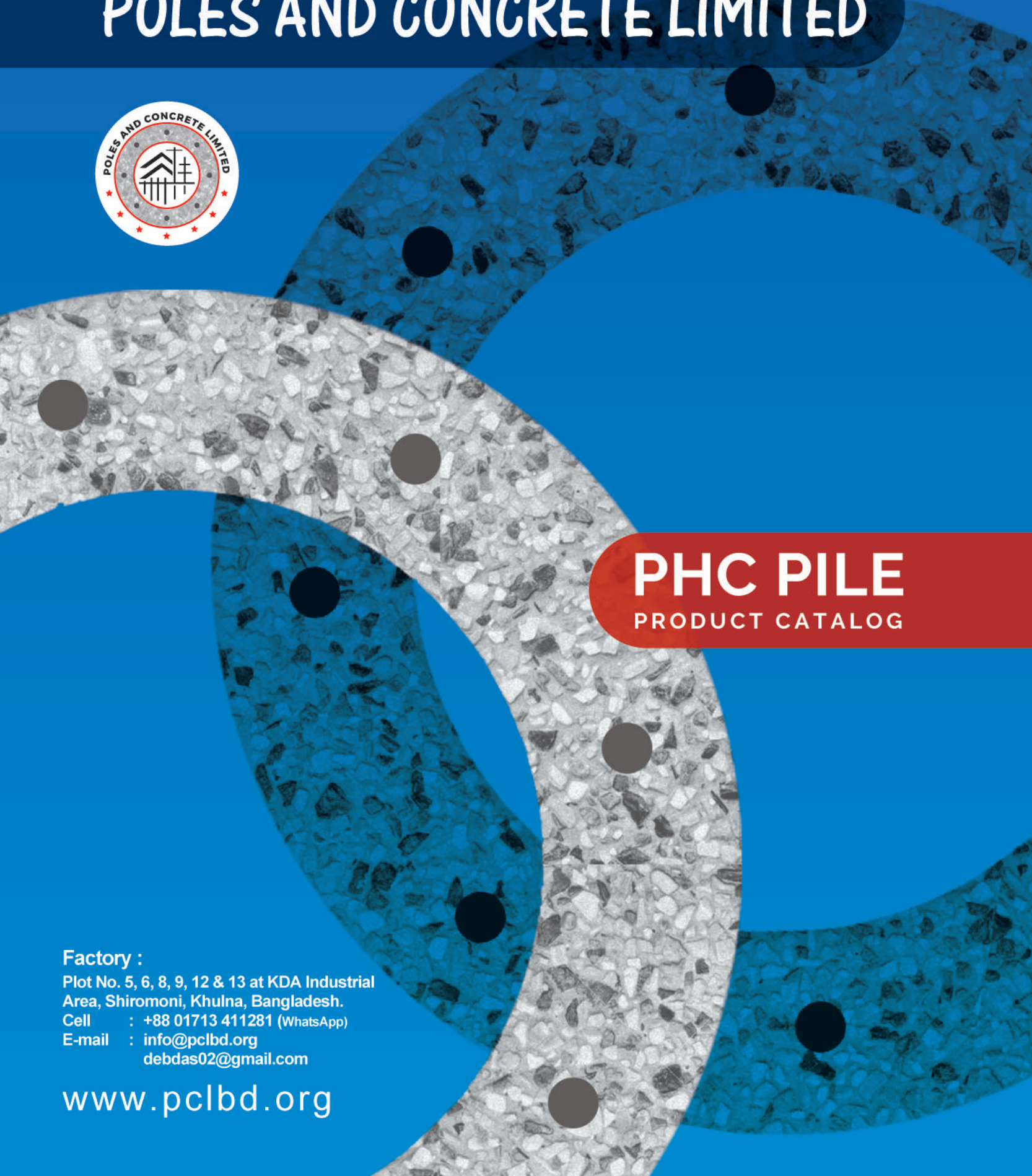
POLES AND CONCRETE LIMITED



PHC PILE
PRODUCT CATALOG

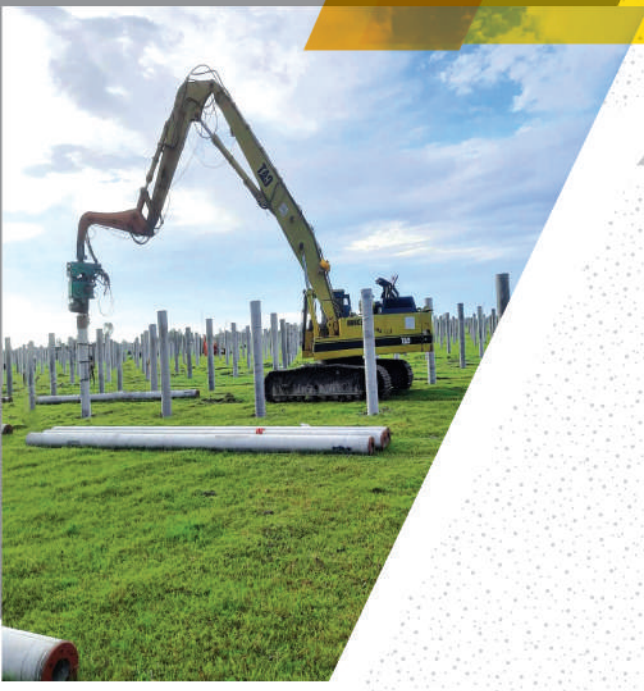
Factory :
Plot No. 5, 6, 8, 9, 12 & 13 at KDA Industrial Area, Shiromoni, Khulna, Bangladesh.
Cell : +88 01713 411281 (WhatsApp)
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debdas02@gmail.com

www.pclbd.org



INTRODUCTION

Poles And Concrete Limited is the manufacturer of PHC (Prestressed high Performance Concrete) Pile in Bangladesh. PHC Piles are circular, hollow in cross section and are manufactured in size ranging from diameter 300 mm to 700 mm with length varying from 6 M to 15 M in single piece. PHC Piles has splice joining facility by welding to attain desired length more than 15 M. We have the facility to drive the Piles of our own as per the requirement of the client.



AREAS OF APPLICATION

- Building Foundations
- Heavy Industries
- Solar Power Plant
- Steel Structure Building
- Civil Engineering Works
- Marine Structures
- Piled Embankments
- Bridges

PRODUCT ATTRIBUTES

- Steam curing enables faste production rate and delivery to project sites.
- Can be customized to suit project requirements.
- Spinning process results in more durable concrete with high resistance to corrosion.
- High strength concrete enable piles to be driven through hard strata.
- Can be manufactured up to 700 mm diameter and a maximum single length of 15 metres.
- Environmental friendly installation by hydraulic jacking equipment which is free of noise, air pollution and vibration.
- Prestressed concrete provides higher bending moment capacity compared to conventional reinforced concrete piles.



GENERAL SPECIFICATION



STANDARDS

PHC Piles are manufactured with the compliance of JAPANESE INDUSTRIAL STANDARD JIS A 5335:1987, JIS A 5373:2004 and JIS A 5373:2016

MATERIALS

Aggregates: Coarse aggregates shall be 20 mm & 10 mm stone. Fine aggregates shall be clean river sand.

Cement: Portland cement CEM-I, 52.5N complies with BDS EN197-1: 2010

Prestressing Steel: High frequency induction heat treated bars manufactured according to JIS G3536 / GB/ T5223:2014 or equivalent.

Spiral Wire: Cold drawn MS Wire accroding to JIS G 3532:2000



CONCRETE STRENGTH

Minimum concrete cube strength:
At transfer of prestress------30N/mm^2
at 28 days minimum---------70N/mm^2

JOINT

The joint is designed to have the same performance as the main body particularly bending strength. PHC Piles have steel extension plates for splice joint.

LIFTING POINTS

For piles up to 12m length, shall be lifted by using steel hooks at both ends. For piles exceeding 12 m, Piles shall be lifted by wrapping wire ropes around the piles at the marked lifting points.

PILE SHOE

PHC piles will be supplied either open ended, with a flat shoe or with other type of shoe such as x-pointed shoe, rock shoe and pipe shoe.



CURING

After casting, the piles are steam cured. When the concrete reaches the specified transfer strength, the piles are demoulded, marked and checked for quality.The piles can normally be transported and driven after 7 days from the date of casting or when the cube strength reaches 50 N/mm^2.

IDENTIFICATION

PHC Piles have the typical markings as below:

Company's Initial
Pile Class A , A B , B or C.
Outer diameter in mm
Length in M
Date of Cast (dd/mm/yy)

Example:
PHC-A-300-9



STANDARD LENGTHS

PHC Piles are available in lengths of 6m to 15m subject to certain limitations.



DELIVERY

PHC Standard Piles are normally available ex-stock. Custom made piles usually takes 5 To 6 weeks from date of confirmed order.

PILE DRIVING

We have our own Hydraulic Static Pile driving machine JVY486A / JVY500A for driving the piles up to 600mm diameter.



Our Activities



PHC Piles in Stack



PHC Piles Transportation



Hydraulic Static Pile Driving Machine



PHC Piles as Solar panel support



Constructed Building using PHC Piles in foundation



Use of PHC Piles in Solar power plant



BENDING STRENGTH TEST OF PILE

We have the facility to test the Bending Strength of PHC Piles in our factory.

PILE STATIC LOAD TEST

Static load testing of Pile might be done quickly with the help of our own machine and arrangement.



DEFINITIONS

PHC Pile : Prestressed High Performance Concrete Pile
BDS EN : Bangladesh Standard
GB/T : Chinese Standard
BS : British Standard
JIS : Japanees Industrial Standard





TECHNICAL DATA

Technical data of our standard piles are given in the tables. Please note that the axial loads represent the structural capacities of the piles. Actual working load depends on the soil conditions and the pile slenderness ratio.

PROPERTIES OF PHC PILES- STANDARD PRODUCTS

CLASS A (EFECTIVE PRESTRESS) ≥ 5.0 N/mm²

Item No	Pile Type	Nominal Diameter	Nominal Thickness	Length	Nominal Weight	Area Of Bar	Area of Concrete	Bending Moment		Recommended Max Structural Axial Working Load	Effective Prestress
								Cracking	Distructive		
		mm	mm	m	kg/m	mm²	mm²	kN-m	kN-m	ton	N/mm²
1	PHC-A-300	300	60	6-12	118	231.00	45257	24.5	37.3	74	5.9
2	PHC-A-400	400	75	6-12	199	385.00	76607	54.0	81.4	125	5.8
3	PHC-A-500	500	80	6-12	274	462.00	105600	103.0	155.0	175	5.1
4	PHC-A-600	600	90	6-12	375	763.71	144257	166.8	250.2	238	5.3

CLASS AB (EFECTIVE PRESTRESS) ≥ 6.0 N/mm²

Item No	Pile Type	Nominal Diameter	Nominal Thickness	Length	Nominal Weight	Area Of Bar	Area of Concrete	Bending Moment		Recommended Max Structural Axial Working Load	Effective Prestress
								Cracking	Distructive		
		mm	mm	m	kg/m	mm²	mm²	kN-m	kN-m	ton	N/mm²
5	PHC-AB-300	300	60	6-12	118	269.50	45257	30.0	50.0	73	6.9
6	PHC-AB-400	400	80	6-15	209	462.00	80457	64.0	106.0	130	6.6
7	PHC-AB-500	500	90	6-15	301	763.71	115971	125.0	210.0	188	6.5
8	PHC-AB-600	600	100	6-15	408	1018.29	157143	206.0	342.0	255	6.4
9	PHC-AB-700	700	110	6-15	530	1272.86	203971	319.0	529.0	332	6.2

CLASS B (EFECTIVE PRESTRESS) ≥ 8.0 N/mm²

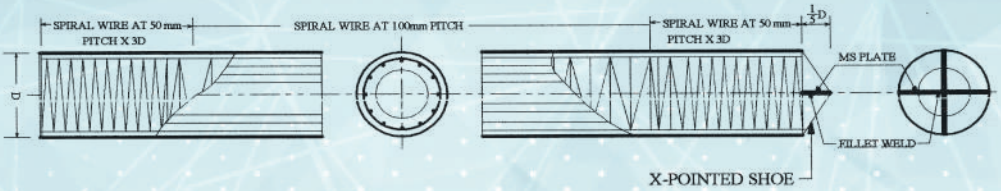
Item No	Pile Type	Nominal Diameter	Nominal Thickness	Length	Nominal Weight	Area Of Bar	Area of Concrete	Bending Moment		Recommended Max Structural Axial Working Load	Effective Prestress
								Cracking	Distructive		
		mm	mm	m	kg/m	mm²	mm²	kN-m	kN-m	ton	N/mm²
10	PHC-B-300	300	60	6-12	118	402.29	45257	34.3	61.8	71	8.8
11	PHC-B-400	400	80	6-15	209	636.43	80457	73.6	132.4	127	8.0
12	PHC-B-500	500	90	6-15	301	954.64	115971	147.2	264.9	183	8.2
13	PHC-B-600	600	100	6-15	408	1272.86	157143	245.2	441.4	248	8.1
14	PHC-B-700	700	110	6-15	530	1709.17	203971	372.8	671.0	321	8.3
15	PHC-B-800	800	120	6-15	667	2518.78	256457	539.6	971.2	394	9.8
16	PHC-B-900	900	130	6-15	818	2878.61	314600	735.8	1324.0	488	9.1
17	PHC-B-1000	1000	140	6-15	983	4490.64	378400	1030.0	1854.0	578	10.1

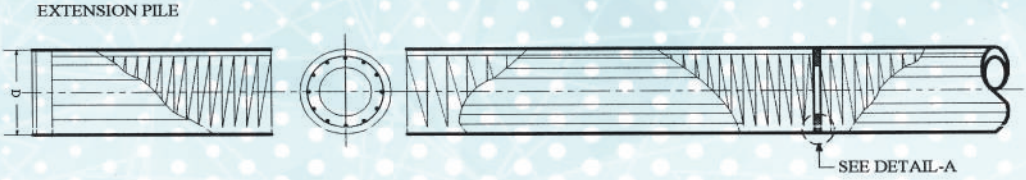
CLASS C (EFECTIVE PRESTRESS) ≥ 10.0 N/mm²

Item No	Pile Type	Nominal Diameter	Nominal Thickness	Length	Nominal Weight	Area Of Bar	Area of Concrete	Bending Moment		Recommended Max Structural Axial Working Load	Effective Prestress
								Cracking	Distructive		
		mm	mm	m	kg/m	mm²	mm²	kN-m	kN-m	ton	N/mm²
18	PHC-C-300	300	70	6-12	132	509.14	50600	39.2	78.5	77	10.0
19	PHC-C-400	400	90	6-15	228	891.00	87686	88.3	176.6	134	10.1
20	PHC-C-500	500	95	6-15	314	1209.21	120921	166.8	333.5	185	10.0
21	PHC-C-600	600	110	6-15	440	1709.17	169400	284.5	569.0	259	10.0
22	PHC-C-700	700	110	6-15	530	2158.95	203971	441.4	882.9	309	10.5
23	PHC-C-800	800	120	6-15	667	2878.61	256457	637.6	1275.0	385	11.2
24	PHC-C-900	900	130	6-15	818	3238.43	314600	833.8	1668.0	479	10.2
25	PHC-C-1000	1000	140	6-15	983	4989.60	378400	1177.0	2354.0	567	11.2

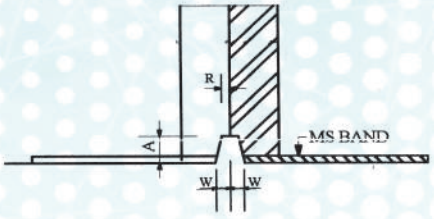
Note: We are capable to manufacture piles according to the customized design of the clients.

SECTIONAL DETAILS OF PHC PILES





JOINT WELDING DETAILS

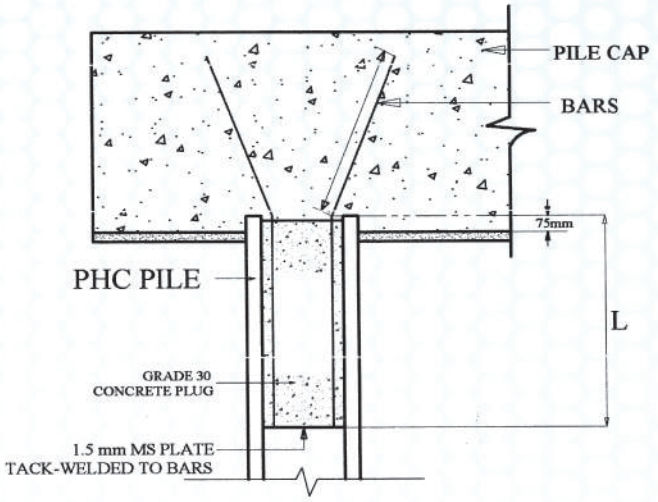


DETAIL-A

Dia Of Pile D mm	Throat Thickness A mm	W mm	Root R mm
250	8.5	4.0	2.0
300	8.5	4.0	2.0
350	8.5	4.0	2.0
400	10	4.5	2.0
450	10	4.5	2.0
500	12	5.0	2.0
600	12	5.0	2.0
700	14	6.0	2.0
800	14	6.0	2.0
900	14	6.0	2.0
1000	14	6.0	2.0
1200	14	6.0	2.0

BONDING PHC PILES INTO PILE CAP

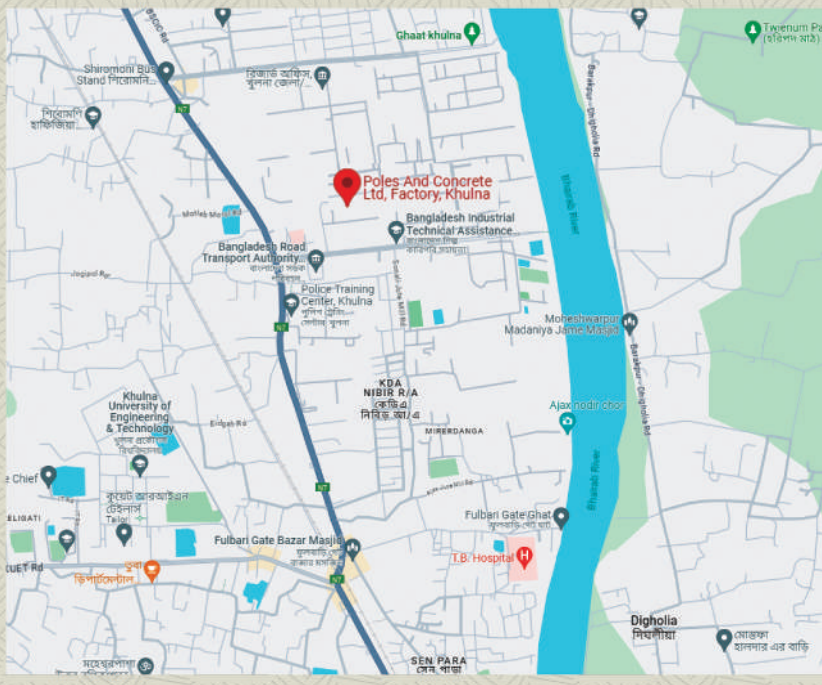
DIA OF PILE	Quantity Nos	Bar dia mm	L mm
250	4	12	500
300	4	12	500
350	5	12	550
400	5	12	700
450	5	16	800
500	6	16	900
600	8	16	1000
700	8	20	1200
800	8	20	1400
900	10	25	1500
1000	12	25	1500
1200	20	25	2000



Note: As the bars are bonded with concrete, PHC Piles may be cut off at any point.The piles need not be stripped down to expose the bars and can be bonded to the pile cap as shown in the abobe sketch. If the piles are not subjected to tensile loads, the recommended bars are considered adequate.

FIND US







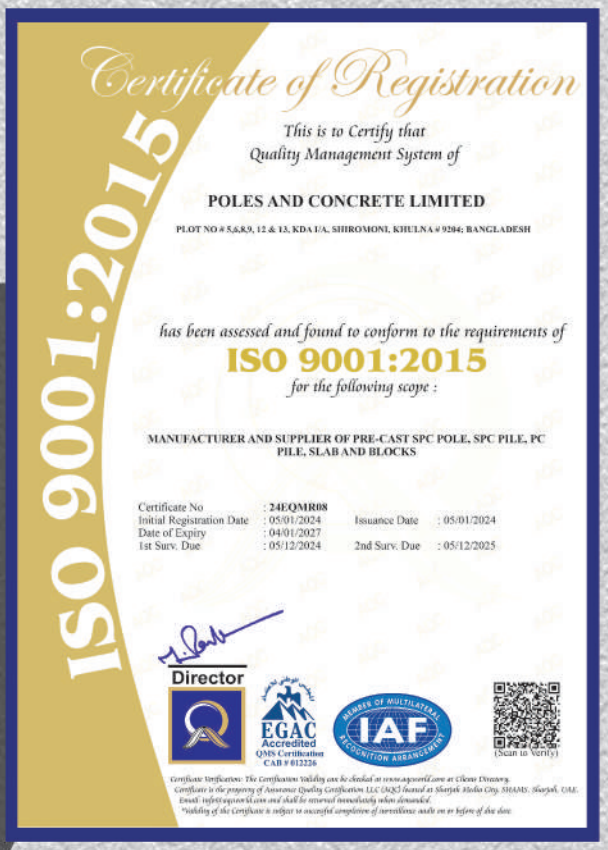
Location Map of Project

www.pclbd.org

List of valued clients of PHC Pile :

01. Public Works Department (PWD).
02. Local Government Engineering Department (LGED).
03. Bangladesh Water Development Board (BWDB).
04. Ispahani Tea Limited, Chattogram.
05. North Western University, Khulna.
06. Colgate-Palmolive Bangladesh Pvt. Ltd, Chattogram.
07. Paramount Group, Gulshan-2, Dhaka.
08. SCUBE Technologies Ltd, Dhanmondi, Dhaka.
09. Neopower Technology Ltd. Gulshan-2, Dhaka.
10. 35 MW Intraco Solar Power, Lalmonirhat.
11. Sonagazi 75 MW Solar PV Power Plant, Sonagazi, Feni.
12. 100 MW Dynamic Sun Energy, Hamayetpur, Pabna.
13. Marico Bangladesh Ltd., Chittagong.
14. ACI Salt Ltd., Rupganj, Narayanganj.
15. ACI Pure Flour Ltd., Bandar, Narayanganj.
16. Impress-Newtex Composite Textile Ltd., Mirzapur, Tangail.
17. Good Neighbors Bangladesh (Japanees Organization).
18. Smart Properties Ltd., Mirpur, Dhaka-1207.
19. Priyo Bari Ltd., Sonadanga, Khulna.
20. Nandan Design & Development Ltd., Sonadanga, Khulna.





Certificate of Registration

ISO 9001:2015

This is to Certify that
Quality Management System of

POLES AND CONCRETE LIMITED

PLOT NO # 5,6,8,9, 12 & 13, KDA I/A, SHIROMONI, KHULNA # 9204; BANGLADESH

has been assessed and found to conform to the requirements of

ISO 9001:2015

for the following scope :

MANUFACTURER AND SUPPLIER OF PRE-CAST SPC POLE, SPC PILE, PC PILE, SLAB AND BLOCKS

Certificate No	: 24EQMR08		
Initial Registration Date	: 05/01/2024	Issuance Date	: 05/01/2024
Date of Expiry	: 04/01/2027		
1st Surv. Due	: 05/12/2024	2nd Surv. Due	: 05/12/2025

Director

EGAC Accredited QMS Certification CAB # 012226

IAF MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT

(Scan to Verify)

Certificate Verification: The Certification Validity can be checked at www.aqcworld.com or Clients Directory.
Certificate is the property of Assurance Quality Certification LLC (AQC) located at Sharjah Media City, SHAMS, Sharjah, UAE.
Email: info@aqcworld.com and shall be returned immediately when demanded.
*Validity of the Certificate is subject to successful completion of surveillance audit on or before of the date.

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