level of quality to the client, we have adopted the following policy:

All employees within our organization shall be committed to the effective and efficient implementation, management and improvement of quality. They are also responsible to identify and prevent activities occurring that do not meet specified standards.

Products and services provided by our organization will meet or exceed customer needs and be in accordance with stated statutory and regulatory requirements.

The current Quality Management Representative is responsible for ensuring the compilation, distribution, effective implementation, amendment and continued maintenance of the quality system manuals. All system outcomes generated within the quality management framework are to accord with specified corporate objectives that meet stated quality, customer and statutory requirements.

All quality system documentation is regularly reviewed to ensure that existing policies, procedures and practices are suitable, remain relevant and capable of meeting specified quality, customer and statutory requirements.

We will assure quality through the provision of appropriate resources and provide employees with the necessary training to ensure compliance with stated quality system requirements. Preferred suppliers are encouraged and assisted in the implementation of appropriated improvement programs that will ensure the integrity and continued preservation of the organization's quality management system.



Excellence in Client care:

Scl believes in striving for excellence in client care. Our primary objective is to earn our client's respect, gain our clients trust and forge a robust long term relationship

Our mandate :

- Know and respect client
- Provide an image of excellence
- Build a relationship with client
- Promote clear communication
- Be a solution provider
- Deliver commitments
- Maintain a positive controlled attitude all time



Sustainable Development in Infrastructure

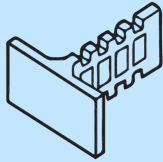
The future of sustainability in infrastructure is the need of the hour. Technological interventions are not only optimizing construction businesses to reduce their carbon footprint but environment-friendly best practices and recycled raw materials are being brought into the game. The fraternity is doing its bit to recover from the damage that has already been done post the rapid industrialization of our era. the infrastructure industry is not far behind in being a forefront contributor to the greenhouse gas emissions. So, our aim is to follow the green building codes, follow the mandate for all construction works to be nearly zero -energy waste. Technology has provided us with an imminent solution for the growth of the infrastructure. It is solving some of the most difficult challenges, that infrastructure faces on a day-to-day basis. Hence, our target is to through innovation produce sustainable development in infrastructure industry.

Business Line and applications :

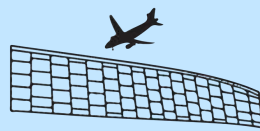
Strength :

Applications :

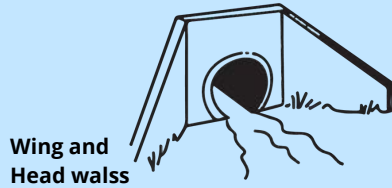
Reinforced soil retaining walls



Precast Concrete Retaining Structure



Airport Supporting Structures



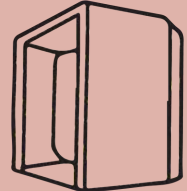
Wing and Head walls

Retain:

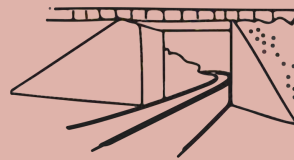
Applications :



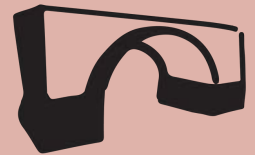
Tunnel Extensions and Portals



Precast Concrete box Structures



Pure and Mixed Bridge abutments

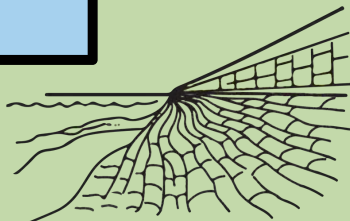


Single and Multiple span arch bridges

Stability :

Applications :

Slope retaining and Slope Stabilization



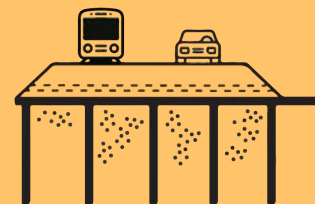
River training



Containment Dykes

Precast

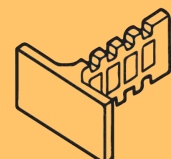
Applications :



Basal reinforcements with vertical and horizontal drains



Load transfer piled embankment

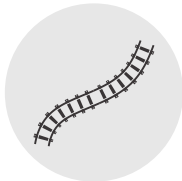


Precast Concrete Retaining Structure

Market Sectors :



Roads & Highways



Railways



River & waterways



Ports & harbour



Urban Development



Energy ,Oil & Gas



Air ports



Land development



Industry



Coastal restoration



Water management

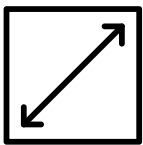


Dams & Reservoirs

Industrial Capacity :

SCL's very own state of the art manufacturing unit at Mirsarai economic produces PHC Pile, which has already surpassed its production quality expectation by leaps and bounds. In coming future, the PHC pile will change concept of construction in Bangladesh.

PHC pile factory is situated at Mirsarai economic zone



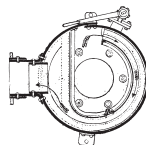
Area

10/64
Acres



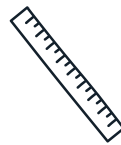
Capacity

200pcs/10
hours



Diamater

300-600
mm



Length

6-12m



Upto

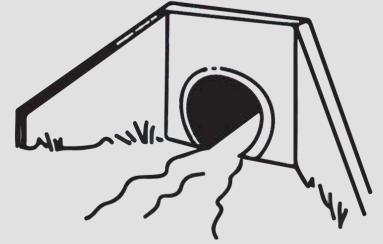
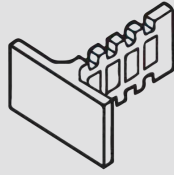
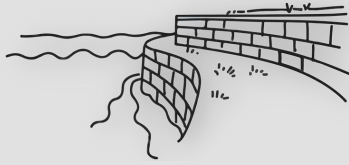
80
Grade



Jetty

Min 3.5m
Draft

Business Line :
Strength



S



T

Prestressed High Strength Concrete Pile

R

Precast High- Strength/Performance Concrete (PHC) piles is one of the types of piles are widely used in the world construction, for example in building ,bridge etc. PHC pile is a prestressed concrete pile with circular hollow section. PHC piles are hollow, precast and prestressed concrete piles, in sizes generally ranging from 300 to 600 mm outside diameter, that are fabricated by prestressing methods. The dimension of spun pile that is generally used according to Japan Industrial Standard (JIS) 5335 1987.

E

PHC piles were first invented in Japan in the 1970's as a means to provide a solid base for building structures in a rapidly growing and earthquake prone country. Since their invention in Japan, PHC piles have been used widely in developed countries such as USA, Germany, Italy, as well as Korea, Singapore, Malaysia, Thailand, Indonesia, Vietnam and played a key role in rapid development of China and southeast Asia.

N

It is advisable to analyzing of methods of increasing the strength and reliability of PHC pile due to earthquake loads, either by modifying the longitudinal reinforcement and confinement. In addition, it is about the failure patterns of PHC pile due to seismic loads.

Any important project, foundations and soil improvement are the first stage of development. for over 40 years, PHC piles have provided the safest, fastest and most economical solution as a foundation for major infrastructure and investments.

G

PHC Piles Are Most Effective Solutions in The Following Uses:

- Bridge Piers as Deep Foundation or Pier Piles
- High Rise Buildings
- Petroleum and Gas Tanks, Water and Sewage, Waste Water Treatment Plants
- Marine Structures and Harbors
- Equipment Foundation Solutions for Petroleum, Gas and Steel Plants
- Water Desalination Plants
- Hinterlands
- Liquefaction Mitigation
- Geothermal System

T

H



Features :

High design bearing power :

With concrete design strength of 80 -100 MPa, it has higher strength than the traditional PC & Bored Pile design . Thus, economical design is possible.

High resistance against hitting :

Because combination between aggregate and cement paste is extremely strong by steam curing, compressive strength of the concrete is considerably high. This means that it has high resistance against hitting, and for this, it has high constructability, so it is economic. Also, even if the numbers of driving are increased, it can be reached to the bearing layer because percentage of damage during driving is low.

Economical design :

Not only it has huge design bearing capacity and high resistance, but also high strength pile production is possible in short time due to steam curing, it is economical that it can be constructed without any delay on the construction by changing the length depending on the ground condition.

Few drying shrinkage :

From the test result by the centrifugal force test piece, concrete cured by steam curing has smaller drying shrinkage and creep.

Excellent chemical resistance :

PHC PILE received the excellent result rather than Pre cast PILE for chemical resistance. This is because that composition of cement hardener is closed by steam curing and adhesion between cement paste and aggregate is strong.

Higher Bending Moment :

If compared in a point view of destruction bending moment and axial force of PC & Bored, PHC PILE, as axial force N is increased; destruction bending moment of PHC PILE is getting larger than PC

Standard Grade 80 Pile

Class A (Effective Prestress $\geq 4.0 \text{ N/mm}^2$)

Nominal Diameter	Nominal Thickness	Length	Prestressing Bar		Area of Concrete	Section Modulus	Bending Moment		Recommended Max Structural Load	Effective Prestress
			9mm	10.7mm			Cracking	Ultimate		
mm	mm	m	no	no	mm ²	x1000 mm ³	Knm	Knm	ton	N/mm ²
300	55	6-12	6	-	43,595	2,383	27.5	54.1	82	5.80
400	65	6-12	10	-	68,408	5,106	42.7	61.8	132	4.30
500	80	6-12	10	-	105,558	9,888	82.3	115.9	204	4.84
600	90	6-12	12	-	144,199	16,586	148.8	222.5	276	4.53

Class B (Effective Prestress $\geq 5.0 \text{ N/mm}^2$)

Nominal Diameter	Nominal Thickness	Length	Prestressing Bar		Area of Concrete	Section Modulus	Bending Moment		Recommended Max Structural Load	Effective Prestress
			9mm	10.7mm			Cracking	Ultimate		
mm	mm	m	no	no	mm ²	x1000 mm ³	Knm	Knm	ton	N/mm ²
300	60	6-12	6	-	46,501	2,393	26.81	58.01	85	6.4
400	80	6-12	10	-	80,425	5,643	53.7	92.70	148	5.5
500	90	6-12	10	-	115,925	10,518	95.9	154.50	221	5.1
600	100	6-12	14	-	157,080	17,546	163.1	259.6	295	5.3

Class C (Effective Prestress $\geq 7.0 \text{ N/mm}^2$)

Nominal Diameter	Nominal Thickness	Length	Prestressing Bar		Area of Concrete	Section Modulus	Bending Moment		Recommended Max Structural Load	Effective Prestress
			9mm	10.7mm			Cracking	Ultimate		
mm	mm	m	no	no	mm ²	x1000 mm ³	Knm	Knm	ton	N/mm ²
300	65	6-12	6	-	49,250	2,453	27.88	59.01	84	8.5
400	80	6-12	12	-	80,425	5,748	69.7	148.3	147	8.1
500	90	6-12	15	-	115,925	10,670	120.3	231.7	215	7.3
600	100	6-12	20	-	157,080	17,761	198.0	370.8	291	7.0

*A single pile can be jointed upto 45m

Standard Grade 80 Pile

Class AB

Nominal Diameter	Nominal Thickness	Length	Prestressing Bar		Area of Concrete	Section Modulus	Bending Moment		Recommended Max Structural Load	Effective Prestress
			9mm	10.7mm			Cracking	Ultimate		
mm	mm	m	no	no	mm	x1000 mm	Knm	Knm	ton	N/mm
300	70	6-12	6	-	51,841	2,508	30	50	129	6.37
400	95	6-12	-	10	93,131	5,965	74	132	233	8.03
500	125	6-14		12	150,829	11,831	136	226	322	6.16
600	130	6-14	-	16	196,113	19,518	223	374	374	6.13

*A single pile can be joint upto 45 m

Formula for Axial Load:

Based on BS 8004:1984 the maximum allowable axial stress that maybe applied to a pile acting as short strut should be one quarter of specified works cube strength at 28 days less the prestress after losses.

$$N = f_{ca} \times A$$

$$= \frac{1}{4} (f_{cu} - f_{pe}) \times A$$

Where, N = maximum allowable axial load

A = cross-section area of concrete

f_{ca} = permissible compressive strength of concrete

f_{cu} = specified compressive strength of concrete

f_{pe} = effective prestress in concrete

CODE:

- ACI 543R
- PCI Prestressed concrete piling committee

$$P_a = A_g(0.33 f_{c'} - 0.27 f_{pc})$$

where

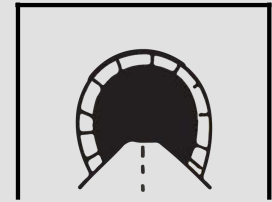
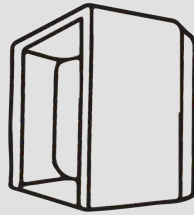
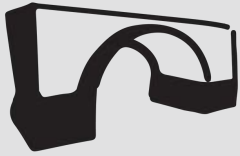
P_a = allowable service level axial load

A_g = gross cross-sectional area of pile

$f_{c'}$ = 28-day compressive strength of concrete

f_{pc} = effective prestress in the pile after losses

Business Line :Retain



R

E

T

A

I

N

ReInforced Earth Wall

Reinforced earth wall is used for sustaining soil laterally so that it can be retained at different level on both sides of the carriageway. Reinforced Earth is The Reinforced Earth Company's flagship MSE retaining wall product, first introduced in the United States in 1971. All components are inextensible soil reinforcements and bolted connections are secure, simple and quickly installed.

Durable precast facing panels allow for a wide variety of surface textures and custom artwork.

All components are lightweight and designed in accordance with the highest AASHTO and FHWA standards.

Suitable and proven performance for extreme loading conditions and complex applications requiring service a service life of over 75-years.



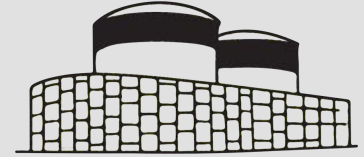
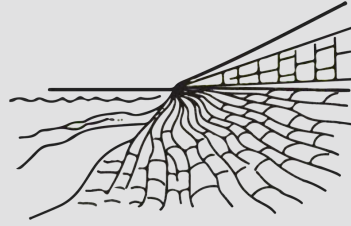
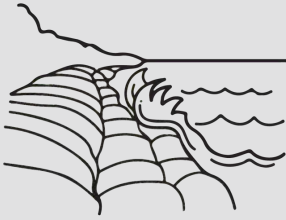
Applications:

- HIGHWAYS & ROADS
- BRIDGES
- RAILWAY STRUCTURES
- INDUSTRIAL
- WATERWAYS & DAMS
- PROTECTIVE STRUCTURES
- COMMERCIAL AND PUBLIC FACILITIES

Advantage over MSE Wall :

- Beautiful Architectural view possible with precast facing panel
- Rapid , Simple , Economical Construction

Business Line :
Stability



S



T

Coastal Structure: Jetty Construction

A

A jetty, Marine structure that may serve as breakwater, a walkway or both as a mean of constricting a channel. It is a place where ships, boat, cargo can crowd on the shore to take off and fill different types materials. An artificially constructed jetty is done constructing by excavating and these requires maintenance by further periodic excavating. This engineering framework designed to control the tide or protect a harbor or coastal areas from waves connected with river, harbor and coastal works.

B

SCL has experience and expertise to construct long jetties into deep water to allow the berthing of large vessel without the need for any dredging. All these work are done through extensive planning and maintaining safety guidance. As it is specialized engineering work, its requires advanced engineering technics and methods.

I

L

Coastal Protection/Tech Revetment :

TechRevetment is an alternate and durable solution for erosion protection.

High strength woven geotextile former is used to provide the shape and form. Essential components of the TechRevetment™ system are non-woven geotextiles, geotextile fabric form and fine aggregate concrete. Depending upon the design requirements and specific application, liaison cables can be incorporated in the fabric form.

I

T

Y

Coastal Structure: Jetty Construction Marine structure



Coastal Structure : Tech Revet Ment



Benefits of the TechRevetment technology :

Underwater installation is one of the various advantages of the TechRevetment solution. This provides a unique advantage to the client where dewatering or constructing cofferdams is not possible such as canal bank protection and lining, river bank protection, abutment or pier protection under flowing water.

The erosion protection system consists of fine aggregate concrete and the layout is seamless and monolithic. With the use of concrete there is no requirement for using river stones or stone quarrying, which is a major environmental concern nowadays.

TechRevetment is also flexible in nature and can adapt as per the soil contour of the bank slope or channel bed. The installation process is faster than the conventional concrete or boulder pitching and gabion laying. It delivers the durability and performance of concrete without the costly, time consuming and difficult installation process of a conventionally-formed concrete slope paving.

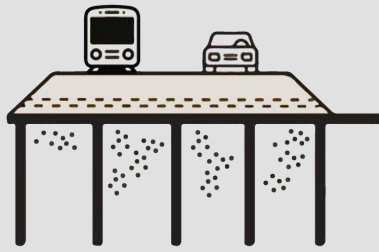


TechRevetment comes in several designs adapted to the site conditions:

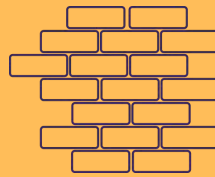
- **Filter point:** with provision of filter points to release pore water pressure from the embankment and increase the stability of the system.
- **Uniform sections:** with low coefficient of rugosity to minimize head losses, adapted to canal lining
- **Articulating blocks:** with internal high strength cable reinforcements in one or two directions, combine resistance to hydraulic forces and flexibility to adapt to the ground profile
- **Vegetated:** with unfilled areas to allow vegetation growth, for an ecological, aesthetically pleasing and robust erosion protection

TechRevetment is appropriate for the following :

Protecting river banks or shorelines from wave and current actions
Scour prevention and scour repair
Controlling erosion along bridge abutments and piers in flowing rivers
River training works
Forming impermeable linings for containment ponds or canals
In complement to the TechRevetment form concrete mattersses, we will supply TerraTextile , NW geotextiles for the filter layer and TerraAnchor soil anchors which may be required to provide additional resistance against sliding of the TechRevetment layer.



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Precast Concrete Structure

Concrete is the second most consumed material in the world after water. Based on the place of casting, concrete is divided into place-cast or cast-in-place or cast-in-situ concrete and precast concrete. During construction, site-specific forms are made and then concrete is poured into these forms to give the shape of the structural elements. This traditional technique of concreting at place is called place-cast concrete.

On the other hand, structural elements can be fabricated at a factory or a construction yard and then transported to the construction site after adequate curing. This technique of offsite production of concrete is called precast concrete.

Precast concrete eliminates these problems as it is manufactured in a controlled environment, ensuring extreme accuracy in quality, strength, and fine aesthetics. Due to these various advantages of precast concrete over place-cast concrete, the consumption of precast concrete is increasing globally.



The following advantages of precast concrete can be noted over place-cast concrete:

- Precast concrete is manufactured in a controlled factory environment. Hence, the structure quality can be achieved as per desired requirement
- Production of structural elements can be replicated in the industry, hence reduction in cost.
- The precast structure can be produced with the best possible surface finish, texture with beautiful architectural view
- Amount of labor & scaffolding, formwork is considerably less in precast concrete structure
- As precast concrete structures are produced in controlled environment, it is highly possible to produce durable concrete and wastage of material likely to be less in these productions.

Rapid urbanization, booming growth in construction industry and robust economic growth is the major drivers for precast concrete market in Bangladesh.

Types of Precast Concrete elements

- Wall Panels
- Beams
- Column
- Slab
- Parapet Beams
- Precast concrete Pavement
- AAC Blocks- different shapes







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