

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-3	Girder Length (m): 43m	Cable Ref. to be Stressed 01 of 04	
Girder Casting Date: 26-11-2025	Stressing Stage of Cable : 02	Jacking	End 1: L709046
Date of Tensioning: 15-12-2025		End 2: L709047	

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):	Design Elongation for Gripping Length (mm): N/A	Actual Gripping Length (mm): 560	Corrected Elongation for Grip Length δ(mm): 4.00	
Design Cable Slip (mm): 6mm	Design Conc. Strength during Tensioning (N/mm2): 36 MPa	Actual Conc. Strength at the time of Tensioning (N/mm2): MPa		

Stressing & Jack information:

Pump Model No. P1: 710570 P2: 710567	Pressure gauge Model: M1: MPC-237219E M2: MPC-256050C	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 : $\delta*(A*E/A1*E1)$: 141.04 mm	
Jack Pres. With Jack loss (BAR) Kg/cm2. J1: P/(TA1*efficiency): J2: P/(TA2*efficiency):	Calibrated Jack press.(Kg/cm2) CJ1: 438.61 CJ2: 442.07	Initial Jack Press.(Kg/cm2) ICJ1: 79.24 ICJ2: 87.25	Initial Marking: IRJ1: 42 IRJ2: 45
Actual calculated Elongation for Grip Length, δ1 (mm): 3.86 mm	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 At end 2
	157-149 = 8	159-151 = 8	8-3.86 = 4.14 8-3.86 = 4.14

Record of Stressing & Elongation:

Avg. % of Design Load	Actual Applied Pressure		Calculated Gauge Pressure Kg/cm2		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	Kg/cm2	Kg/cm2	1	2	1	2	Avg.		1	2		
	KN	TON			-	-	-	-	-		-	-		
20	750	76.48	79.24	87.25	42	45	-	-	-					4.14+4.14
40	1500	152.96	169.08	175.96	70	75	28	30	29					2
60	2250	229.44	258.92	264.66	101	105	59	60	59.5					= 4.14
80	3000	305.91	348.76	353.37	128	133	86	88	87					< 6
95	3562.5	363.27	416.15	419.90	151	154	109	109	109	29			143.5	
98	3675	374.75	429.62	433.20	157	159	115	114	114.5					
100	3750	382.39	438.61	442.07										
102	3825	390.04	447.59	450.94										
105	3937.5	401.51	461.07	464.25										
Lock-off					149	151								OK

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Client's Representative

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Consultant's Representative

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Contractor's Representative

120 / 160 / 80 / 60 / 40 / 20

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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 Chaṭra GC-Gilabari Ghat Via Nischintobati Primary School Road, Road ID : 185764034		District: Rangpur	Upazila: Pirganj
Span/Girder Ref: Span-2 , Girder-3	Girder Length (m): 43m	Cable Ref. to be Stressed 02 of 04	
Girder Casting Date: 03-11-2025	Stressing Stage of Cable : 02	Jacking	End 1: L709046
Date of Tensioning:		End Ref: 709047	

Design information:

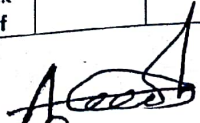
Dia of Strand (mm): 15.24mm	No. of Strand Cable: 19 nos	Anchorage Brand: Decomate	UTS of Strand (N/mm2): 1860	M. of Elasticity, E (MPA): 197000
Area of Strand (mm2): 140	Area of Cable, A (mm2): 2660	Design Jacking Force P: 3750 Kn		
Design Elongation Each end (mm):	Design Elongation for Gripping Length (mm): N/A	Actual Gripping Length (mm): 560	Corrected Elongation for Grip Length δ (mm): 4.00	
Design Cable Slip (mm): 6mm	Design Conc. Strength during Tensioning (N/mm2): 36 MPa	Actual Conc. Strength at the time of Tensioning (N/mm2): _____ MPa		

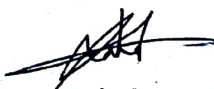
Stressing & Jack information:

Pump Model No. P1: 710570 P2: 710567	Pressure gauge Model: M1: MPC-237219E M2: MPC-256050C	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: $\delta * (A * E / A1 * E1)$: 43.93 mm	
Jack Pres. With Jack loss (BAR) Kg/cm2. J1: P/(TA1*efficiency): J2: P/(TA2*efficiency):	Calibrated Jack press. (Kg/cm2) CJ1: 438.61 CJ2: 442.07	Initial Jack Press. (Kg/cm2) ICJ1: 79.24 ICJ2: 87.25	Initial Marking: IRJ1: IRJ2:
Actual calculated Elongation for Grip Length, $\delta 1$ (mm): 3.86 mm	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
	161-153=8	162-153=9	8-3.86=4.14 9-3.86=5.14

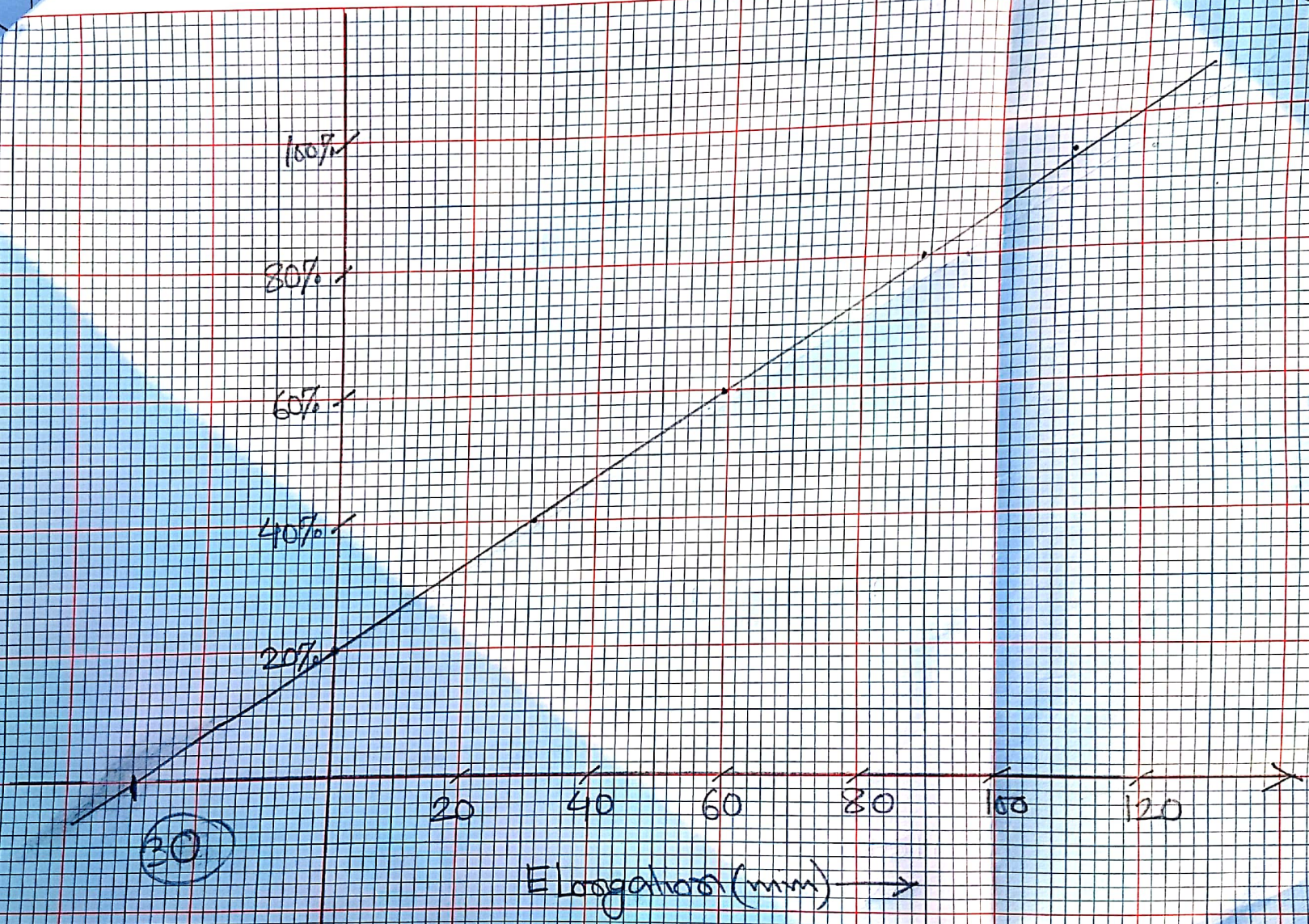
Record of Stressing & Elongation:

Avg. % of Design Load	Actual Applied Pressure		Calculated Gauge Pressure Kg/cm2		Reading for Elongation (mm)		Measured Elongation At both Jacking end (mm)			Corre ction Facto r For ICJ	Final/Total Elongation. (mm)		Avera ge Elong ation. 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	76.48	79.24	87.25	46	46	-	-	-					4.14+5.14		
40	1500	152.96	169.08	175.96	75	76	29	30	30.5					2		
60	2250	229.44	258.92	264.66	105	106	59	60	59.5					= 4.64		
80	3000	305.91	348.76	353.37	135	135	89	89	89					< 6		
95	3562.5	363.27	416.15	419.90	156	157	110	111	110.5	30			145.5			
98	3675	374.75	429.62	433.20	161	162	115	116	115.5					OK		
100	3750	382.39	438.61	442.07												
102	3825	390.04	447.59	450.94												
105	3937.5	401.51	461.07	464.25												
Lock off					153	153										


Client's Representative


Consultant's Representative

Contractor's Representative



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Client's Represent
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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-3	Girder Length (m): 43m	Cable Ref. to be Stressed: 03 of 04	
Girder Casting Date: 26-11-2025	Stressing Stage of Cable : 02	Jacking	End 1: L709046
Date of Tensioning: 15-12-2025		End 2: L709047	

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):	Design Elongation for Gripping Length (mm): N/A	Actual Gripping Length (mm): 560	Corrected Elongation for Grip Length δ(mm): 4.00	
Design Cable Slip (mm): 6mm	Design Conc. Strength during Tensioning (N/mm2): 36 MPa	Actual Conc. Strength at the time of Tensioning (N/mm2): MPa		

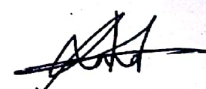
Stressing & Jack information:

Pump Model No. P1: 710570 P2: 710567	Pressure gauge Model: M1: MPC-237219E M2: MPC-256050C	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: $\delta * (A * E / A1 * E1) = 148.76$ mm	
Jack Pres. With Jack loss (BAR) Kg/cm2. J1: P/(TA1*efficiency): J2: P/(TA2*efficiency):	Calibrated Jack press.(Kg/cm2) CJ1: 438.61 CJ2: 442.07	Initial Jack Press.(Kg/cm2) ICJ1: 79.24 ICJ2: 87.25	Initial Marking: IRJ1: IRJ2:
Actual calculated Elongation for Grip Length, δ1 (mm): 3.86 mm	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 At end 2	
	$168 - 159 = 9$ $172 - 163 = 9$	$9 - 3.86 = 5.14$ $9 - 3.86 = 5.14$	

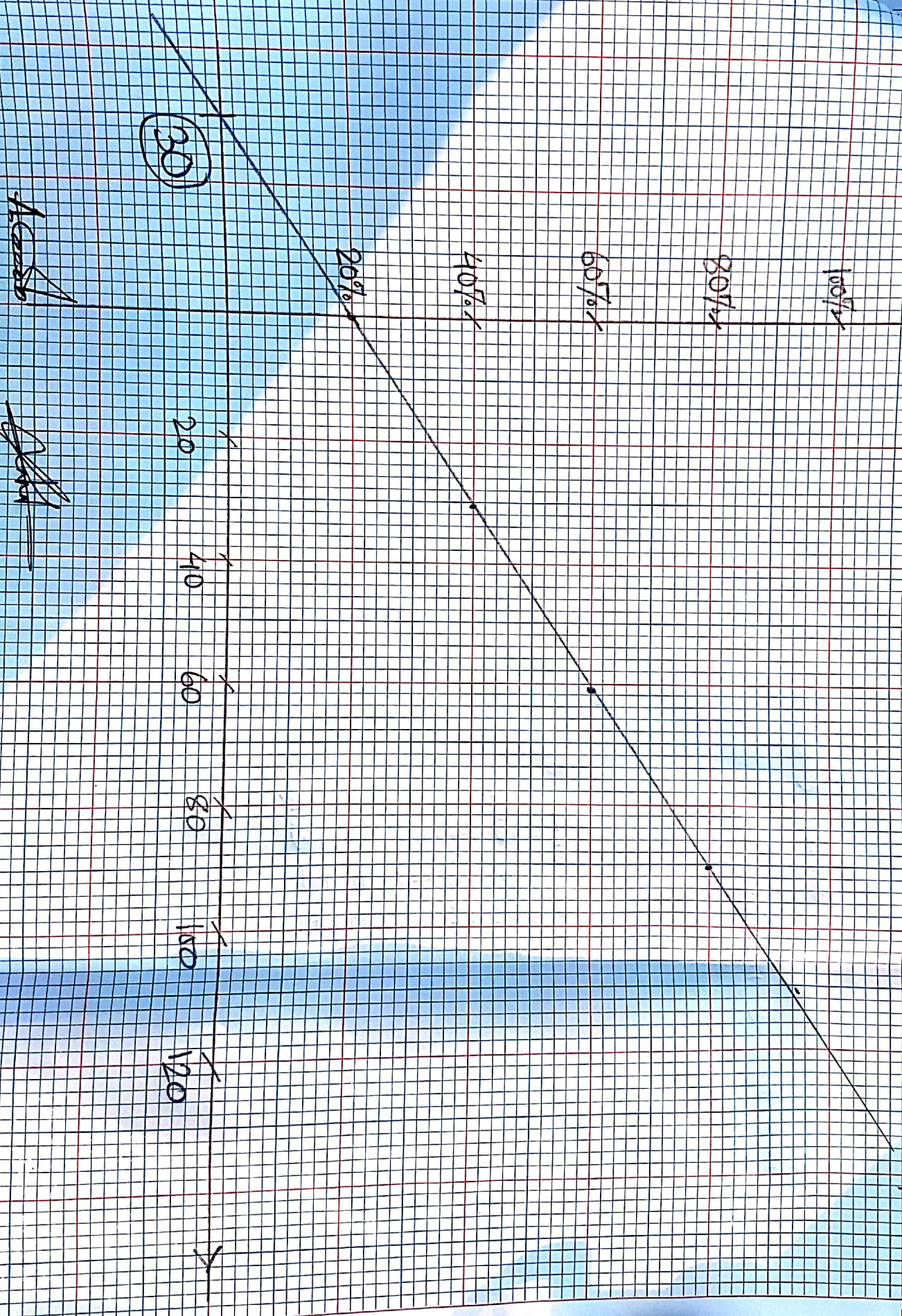
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Avg. % of Design Load	Actual Applied Pressure		Calculated Gauge Pressure Kg/cm2		Reading for Elongation (mm)		Measured Elongation At both Jacking end (mm)			Corre ction Facto r For ICJ	Final/Total Elongation. (mm)		Avera ge Elong ation At each End.	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	76.48	79.24	87.25	52	57	-	-	-					$5.14 + 5.14$		
40	1500	152.96	169.08	175.96	84	86	32	29	30.5					2		
60	2250	229.44	258.92	264.66	114	117	62	60	61					$= 5.14$		
80	3000	305.91	348.76	353.37	142	148	90	91	90.5					< 6		
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98	3675	374.75	429.62	433.20	168	172	116	115	115.5							
100	3750	382.39	438.61	442.07												
102	3825	390.04	447.59	450.94												
105	3937.5	401.51	461.07	464.25										OK		
Lock-off					159	163										


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Girder Casting Date: 26-11-2025	Stressing Stage of Cable : 02	Jacking	End 1: L709046
Date of Tensioning: 15-12-2025		End 2: 79047	

Design information:

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Jack Pres. With Jack loss (BAR) Kg/cm2. J1: P/(TA1*efficiency): J2: P/(TA2*efficiency):	Calibrated Jack press. (Kg/cm2) CJ1: 438.61 CJ2: 442.07	Initial Jack Press. (Kg/cm2) ICJ1: 79.24 ICJ2: 87.25	Initial Marking: IRJ1: 47 IRJ2: 52
Actual calculated Elongation for Grip Length, δ_1 (mm): 3.86 mm	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 At end 2
	168 - 160 = 8	173 - 161 = 12	8 - 3.86 = 4.14 12 - 3.86 = 8.14

Record of Stressing & Elongation:

Avg. % of Design Load	Actual Applied Pressure		Calculated Gauge Pressure Kg/cm2		Reading for Elongation (mm)		Measured Elongation At both Jacking end (mm)			Corre ction Factor For ICJ	Final/Total Elongation. (mm)		Avera ge Elong ation 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	-	-	-	-	-	28	-	-	149	4.14+8.14 2 =4.64 26 OK			
20	750	76.48	79.24	87.25	47	52	-	-	-								
40	1500	152.96	169.08	175.96	74	78	27	26	26.5								
60	2250	229.44	258.92	264.66	104	109	57	57	57								
80	3000	305.91	348.76	353.37	132	135	85	83	84								
95	3562.5	363.27	416.15	419.90	158	162	111	110	110.5								
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100	3750	382.39	438.61	442.07	168	173	121	121	121								
102	3825	390.04	447.59	450.94													
105	3937.5	401.51	461.07	464.25													
Lock-off					160	164											


Client's Representative


Consultant's Representative

Contractor's Representative

04/04/21

