

POST TENSIONING FORMAT FOR PSC GIRDER

General Information:

Name & Location of Bridge: Construction Of 301.00m Long PSC Girder Bridge Over the River Kartoa at Ch 4500 on Chatra GC-Gilabari Ghat Via Nischintobati Primary School Road, Road ID : 185764034		District: Rangpur	Upazila: Pirgonj
Span/Girder Ref: Span 2, Girder 1	Girder Length (m): 43m	Cable Ref. to be Stressed 01 of 04	
Girder Casting Date: 28.07.25	Stressing Stage of Cable : 01	Jacking end Ref:	End 1: 804021
Date of Tensioning: 21.08.25			End 2: 2804023

Design information:

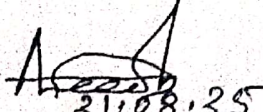
Dia of Strand (mm): 15.24mm	No. of Strand Cable: 19 nos	Anchorage Brand: Decomate	UTS of Strand (N/mm²): 1860	M. of Elasticity, E (MPa): 197000
Area of Strand A (mm²): 140	Area of Cable (mm²): 2660mm ²	Design Jacking Force P: 3750kn		
Design Elongation Each end (mm): 142mm	Design Elongation for Gripping Length (mm): —	Actual Gripping Length (mm): 580mm	Corrected Elongation for Grip Length d(mm): 4.15	
Design Cable Slip (mm): 6mm	Design Conc. Strength during Tensioning (N/mm²): 32 MPa	Actual Conc. Strength at the time of Tensioning (N/mm²): MPa		

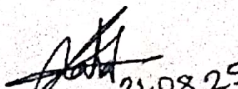
Stressing & Jack Information:

Pump Model No. P1: 04 P2: 03	Pressure gauge Model: M1: L-210661K SIKA M2: L-210660K SIKA	Tensioning Ram Area (m²): TA1: TA2:	Blocking Ram Area (Cm²): BA1: BA2:
Actual Area of Strand, A1 (mm²): 142.50mm ²	Modulus of Elasticity, E1(MPA): 200400 MPA	Corrected Elongation (mm) for Actual A1 & E1: $d*(A*E/A1*E1)$: 141.18 mm	
Jack Pres. With Jack loss (BAR) Kg/cm². J1: P/(TA1*efficiency): J2: P/(TA2*efficiency):	Calibrated Jack press. (kg/cm²) CJ1: 427.90 CJ2: 436.17	Initial Jack Press. (kg/cm²) ICJ1: 82.71 ICJ2: 83.82	Initial Marking: IRJ1: 37 IRJ2: 38
Actual calculated Elongation for Grip Length, d1 (mm): 4.00 mm	Gross Slip of Cable (mm): (Final Elong. - Net Elong.)	Net Slip at Jack end after lock-off (mm): (Gross Slip - Calcul. Elong. d1 for Grip length)	
Blocking Pressure Kg/Cm²: E1: Auto Block E2: Auto Block	At end 1	At end 2	At end 1 At end 2
	157-149=8	152-145=7	8-4=4 7-4=3

Record of Stressing & Elongation:

Avg. % of Design Load.	Actual Applied Pressure		Calculated Gauge Pressure (BAR), MPa		Reading for Elongation (mm)		Measured Elongation At both Jacking end (mm)			Correction Factor For ICJ	Final/Total Elongation. (mm)		Average Elongation At each End.	Remarks. (Average Slip at each end)
	Col(1)		Col(2)		Col(3)		Col(4)=(Col 3-IRJ)				Col(6)=(4+5)			
	1	2	1	2	1	2	1	2	Avg.		1	2		
	KN	TON	Kg/Cm ²	Kg/Cm ²	-	-	-	-	-		-	-		
20%	750		82.71	83.82	37	38	-	-	-	31			148	4+3
40%	1500		165.00	176.41	69	68	32	30	31		2			
60%	2250		255.30	263.00	100	97	63	59	61		=3.5			
80%	3000		341.60	349.88	132	129	95	91	93		<6			
95%	3562.5		406.32	414.52	157	152	120	114	117		OK			
98%	3675		419.27	427.51										
100%	3750		427.90	436.17										
102%	3825		436.17	444.83										
105%	3937		449.47	457.82										
Lock-off					149	145								


21.08.25
Client's Representative


21.08.25
Consultant's Representative

Contractor's Representative

100%

90%

80%

70%

60%

(31)

21.08.25

21.08.25

Elongation (mm)

20

40

60

80

100

120

01 of 04

POST TENSIONING FORMAT FOR PSC GIRDER

General Information:

Name & Location of Bridge: Construction Of 301.00m Long PSC Girder Bridge Over the River Kartoa at Ch 4500 on Chatra GC-Gilabari Ghat Via Nischintobati Primary School Road, Road ID : 185764034		District: Rangpur	Upazila: Pirgonj
Span/Girder Ref: Span 2, Girder 1	Girder Length (m): 43m	Cable Ref. to be Stressed 02 of 04	
Girder Casting Date: 28.07.25	Stressing Stage of Cable : 01	Jacking end Ref:	End 1: 804021
Date of Tensioning: 21.08.25		End Ref:	End 2: 804023

Design information:

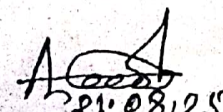
Dia of Strand (mm): 15.24mm	No. of Strand Cable: 19 nos	Anchorage Brand: Decomate	UTS of Strand (N/mm ²): 1860	M. of Elasticity, E (MPa): 197000
Area of Strand A (mm ²): 140	Area of Cable (mm ²): 2660mm ²	Design Jacking Force P: 3750 Kn		
Design Elongation Each end (mm): 46mm	Design Elongation for Gripping Length (mm): —	Actual Gripping Length (mm): 580mm	Corrected Elongation for Grip Length δ(mm): 4.15mm	
Design Cable Slip (mm): 6mm	Design Conc. Strength during Tensioning (N/mm ²): 32 MPa	Actual Conc. Strength at the time of Tensioning (N/mm ²): MPa		

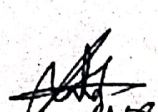
Stressing & Jack information:

Pump Model No. P1: 04 P2: 03	Pressure gauge Model: M1: L-210661 K SIKA M2: L-210660 K SIKA	Tensioning Ram Area (m ²): TA1: TA2:	Blocking Ram Area (Cm ²): BA1: BA2:
Actual Area of Strand, A1 (mm ²): 142.50mm ²	Modulus of Elasticity, E1(MPa): 200400 MPa	Corrected Elongation (mm) for Actual A1 & E1: $\delta \cdot (A \cdot E / A1 \cdot E1)$: 145.04mm	
Jack Pres. With Jack loss (BAR) Kg/cm ² . J1: P/(TA1*efficiency): J2: P/(TA2*efficiency):	Calibrated Jack press. (MPa) Kg/cm ² CI1: 427.90 CI2: 436.17	Initial Jack Press. (MPa) Kg/cm ² ICI1: 82.71 ICI2: 89.82	Initial Marking: IRJ1: 44 IRJ2: 41
Actual calculated Elongation for Grip Length, δ1 (mm): 4.60mm	Gross Slip of Cable (mm): (Final Elong. - Net Elong.)	Net Slip at Jack end after lock-off (mm): (Gross Slip - Calcul. Elong. δ1 for Grip length)	
Blocking Pressure Kg/Cm ² : E1: Auto Block E2: Auto Block	At end 1	At end 2	At end 1
	157-150=7	157-150=7	7-4=3
			7-4=3

Record of Stressing & Elongation:

Avg. % of Design Load.	Actual Applied Pressure		Calculated Gauge Pressure (BAR), MPa		Reading for Elongation (mm)		Measured Elongation At both Jacking end (mm)			Correction Factor For ICI	Final/Total Elongation. (mm)		Average Elongation At each End.	Remarks. (Average Slip at each end)
	Col(1)		Col(2)		Col(3)		Col(4)=(Col 3-IRJ)				Col(6)=(4+5)			
	1	2	1	2	1	2	1	2	Avg.		1	2		
	KN	TON	Kg/Cm ²	Kg/Cm ²	-	-	-	-	-					
20%	750		82.71	89.82	44	41	-	-	-	29.5				3+3
40%	1500		169.00	176.41	75	73	31	32	31.5					2
60%	2250		255.30	263.00	103	103	59	62	60.5					= 3
80%	3000		341.60	349.58	132	134	88	93	90.5					< 6
95%	3562.5		406.32	414.52	153	154	109	113	111					OK
98%	3675		419.27	427.51	157	157	113	116	114.5					
100%	3750		427.90	436.17										
102%	3825		436.53	444.83										
105%	3937		449.47	457.82										
Lock-off					150	150								


21.08.25
Client's Representative

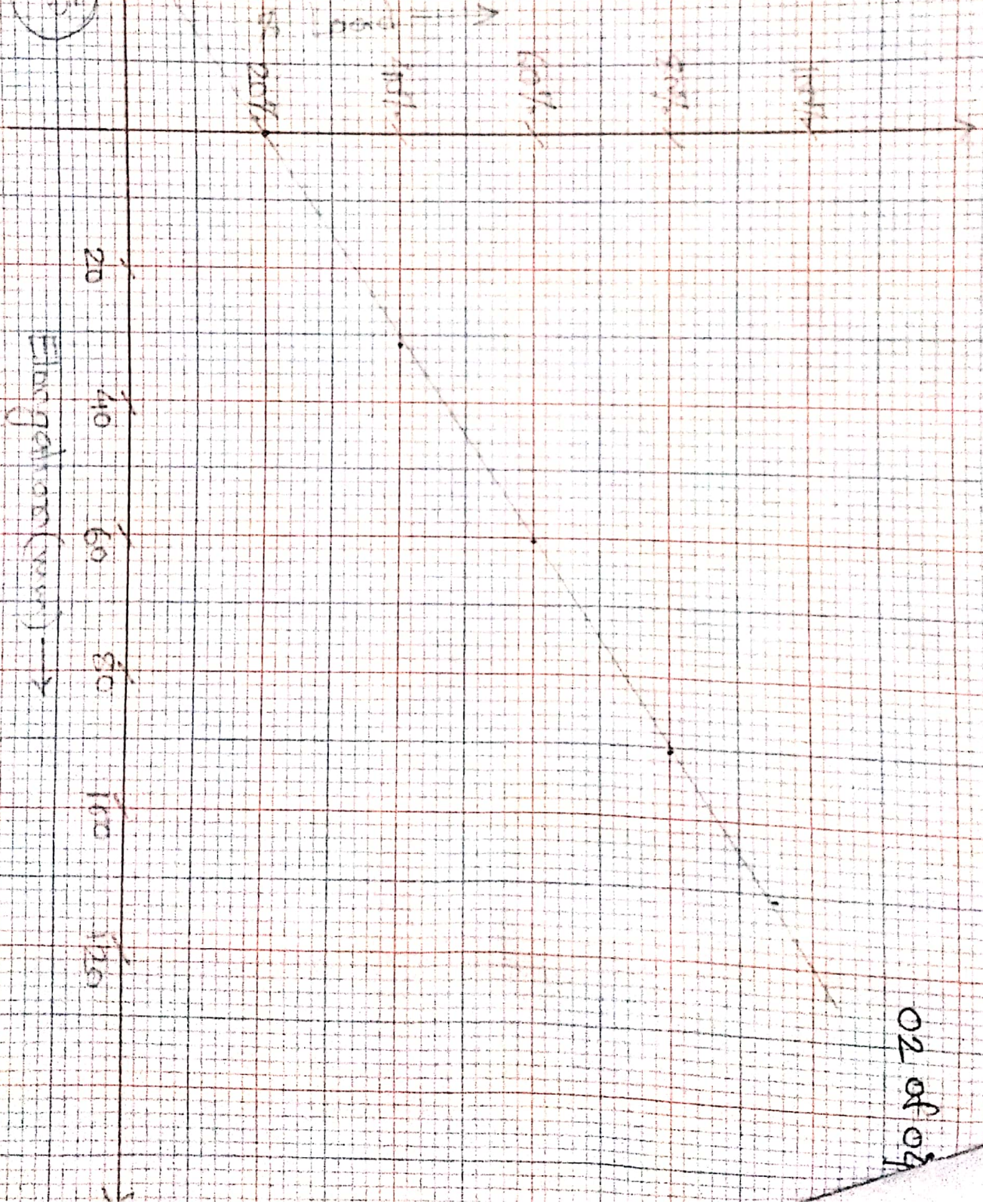

21.08.25
Consultant's Representative

Contractor's Representative

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2015

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21.08.25

~~A~~
21.05.25



POST TENSIONING FORMAT FOR PSC GIRDER

General information:

Name & Location of Bridge: Construction Of 301.00m Long PSC Girder Bridge Over the River Kartoa at Ch 4500 on Chatra GC-Gilabari Ghat Via Nischintobati Primary School Road; Road ID : 185764034		District: Rangpur	Upazila: Pirgonj
Span/Girder Ref: Span 2, Girder 1	Girder Length (m): 43m	Cable Ref. to be Stressed 04 of 04	
Girder Casting Date: 28.07.25	Stressing Stage of Cable : 01	Jacking end Ref:	End 1: 21
Date of Tensioning: 21.08.25			End 2: 23

Design information:

Dia of Strand (mm): 15.24mm	No. of Strand Cable: 19 nos	Anchorage Brand: Decomate	UTS of Strand (N/mm2): 1860	M. of Elasticity, E (MPA): 197000
Area of Strand A (mm2): 140	Area of Cable (mm2): 2660mm ²	Design Jacking Force P: 3750Kn		
Design Elongation Each end (mm): 150mm	Design Elongation for Gripping Length (mm):	Actual Gripping Length (mm): 440mm	Corrected Elongation for Grip Length δ (mm): 4.15mm	
Design Cable Slip (mm): 6mm	Design Conc. Strength during Tensioning (N/mm2): 32 MPa	Actual Conc. Strength at the time of Tensioning (N/mm2): MPa		

Stressing & Jack information:

Pump Model No. P1: 04 P2: 03	Pressure gauge Model: M1: L-210661K SIKA M2: L-210660K SIKA	Tensioning Ram Area (m2): TA1: TA2:	Blocking Ram Area (Cm2): BA1: BA2:
Actual Area of Strand, A1 (mm2): 142.50mm ²	Modulus of Elasticity, E1(MPA): 200400 MPa	Corrected Elongation (mm) for Actual A1 & E1: $\delta^*(A^*E/A1^*E1)$: 148.91mm	
Jack Pres. With Jack loss (BAR) Kg/cm2. J1: P/(TA1*efficiency): J2: P/(TA2*efficiency):	Calibrated Jack press. CJ1: 427.90 CJ2: 436.17	Initial Jack Press. ICJ1: 82.71 ICJ2: 89.82	Initial Marking: IRJ1: 37 IRJ2: 35
Actual calculated Elongation for Grip Length, δ 1 (mm): 4.00mm	Gross Slip of Cable (mm): (Final Elong.- Net Elong.)	Net Slip at Jack end after lock-off (mm): (Gross Slip - Calcul. Elong. δ 1 for Grip length)	
Blocking Pressure Kg/Cm2: E1: Auto Block E2: Auto Block	At end 1	At end 2	At end 1
	152-143=9	157-149=8	9-4=5
			8-4=4

Record of Stressing & Elongation:

Avg. % of Design Load.	Actual Applied Pressure		Calculated Gauge Pressure (BAR), MPa		Reading for Elongation (mm)		Measured Elongation At both Jacking end (mm)			Correction Factor For ICJ	Final/Total Elongation. (mm)		Average Elongation At each End.	Remarks. (Average Slip at each end)	
	Col(1)		Col(2)		Col(3)		Col(4)=(Col 3-IRJ)				Col (5)	Col(6)=(4+5)			
	1	2			1	2	1	2	Avg.		1	2			
	KN	TON	Kg/Cm2	Kg/Cm2	-	-	-	-	-		-	-			
20%	750		82.71	89.82	37	35								5+4	
40%	1500		169.00	176.41	66	65	29	30	29.5					2	
60%	2250		255.30	263.00	98	96	61	61	61					=4.5	
80%	3000		341.60	349.58	129	129	92	94	93					<6	
95%	35625		406.32	414.52	149	151	112	116	114						
98%	3675		419.27	427.51	152	157	115	122	118.5	31			149.50	OK	
100%	3750		427.90	436.17											
102%	3825		436.53	444.83											
105%	3937		449.47	457.82											
Lock-off					143	149									

[Signature]
21.08.25
Client's Representative

[Signature]
21.08.25
Consultant's Representative

Contractor's Representative

(31)

21.08.25

21.08.25

Expenditure

100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000

100

150

200

300

400

% Load

to go to

POST TENSIONING FORMAT FOR PSC GIRDER

General Information:

Name & Location of Bridge: Construction Of 301.00m Long PSC Girder Bridge Over the River Kartoa at Ch 4500 on Chatra GC-Gilabari Ghat Via Nischintobati Primary School Road, Road ID : 185764034		District: Rangpur	Upazila: Pirganj
Span/Girder Ref: Span-2 , Girder-1	Girder Length (m): 43m	Cable Ref. to be Stressed 03 of 04	
Girder Casting Date: 23.07.2025	Stressing Stage of Cable : 02	Jacking end Ref:	End 1: L804019
Date of Tensioning: 16-10-2025			End 2: L804022

Design information:

Dia of Strand (mm): 15.24mm	No. of Strand Cable: 19 nos	Anchorage Brand: Decomate	UTS of Strand (N/mm2): 1860	M. of Elasticity, E (MPa): 197000
Area of Strand (mm2): 140	Area of Cable, A (mm2): 2660	Design Jacking Force P: 3750 Kn		
Design Elongation Each end (mm): 150	Design Elongation for Gripping Length (mm): N/A	Actual Gripping Length (mm): 597mm	Corrected Elongation for Grip Length δ(mm): 4.27mm	
Design Cable Slip (mm): 6mm	Design Conc. Strength during Tensioning (N/mm2): 36 MPa	Actual Conc. Strength at the time of Tensioning (N/mm2): 48.02 MPa		

Stressing & Jack information:

Pump Model No. P1: 803189 P2: 803180	Pressure gauge Model: M1: 2409120 M2: K-01 (18.12.213)	Tensioning Ram Area (m2): TA1: TA2:	Blocking Ram Area (Cm2): BA1: BA2:
Actual Area of Cable, A1 (mm2): 2707.50	Modulus of Elasticity, E1(MPA): 200400	Corrected Elongation (mm) for Actual A1 & E1: $\delta * (A * E / A1 * E1)$ 149.02mm	
Jack Pres. With Jack loss (BAR) Kg/cm2. J1: P/(TA1*efficiency): J2: P/(TA2*efficiency):	Calibrated Jack press. (MPa) CJ1: 43.18 CJ2: 42.45	Initial Jack Press. (MPa) ICJ1: 8.98 ICJ2: 9.01	Initial Marking: IRJ1: 40 IRJ2: 39
Actual calculated Elongation for Grip Length, $\delta 1$ (mm): 4.12mm	Gross Slip of Cable (mm): (Final Elong.- Net Elong.)	Net Slip at Jack end after lock-off (mm): (Gross Slip - Calcul. Elong. $\delta 1$ for Grip length)	
Blocking Pressure Kg/Cm2): E1: Auto Block E2: Auto Block	At end 1	At end 2	At end 1
	152-143 = 9	152-144 = 8	9-4.12 = 4.88 8-4.12 = 3.88

Record of Stressing & Elongation:

Avg. % of Design Load	Actual Applied Pressure		Calculated Gauge Pressure MPa		Reading for Elongation (mm)		Measured Elongation At both Jacking end (mm)			Correction Factor For ICJ	Final/Total Elongation. (mm)		Average Elongation At each End.	Remarks (Average Slip at each end)
	Col(1)		Col(2)		Col(3)		Col(4)=(Col 3-IRJ)				Col(6)=(4+5)			
	1	2	1	2	1	2	1	2	Avg.		1	2		
	KN	TON	MPA	MPA	-	-	-	-	-		-	-		
20	750	76.48	8.98	9.01	40	39	-	-	-	30.50				4.88+3.88
40	1500	152.96	17.53	17.37	70	68	30	29	29.5					2
60	2250	229.44	26.08	25.73	102	99	61	60	60.5					=4.38
80	3000	305.91	34.63	34.09	131	129	91	90	90.5					< 6
95	3562.5	363.27	41.04	40.36	152	152	112	113	112.5					OK
98	3675	374.75	42.33	41.62										
100	3750	382.39	43.18	42.45										
102	3825	390.04	44.04	43.29										
105	3937.5	401.51	45.32	44.54										
Lock-off					143	144								

[Signature]
16.10.25
Client's Representative

[Signature]
16.10.25
Consultant's Representative
16/10/2025

[Signature]
16.10.25
Contractor's Representative

~~Abbildung~~
16.10.25

30.5

100%
95%
80%
60%
40%
20%

~~Abbildung~~
16.10.25

20

Abbildung
16.10.25

40

Elastizitätsmodul (kN/mm)

60

80

100

120