

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. 423 on Chitra G. Colabadi Ghat Via Nischintobali Primary School Road, Road ID : 185764034		District: Rangpur	Upazila: Pirganj
Span/Girder No.: Span-1, Girder-1	Girder Length (m): 43m	Cable Ref. to be Stressed 01 of 04	
Girder Casting Date: 22/04/2016	Stressing Stage of Cable : 02	Jacking end Ref: End 1: L709046	End 2: L709047
Date of Tensioning: 07/04/2016			

Design information:

Dia of Strand (mm): 25.2mm	No. of Strand Cable: 13 nos	Anchorage Brand: Decorate	UTS of Strand (N/mm²): 1860	M. of Elasticity, E (MPa): 197000
Area of Strand (mm²): 240	Area of Cable, A (mm²): 2560	Design Jacking Force P: 3750 Kn		
Design Elongation Each end (mm): 142 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): 8mm	Design Conc. St. during Tensioning (N/mm²): 35 MPa		Actual Conc. St at the time of Tensioning (N/mm²): 37.46 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 (BAK) Kg/cm²: J1: P/(TA1*efficiency) J2: P/(TA2*efficiency)	Calibrated Jack press. (Kg/cm²): CJ1: 438.61 CJ2: 442.57	Initial Jack Press. (Kg/cm²): ICJ1: 79.24 ICJ2: 87.25	Initial Marking: IRJ1: 37 IRJ2: 35
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	At end 1 At end 2
	$147 - 139 = 8$	$147 - 139 = 8$	$8 - 3.86 = 4.14$
			$8 - 3.86 = 4.14$

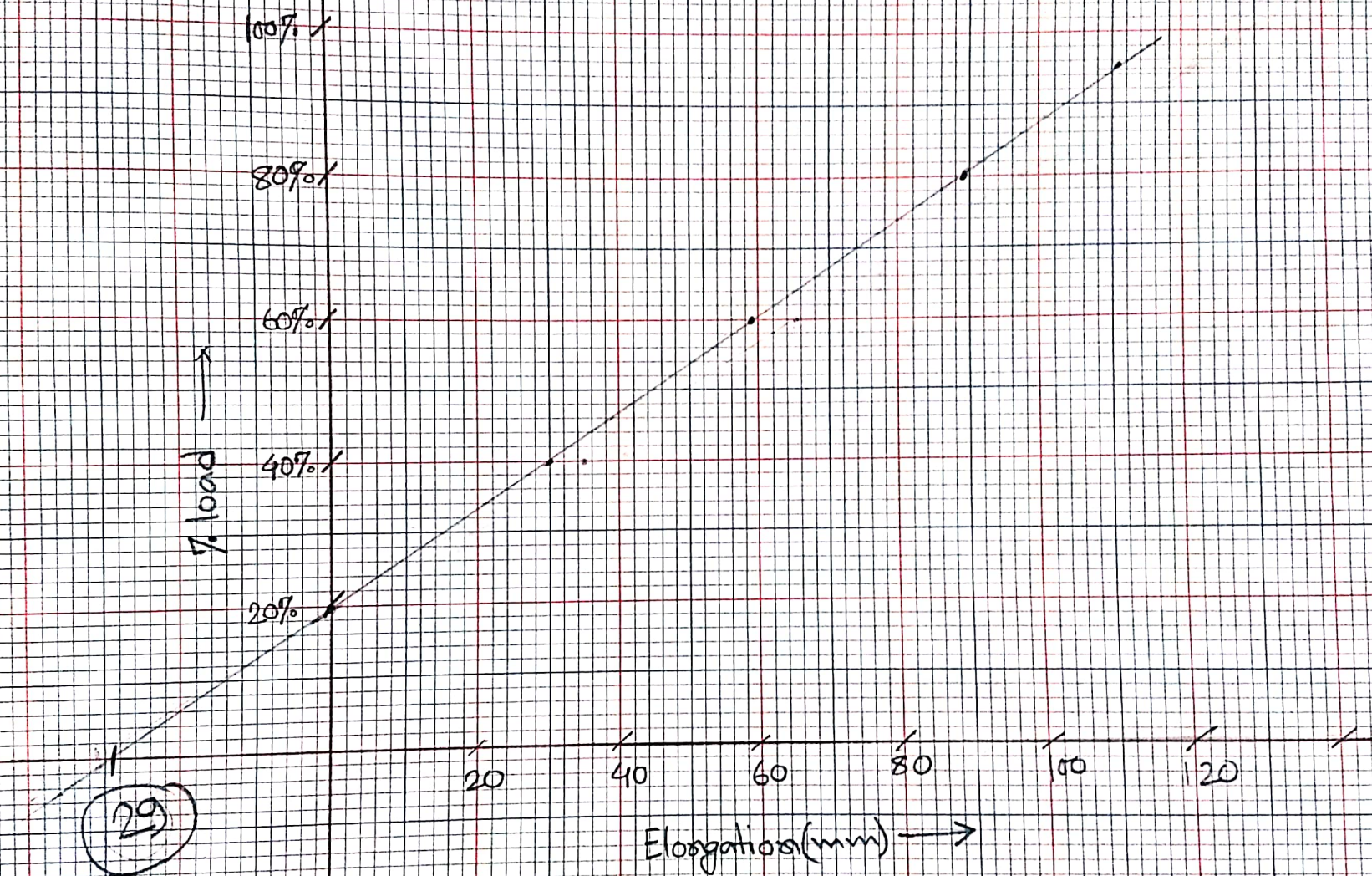
Record of Stressing & Elongation:

Avg. % of Design Load	Actual Applied Pressure		Calculated Gauge Pressure Kg/cm ²		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(6)=(4+5)				
	1	2	1	2	1	2	1	2	Avg.		1	2			
	KN	TON	Kg/cm ²	Kg/cm ²	-	-	-	-	-		-	-			
20	750	76.48	79.24	87.25	37	35	-	-	-	29	-	-		4.14+4.14	
40	1500	152.96	169.08	175.96	67	65	30	30	30						2
60	2250	229.44	258.92	264.66	95	95	58	60	59						= 4.14
80	3000	305.91	348.76	353.37	126	124	89	89	89						26
95	3562.5	363.27	416.15	419.90	147	147	110	112	111						140
98	3675	374.75	429.62	433.20											
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					139	139									

Client's Representative

07.04.26
 Consultant's Representative

Contractor's Representative



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Elongation (mm) →

[Signature]
07.04.26

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-1 , Girder-1	Girder Length (m): 43m	Cable Ref. to be Stressed 02 of 04	
Girder Casting Date: 11-03-2026	Stressing Stage of Cable : 02	Jacking end Ref:	End 1: L709046
Date of Tensioning: 07-04-2026			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): 145mm	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. St. during Tensioning (N/mm2): 36 MPa		Actual Conc. St at the time of Tensioning (N/mm2): 37.46 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 : $\delta \cdot (A \cdot E / A1 \cdot E1)$: 14393 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: 45 IRJ2: 49
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. δ1 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
	160-152=8	167-159=8	8-3.86=4.14 8-3.86=4.14

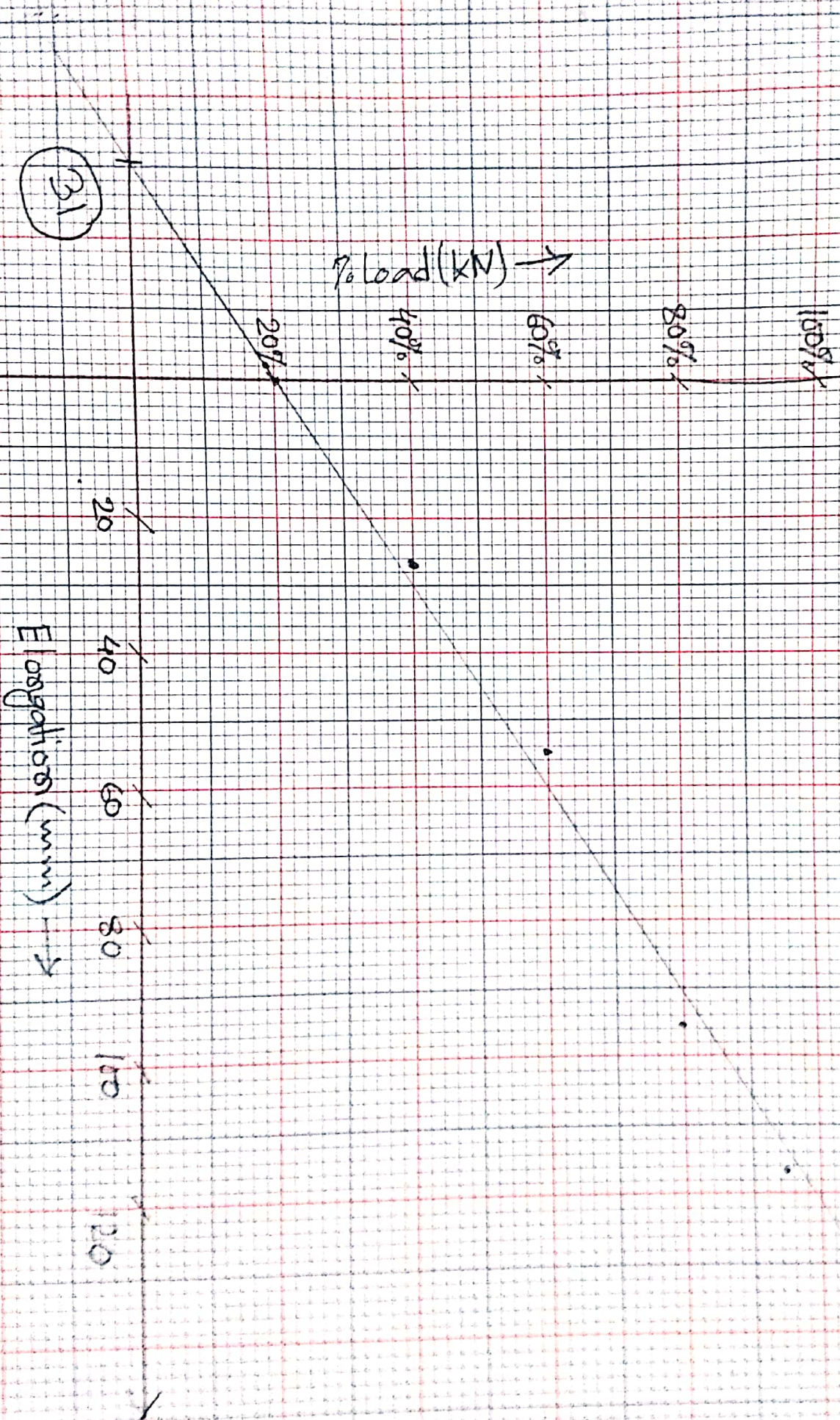
Record of Stressing & Elongation:

Avg. % of Design Load	Actual Applied Pressure		Calculated Gauge Pressure Kg/cm2		Reading for Elongation (mm)		Measured Elongation At both Jacking end (mm)			Corre ction Facto r For ICI	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(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	45	49	-	-	-					4.14+4.14
40	1500	152.96	169.08	175.96	73	75	28	26	27					2
60	2250	229.44	258.92	264.66	100	104	55	55	55					=4.14
80	3000	305.91	348.76	353.37	140	145	95	96	95.5					
95	3562.5	363.27	416.15	419.90	160	167	115	118	116.5	31			147.5	LG
98	3675	374.75	429.62	433.20										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					152	159								

Client's Representative

[Signature]
07.04.26
Consultant's Representative

Contractor's Representative



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% Load (kN)

Elongation (mm)

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-Gilbari Ghat Via Nischintohati Primary School Road, Road ID : 185764034		District: Rangpur	Upazila: Pirganj
Span/Girder Ref: Span-1, Girder-1	Girder Length (m): 43m	Cable Ref. to be stressed: 03 of 04	
Girder Casting Date: 11-03-2026	Stressing Stage of Cable : 02	Jacking end Ref: End 1: 1709046	End 2: 1709047
Date of Tensioning: 07-04-2026			

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 mm	Design Elongation for Gripping Length (mm): N/A	Actual Gripping Length (mm): 560	Corrected Elongation for Grip Length d(mm): 4.00	
Design Cable Slip (mm): 6mm	Design Conc. St. during Tensioning (N/mm²): 36 MPa	Actual Conc. St at the time of Tensioning (N/mm²): 37.46 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: $0*(A^*/A1^*E1):$ 48.76 mm	
Jack Pres. With Jack loss (BAR) Kg/cm². J1: P/(TA1*efficiency): J2: P/(TA2*efficiency):	Calibrated Jack press (kg/cm²) C1: 438.61 C2: 442.07	Initial Jack Press (kg/cm²) IC1: 79.24 IC2: 87.25	Initial Marking: IR1: 50 IR2: 50
Actual calculated Elongation for Grip Length, d1 (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. 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
	172-163=9 171-162=9	9-386=5.14	9-386=5.14

Record of Stressing & Elongation:

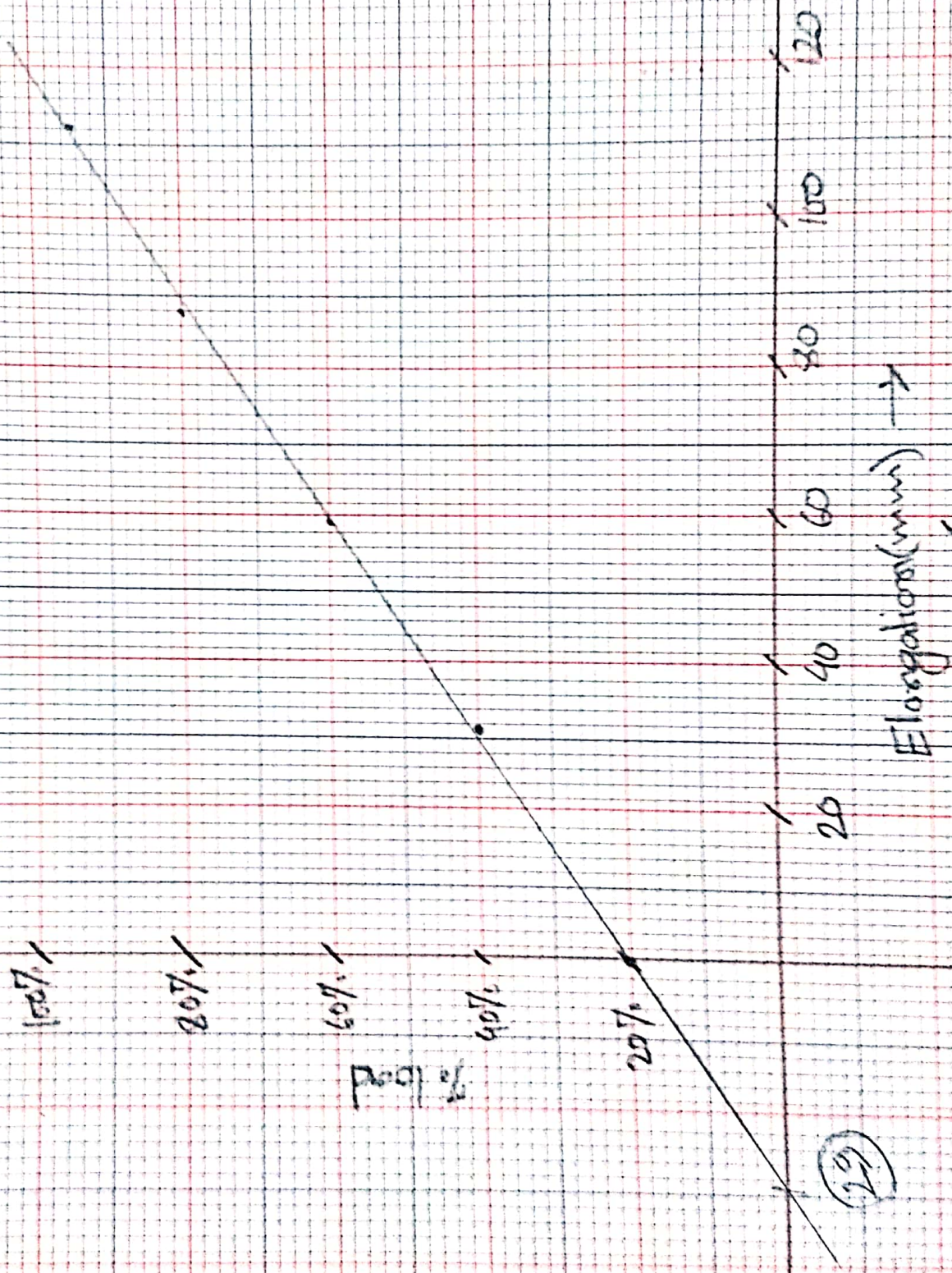
Avg. % of Design Load	Actual Applied Pressure		Calculated Gauge Pressure Kg/cm ²		Reading for Elongation (mm)		Measured Elongation At both Jacking end (mm)			Correction Factor For ICJ	Final/Total Elongation. (mm)		Average Elongation At each End.	Remarks (Average Slip at each end)
	Col(1)		Col(2)		Col(3)		Col(4)=(Col 3-IRI)				Col(6)=(4+5)			
	1	2	1	2	1	2	Avg.	1	2					
	KN	TON	Kg/cm ²	Kg/cm ²	-	-	-	-	-		-	-		
20	750	76.48	79.24	87.25	50	50	-	-	-					5.14+5.14
40	1500	152.96	169.08	175.96	82	80	32	30	31					2
60	2250	229.44	258.92	264.66	109	110	59	60	59.5					=5.14
80	3000	305.91	348.76	353.37	138	138	88	88	88					26
95	3562.5	363.27	416.15	419.90	162	162	112	112	112	29				
98	3675	374.75	429.62	433.20	163	167	118	117	117.5					
100	3750	382.39	438.61	442.07	172	171	122	121	121.5				150.5	OK
102	3825	390.04	447.59	450.94										
105	3937.5	401.51	461.07	464.25										
Lock-off					163	162								

Client's Representative


 07.04.26
 Consultant's Representative

Contractor's Representative

03 of 04



(29)

[Signature]
07.04.26

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Date of Tensioning: 07-04-2026			End 2: L709047

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Actual Area of Cable, A1 (mm²): 2707.50	Modulus of Elasticity, E1(MPA): 200400	Corrected Elongation (mm) for Actual A1 & E1 : $\delta^*(A^*E/A1^*E1):$ 4.676 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: 46 IRJ2: 50
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. δ1 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
	166-158=8	170-161=9	8-3.86=4.14 9-3.86=5.14

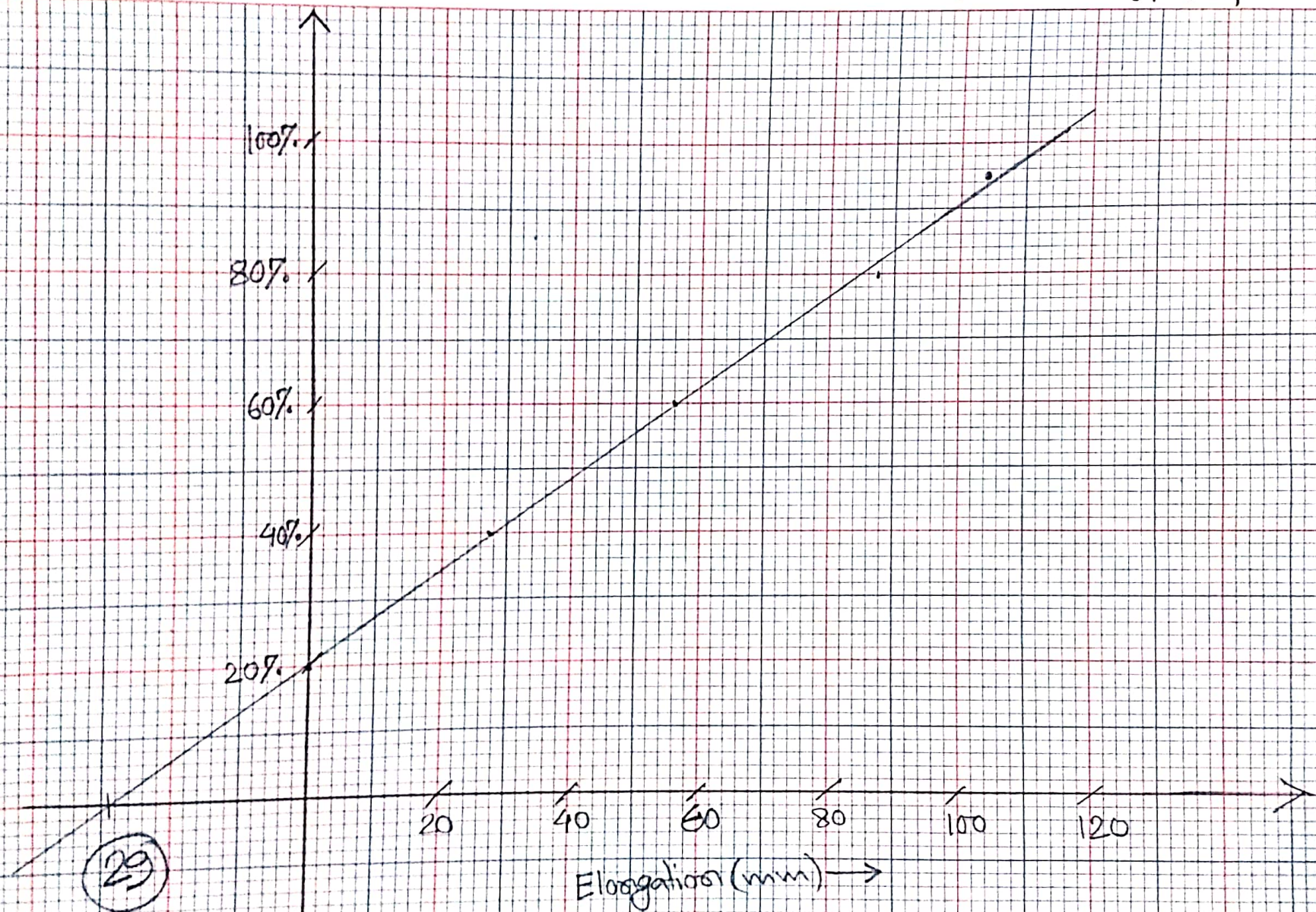
Record of Stressing & Elongation:

Avg. % of Design Load	Actual Applied Pressure		Calculated Gauge Pressure Kg/cm ²		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	Avg.		1	2		
	KN	TON	Kg/cm ²	Kg/cm ²	-	-	-	-	-		-	-		
20	750	76.48	79.24	87.25	46	50	-	-	-	29				4.14+5.14
40	1500	152.96	169.08	175.96	73	78	27	28	27.5					2
60	2250	229.44	258.92	264.66	103	105	57	55	56					=4.64
80	3000	305.91	348.76	353.37	135	136	89	86	87.5					<6
95	3562.5	363.27	416.15	419.90	160	164	114	114	114					49
98	3675	374.75	429.62	433.20	166	170	120	120	120					
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					158	161								

Client's Representative


07.04.26
Consultant's Representative

Contractor's Representative



[Signature]
07.04.26