CONSULTANCY RESEARCH & TESTING SERVICES (CRTS)
Department of Civil Engineering
Khulna University of Engineering & Technology
Khulna-9203, Bangladesh
Phone: +88-041-769468~75 Ext. 201; Cell: +88-01798238240, +88-01810120550

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Email: crts-civil@kuet.ac.bd

TEST RESULTS OF PRESTRESSED HIGH PERFORMANCE CONCRETE (PHC) PILE

CRTS No.	:	70883	Date	:	30-06-2025
Ref. No.	:	PCL/KUET/ 2025/089	Date	:	29-06-2025
Test No.	:	T- 252377 (Page 1 of 4)	Date of Test	:	30-06-2025
Client	:	POLES AND CONCRETE LIMITED, Asha Tower, Level 11, 23/3 Bir Uttom ANM Nuruzzaman Rd. Shyamoli, Dhaka-1207			
Project Name	:	Muktagacha Solartech Energy Limited, Nimuria, Muktagacha, Mymensingh, Bangladesh.			
Plant Location	:	5,6,8,9,12 & 13, KDA Shiromoni I/A, Badamtola, Khulna.			
Test location	:	Test Bed of SPC Pole plant premises, Poles And Concrete Ltd.			
Pile Designation	:	PHC-B-300-6; PHC Pile.			
Dimension	:	Nominal Dia. : 300 mm; Thickness: 60 mm; Length:6m			
Dia. & Nos of Stress Wire	:	8no. of 7mm dia.	Date of Casting	:	25-02-2025

TEST RESULTS

Test Specification : Japanese Industrial Standard JIS A5373:2004
Load application : Horizontal Pulling (without axial tension)

Sl. No.	Observation	Tested Value		Recommended Specification	Remarks
		Load (kN)	Moment (kN-m)	Moment (kN-m)	
1.	First Cracking Moment	66.36	43.1	34.3	Satisfies the Code requirement
2.	Moment at Failure	96.94	63.0	61.8	

Note: Moment due to dead load is ignored in the calculation as the loading was done by horizontal pulling. The pile is a cutting segment from a 12m long pile.

Countersigned by

T ID=T-252377

Chairman
CRTS
Department of Civil Engineering
Khulna University of Engineering & Technology

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Test Performed By

Sk Md Kamal Uddin
Assistant Professor
Department of Civil Engineering
Khulna University of Engineering & Technology

Notes:

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Email: crts-civil@kuet.ac.bd

TEST RESULTS OF PRESTRESSED HIGH PERFORMANCE CONCRETE (PHC) PILE

CRTS No.	:	70883	Date	:	30-06-2025
Ref. No.	:	PCL/KUET/ 2025/089	Date	:	29-06-2025
Test No.	:	T- 252377 (Page 2 of 4)	Date of Test	:	30-06-2025
Client	:	POLES AND CONCRETE LIMITED, Asha Tower, Level 11, 23/3 Bir Uttom ANM Nuruzzaman Rd. Shyamoli, Dhaka-1207			
Project Name	:	Muktagacha Solartech Energy Limited, Nimuria, Muktagacha, Mymensingh, Bangladesh.			
Plant Location	:	5,6,8,9,12 & 13, KDA Shiromoni I/A, Badamtola, Khulna.			
Test location	:	Test Bed of SPC Pole plant premises, Poles And Concrete Ltd.			
Pile Designation	:	PHC-B-300-8; PHC Pile.			
Dimension	:	Nominal Dia. : 300 mm; Thickness: 60 mm; Length:8m			
Dia. & Nos of Stress Wire	:	8no. of 7mm dia.	Date of Casting	:	25-05-2025

TEST RESULTS

Test Specification : Japanese Industrial Standard JIS A5373:2004
Load application : Horizontal Pulling (without axial tension)

Sl. No.	Observation	Tested Value		Recommended Specification	Remarks
		Load (kN)	Moment (kN-m)	Moment (kN-m)	
1.	First Cracking Moment	44.52	42.3	34.3	Satisfies the Code requirement
2.	Moment at Failure	81.65	77.6	61.8	

Note: Moment due to dead load is ignored in the calculation as the loading was done by horizontal pulling. The pile is a cutting segment from a 12m long pile.

Countersigned by

Chairman
CRTS
Department of Civil Engineering
Khulna University of Engineering & Technology

Test Performed By

Sk Md Kamal Uddin
Assistant Professor
Department of Civil Engineering
Khulna University of Engineering & Technology

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Email: crts-civil@kuet.ac.bd

TEST RESULTS OF PRESTRESSED HIGH PERFORMANCE CONCRETE (PHC) PILE

CRTS No.	: 70883		Date	:	30-06-2025
Ref. No.	: PCL/KUET/ 2025/089		Date	:	29-06-2025
Test No.	: T- 252377 (Page 3 of 4)		Date of Test	:	30-06-2025
Client	: POLES AND CONCRETE LIMITED, Asha Tower, Level 11, 23/3 Bir Uttom ANM Nuruzzaman Rd. Shyamoli, Dhaka-1207				
Project Name	: Muktagacha Solartech Energy Limited, Nimuria, Muktagacha, Mymensingh, Bangladesh.				
Plant Location	: 5,6,8,9,12 & 13, KDA Shiromoni I/A, Badamtola, Khulna.				
Test location	: Test Bed of SPC Pole plant premises, Poles And Concrete Ltd.				
Pile Designation	: PHC-B-300-9; PHC Pile.				
Dimension	: Nominal Dia. : 300 mm; Thickness: 60 mm; Length:9m				
Dia. & Nos of Stress Wire	: 8no. of 7mm dia.		Date of Casting	:	25-02-2025

TEST RESULTS

Test Specification : Japanese Industrial Standard JIS A5373:2004
Load application : Horizontal Pulling (without axial tension)

Sl. No.	Observation	Tested Value		Recommended Specification	Remarks
		Load (kN)	Moment (kN-m)	Moment (kN-m)	
1.	First Cracking Moment	36.87	40.6	34.3	Satisfies the Code requirement
2.	Moment at Failure	66.03	72.6	61.8	

Note: Moment due to dead load is ignored in the calculation as the loading was done by horizontal pulling. The pile is a cutting segment from a 12m long pile.

Countersigned by

Chairman
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Khulna University of Engineering & Technology

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Md. Humayun Kabir
Associate Professor
Department of Civil Engineering
Khulna University of Engineering & Technology

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http://www.kuet.ac.bd
Email: crts-civil@kuet.ac.bd

TEST RESULTS OF PRESTRESSED HIGH PERFORMANCE CONCRETE (PHC) PILE

Ref. No. : PCL/KUET/CRTS/2025/003 Date : 01-01-2025
Test No. : T- 250202 (Page 1 of 2) Date of Test : 15-01-2025
Client : A.G.M, Poles and Concrete Limited
Name of The Project : Pabna 60 MW Solar Power Plant- Neopower Technology Ltd. (Contract Number: NTL/PCL/PHC/MC/20241112001
Plant Location : 5,6,8,9,12 & 13, KDA Shiromoni I/A, Badamtola, Khulna.
Test location : Test Bed of plant premises, Poles And Concrete Ltd.
Pile Designation : PHC-AB-300-9.5; PHC Pile.
Dimension : Nominal Dia.:300 mm; Thickness: 70 mm; Length:9.5m
28 day concrete strength : Not mentioned Date of Casting : Not mentioned
Diameter and Nos. of Stressing Wire : 6 no. of 9mm dia.

TEST RESULTS

Test Specification : National Building Standard Design Atlas; 23G409

Sl. No.	Observation	Tested Value		Recommended Specification	Remarks
		Load (kN)	Moment (kn-m)	Moment (kN-m)	
1.	First Cracking Moment	32.27	37.9	31	Satisfies the Code requirement
2.	Moment at Failure	55.65	65.4	40	

Note: Moment due to dead load is ignored in the calculation as the loading was done by horizontal pulling.

Countersigned by

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Test Performed By

15.1.25

Dr. Muhammad Harunur Rashid
Professor
Department of Civil Engineering
KUET

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Department of Civil Engineering
Khulna University of Engineering & Technology
Khulna-9203, Bangladesh
Phone: +88-041-769468~75 Ext. 201; Cell: +88-01798238240, +88-01810120550

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Email: crts-civil@kuet.ac.bd

TEST RESULTS OF PRESTRESSED HIGH PERFORMANCE CONCRETE (PHC) PILE

Ref. No.	:	PCL/KUET/CRTS/2025/003		Date	: 01-01-2025
Test No.	:	T- 250202 (Page 1 of 2)		Date of Test	: 15-01-2025
Client	:	A.G.M, Poles and Concrete Limited			
Name of The Project	:	Pabna 60 MW Solar Power Plant- Neopower Technology Ltd. (Contract Number: NTL/PCL/PHC/MC/20241112001			
Plant Location	:	5,6,8,9,12 & 13, KDA Shiromoni I/A, Badamtola, Khulna.			
Test location	:	Test Bed of plant premises, Poles And Concrete Ltd.			
Pile Designation	:	PHC-AB-300-10.5; PHC Pile.			
Dimension	:	Nominal Dia.:300 mm; Thickness: 70 mm; Length:10.5m			
28 day concrete strength	:	Not mentioned		Date of Casting	: Not mentioned
Diameter and Nos. of Stressing Wire	:	6 no. of 9mm dia.			

TEST RESULTS

Test Specification : National Building Standard Design Atlas; 23G409

Sl. No.	Observation	Tested Value		Recommended Specification	Remarks
		Load (kN)	Moment (kN-m)	Moment (kN-m)	
1.	First Cracking Moment	26.5	35.1	31	Satisfies the Code requirement
2.	Moment at Failure	52.8	70.0	40	

Note: Moment due to dead load is ignored in the calculation as the loading was done by horizontal pulling.

Countersigned by

T ID=T-250202

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CRTS
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Sk Md Kamal Uddin
Assistant Professor
Department of Civil Engineering
KUET

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Department of Civil Engineering
Khulna University of Engineering & Technology
Khulna-9203, Bangladesh
Phone : +88-041-769468~75, Ext:201;Fax: +88-041-774780, Cell: +880-1798238240

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TEST RESULTS OF PRESTRESSED HIGH PERFORMANCE CONCRETE (PHC) PILE

Ref. No.	:	PCL/KUET/ CRTS/2023/050	Date	:	28-02-2023
Test No.	:	T- 230917 (Page 1 of 2)	Date of Test	:	05-03-2023
Client	:	POLES AND CONCRETE LIMITED, Asha Tower, Level 11, 23/3 Bir Uttom ANM Nuruzzaman Rd. Shyamoli, Dhaka-1207			
Plant Location	:	5,6,8,9,12 & 13, KDA Shiromoni I/A, Badamtola, Khulna.			
Test location	:	Test Bed of SPC Pole plant premises, Poles And Concrete Ltd.			
Pile Designation	:	PC-B-400-12; PHC Pile.			
Dimension	:	Nominal Dia. : 400 mm; Thickness: 80 mm; Length:12m			
28 day concrete strength	:	Not mentioned	Date of Casting	:	12-02-2023
Dia. & Nos of Stress Wire	:	12no. of 7mm dia.			

TEST RESULTS

Test Specification : Japanese Industrial Standard JIS A5373:2004

Sl. No.	Observation	Tested Value		Recommended Specification	Remarks
		Load (kN)	Moment (kn-m)	Moment (kn-m)	
1.	First Cracking Moment	57.12	88.5	73.6	Satisfies the Code requirement
2.	Moment at Failure	108	167.5	132	

Note: Moment due to dead load is ignored in the calculation as the loading was done by horizontal pulling.

T ID=T-230917

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Department of Civil Engineering
KUET

Test Performed By

Dr. Abu Zakir Morshed
Professor
Department of Civil Engineering
KUET

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Ref. No. : PCL/KUET/ CRTS/2023/050 Date : 28-02-2023
Test No. : T- 230917 (Page 2 of 2) Date of Test : 05-03-2023
Client : POLES AND CONCRETE LIMITED, Asha Tower, Level 11, 23/3 Bir Uttom ANM Nuruzzaman Rd. Shyamoli, Dhaka-1207
Plant Location : 5,6,8,9,12 & 13, KDA Shiromoni I/A, Badamtola, Khulna.
Test location : Test Bed of SPC Pole plant premises, Poles And Concrete Ltd.
Pile Designation : PC-B-500-12; PHC Pile.
Dimension : Nominal Dia. : 500 mm; Thickness: 90 mm; Length:12m
28 day concrete strength : Not mentioned Date of Casting : 12-02-2023
Dia. & Nos of Stress Wire : 15no. of 9mm dia.

TEST RESULTS

Test Specification : Japanese Industrial Standard JIS A5373:2004

Sl. No.	Observation	Tested Value		Recommended Specification	Remarks
		Load (kN)	Moment (kN-m)	Moment (kn-m)	
1.	First Cracking Moment	118.6	183.9	147.2	Satisfies the Code requirement
2.	Moment at Failure	190.8	295.7	264.9	

Note: Moment due to dead load is ignored in the calculation as the loading was done by horizontal pulling.

Countersigned by

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CRTS
Department of Civil Engineering
KUET

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Test Performed By

Sk Md Kamal Uddin
Assistant Professor
Department of Civil Engineering
KUET

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TEST RESULTS OF PRESTRESSED HIGH PERFORMANCE CONCRETE (PHC) PILE

Ref. No.	:	PCL/KUET/ CRTS/2024/074	Date	:	19-05-2024
Test No.	:	T- 242056 (Page 1 of 2)	Date of Test	:	26-08-2024
Client	:	POLES AND CONCRETE LIMITED, Asha Tower, Level 11, 23/3 Bir Uttom ANM Nuruzzaman Rd. Shyamoli, Dhaka-1207			
Plant Location	:	5,6,8,9,12 & 13, KDA Shiromoni I/A, Badamtola, Khulna.			
Test location	:	Test Bed of SPC Pole plant premises, Poles And Concrete Ltd.			
Pile Designation	:	PHC-B-600-12.			
Dimension	:	Nominal Dia : 600 mm; Thickness: 100 mm; Length:12m			
28 day concrete strength	:	Not mentioned	Date of Casting	:	18-04-2024
Dia. & Nos of Stress Wire	:	22no. of 9mm dia.			

TEST RESULTS

Test Specification : Japanese Industrial Standard JIS A5373:2004

Sl. No.	Observation	Tested Value		Recommended Specification	Remarks
		Load (kN)	Moment (kN-m)	Moment (kN-m)	
1.	First Cracking Moment	206	348	245.2	Satisfies the code requirement
2.	Moment at Failure	364.7	579.7	441.4	

Countersigned by

T ID=T-242056

Chairman
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Department of Civil Engineering
KUET

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Professor
Department of Civil Engineering
KUET

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Department of Civil Engineering
Khulna University of Engineering & Technology
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TEST RESULTS OF PRESTRESSED HIGH PERFORMANCE CONCRETE (PHC) PILE

Ref. No. : PCL/KUET/ CRTS/2024/073 Date : 19-05-2024
Test No. : T- 242055 (Page 3 of 4) Date of Test : 26-08-2024
Client : POLES AND CONCRETE LIMITED, Asha Tower, Level 11, 23/3 Bir Uttom ANM Nuruzzaman Rd. Shyamoli, Dhaka-1207

Plant Location : 5,6,8,9,12 & 13, KDA Shiromoni I/A, Badamtola, Khulna.
Test location : Test Bed of SPC Pole plant premises, Poles And Concrete Ltd.
Pile Designation : PHC-B-500-15.
Dimension : Nominal Dia. : 500 mm; Thickness: 90 mm; Length:15m
28 day concrete strength : Not mentioned Date of Casting : 24-03-2024
Dia. & Nos of Stress Wire : 15no. of 9mm dia.

TEST RESULTS

Test Specification : Japanese Industrial Standard JIS A5373:2004

Sl. No.	Observation	Tested Value		Recommended Specification	Remarks
		Load (kN)	Moment (kN-m)	Moment (kN-m)	
1.	First Cracking Moment	105.9	245.0	147.2	Satisfies the code requirement
2.	Moment at Failure	162.61	341.8	264.9	

Countersigned by

Chairman
CRTS
Department of Civil Engineering
KUET

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Test Performed By

Sk Md Kamal Uddin
Assistant Professor
Department of Civil Engineering
KUET

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CONSULTANCY RESEARCH & TESTING SERVICES (CRTS)
Department of Civil Engineering
Khulna University of Engineering & Technology
Khulna-9203, Bangladesh
Phone: +88-041-769468~75 Ext. 201; Cell: +88-01798238240, +88-01810120550

কনসাল্‌টেন্সি রিসার্চ এন্ড টেস্টিং সার্ভিসেস (সিআরটিএস)
সিভিল ইঞ্জিনিয়ারিং বিভাগ
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খুলনা-৯২০৩, বাংলাদেশ
http://www.kuet.ac.bd
Email: crts-civil@kuet.ac.bd

TEST RESULTS OF PRESTRESSED HIGH PERFORMANCE CONCRETE (PHC) PILE

Ref. No.	:	PCL/KUET/ CRTS/2024/074	Date	:	19-05-2024
Test No.	:	T- 242056 (Page 2 of 2)	Date of Test	:	26-08-2024
Client	:	POLES AND CONCRETE LIMITED, Asha Tower, Level 11, 23/3 Bir Uttom ANM Nuruzzaman Rd. Shyamoli, Dhaka-1207			
Plant Location	:	5,6,8,9,12 & 13, KDA Shiromoni I/A, Badamtola, Khulna.			
Test location	:	Test Bed of SPC Pole plant premises, Poles And Concrete Ltd.			
Pile Designation	:	PHC-B-600-15.			
Dimension	:	Nominal Dia : 600 mm; Thickness: 100 mm; Length:15m			
28 day concrete strength	:	Not mentioned	Date of Casting	:	24-04-2024
Dia. & Nos of Stress Wire	:	22no. of 9mm dia.			

TEST RESULTS

Test Specification : Japanese Industrial Standard JIS A5373:2004

Sl. No.	Observation	Tested Value		Recommended Specification	Remarks
		Load (kN)	Moment (kN-m)	Moment (kN-m)	
1.	First Cracking Moment	171.9	388.9	245.2	Satisfies the code requirement
2.	Moment at Failure	274.0	570.5	441.4	

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CRTS
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Department of Civil Engineering
KUET

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http://www.kuet.ac.bd
Email: crts-civil@kuet.ac.bd

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBE

CRTS No. : R-1119 Date : 26-12-2024
Ref. No. : PCL/KUET/2024/261 Date : 24-12-2024
Client : Director, Poles & Concrete Ltd, Shiromoni, Khulna
Name of the Project: --
Sample Description : Concrete Cube (150x150x150 mm)
Test No. : T-244957 Date of Testing: 24-12-2024

Sl. No.	Date of Casting (as per letter)	Specimen Designation	Specimen Cross-Sectional Area under test	Calibrated Crushing Load	Crushing Strength	Average Crushing Strength	Type of Failure	Type of Coarse Aggregate
			(sq. mm)	(kN)	(MPa)	(MPa)		
1	26-11-24	Set -1	22500	2188	97.25	95.1	Combined	Stone-chips
2			22500	2101	93.39		Combined	Stone-chips
3			22500	2130	94.67		Combined	Stone-chips

Concrete Mix Proportion (as per letter) : Not Mentioned

1 MPa = 1 N/mm^2 = 145 psi =10.197 kg/cm^2
Average is given only when individual value lies within ±10%
Tests were done in the client's laboratory..

Countersigned by

Chairman
CRTS
Department of Civil Engineering
Khulna University of Engineering & Technology

T ID=T-24495702

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Sk Md Kamal Uddin
Assistant Professor
Department of Civil Engineering
Khulna University of Engineering & Technology

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Khulna University of Engineering & Technology
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Email: crts-civil@kuet.ac.bd

Tension Test of Uncoated HTW Wire (ASTM A 931 and ASTM E 8)

Client : Manager, Production, Poles and Concrete Limited, Khulna
CRTS No. : 69985 **Date** : 15-05-2025
Ref. No. : PCL/KUET/CRTS/2025/131 **Date:** 14-05-2025
Test No. : T-251723 **Date of Testing** : 18-05-2025
Project : Contract No.: 18.11.000.382.99.141.24/1270, Dated: 23-01-2025 (BIWTA)
Wire Type. : HTW wire

Sl. No.	Nominal Strand Dia.	Actual Strand Dia.	Actual Cross-Sectional Area	Unit Weight	Yield Load (0.2% offset)	Yield Strength (0.2% offset)	Average Yield Strength (0.2% offset)	Ultimate Load	Ultimate Tensile Strength*	Average Ultimate Tensile Strength	Elongation at Rupture	Average Elongation at Rupture	Modulus of Elasticity	Average Modulus of Elasticity
	mm	mm	mm^2	(kg/m)	(kN)	(MPa)	(MPa)	(kN)	(MPa)	(MPa)	(%)	(%)	(GPa)	(GPa)
1	7	7.01	38.61	0.303	57.1	1480	1500	64.1	1660	1680	5	--	--	--
2		7.01	38.59	0.303	58.1	1505		65.1	1690		5		--	
3		7.00	38.47	0.302	58.1	1510		65.1	1695		5		--	

1 MPa = 145 psi = 10. 197 kg/cm^2
*Strengths are based on **actual cross-sectional area**
Average is given only when individual value lies within ±10%
Samples were received in sealed condition

Countersigned by

Chairman, CRTS (Civil),
Department of Civil Engineering
Khulna University of Engineering & Technology

T ID=T-25172302

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Test performed by

Sk Md Kamal Uddin
Assistant Professor
Department of Civil Engineering
Khulna University of Engineering & Technology

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