



भौतिक पूर्वाधार तथा यातायात मन्त्रालय

सडक बिभाग

गुणस्तर, अनुसन्धान तथा विकास केन्द्र

चाकुपाट, ललितपुर

फोन नं. ०१-५२६०५०५
ईमेल: dorqrdc@gmail.com
website: www.dor.gov.np/qrdc

च.न. ०५

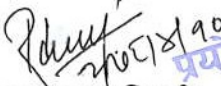
मिति: २०७८/०४/१०

बिषय: सडक प्रयोगशाला सम्बन्धमा

श्री संभार महाशाखा, चाकुपाट, ललितपुर ।
श्री योजना तथा अनुगमन महाशाखा, चाकुपाट, ललितपुर ।
श्री विकास सहायता कार्यान्वयन महाशाखा, चाकुपाट, ललितपुर ।
श्री पुल महाशाखा, चाकुपाट, ललितपुर ।
श्री यान्त्रिक महाशाखा, चाकुपाट, ललितपुर ।
श्री उत्तर दक्षिण सडक आयोजना निर्देशनालय, चाकुपाट, ललितपुर ।
श्री सडक सुधार तथा विकास निर्देशनालय, बत्तीसपुतली, काठमाण्डौ ।
श्री पुष्पलाल (मध्य पहाडी) राजमार्ग आयोजना निर्देशनालय, बुद्धनगर, काठमाण्डौ ।
श्री आयोजना निर्देशनालय (ए.डी.बी), विशालनगर, काठमाण्डौ ।
श्री हुलाकी राजमार्ग आयोजना निर्देशनालय, टेकु, काठमाण्डौ ।
श्री मदन भण्डारी राजमार्ग आयोजना निर्देशनालय, चाकुपाट, ललितपुर ।
श्री संधिय सडक सुपरिवेक्षण तथा अनुगमन कार्यालय, ईटहरी
श्री संधिय सडक सुपरिवेक्षण तथा अनुगमन कार्यालय, काठमाण्डौ ।
श्री संधिय सडक सुपरिवेक्षण तथा अनुगमन कार्यालय, पोखरा
श्री संधिय सडक सुपरिवेक्षण तथा अनुगमन कार्यालय, सुर्खेत
श्री सबै सबै सडक डिभिजनहरू

उपरोक्त बिषयमा सडक बिभाग अन्तर्गत तहाँ मातहत संचालित आयोजना/योजना/सडक डिभिजनहरूमा स्थापित सडक प्रयोगशालामा हाल उपलब्ध जनशक्ति, उपलब्ध परिक्षण सुबिधा, उपकरणहरूको हालको अवस्था तथा क्षमता बृद्धिको लागि आवश्यक राय सुझाव सहितको विवरण विभागीय छलफल भए अनुसार यस गुणस्तर अनुसन्धान तथा विकास केन्द्र, चाकुपाट ललितपुरको ईमेल dorqrdc@gmail.com मा यथाशिघ्र पठाईदिनुहुन अनुरोध छ ।

साथै परिक्षण प्रतिवेदन (Lab Report) मा एकरूपताको लागि मिति २०७८/३/०८ को विभागीय निर्णय अनुसार स्वीकृत Report Format प्रयोगको लागि समेत निर्देशानुसार अनुरोध छ ।


कृष्ण राज अधिकारी
प्रयोगशाला प्रमुख
सि. डि. ई.

सिनियर डिभिजनल इन्जिनियर

बोधार्थ

१. श्री सडक बिभाग, चाकुपाट ललितपुर
२. श्री गुणस्तर, अनुसन्धान तथा विकास केन्द्र, चाकुपाट ललितपुर
३. ई श्री शंकर खनाल : विवरण संकलन गर्ने



Government of Nepal
DEPARTMENT OF ROADS
 Quality, Research And Development Centre
 (Laboratory Unit)
 CHAKUPAT, LALITPUR

Ref. No. :

Date:

Subject: Test Result

As Per Standard Specifications of Road and Bridges 2073 with amendment 2075

To,

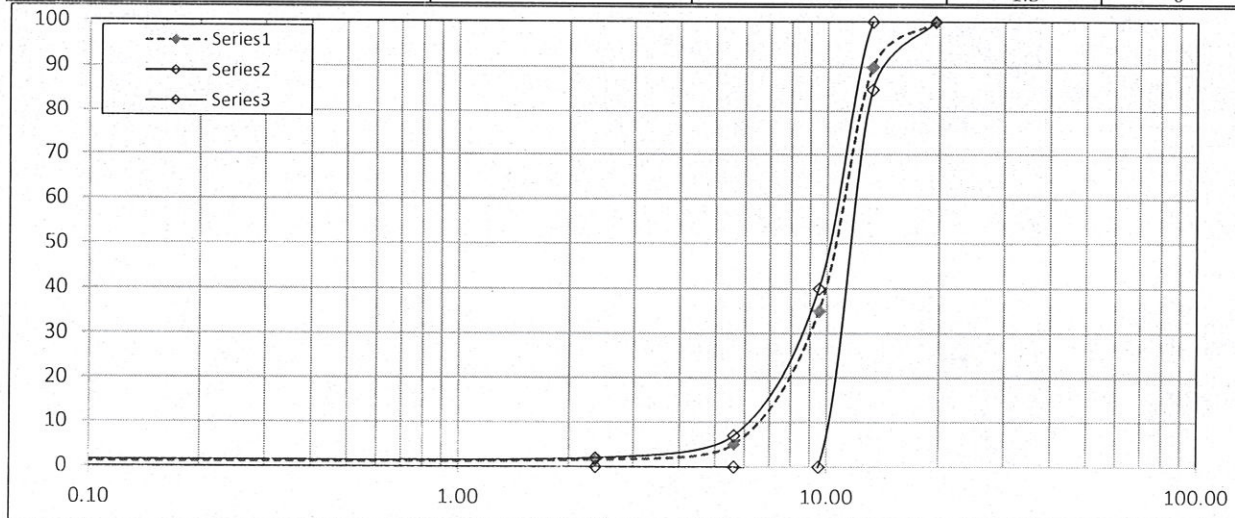
Contract No:

Contractor :

With reference to your letter dated [*Insert Date*], Ref.No: [*Insert Ref No:*], we are enclosing herewith test results of provided **Aggregate for Surface Dressing** samples.

Test Results

S.N.	Name of the Tests	Test Method	Aggregates for Surface Dressing(Nominal Size 13 mm)	Specification Limit(As Per Standard Specifications of Road and Bridges 2073, with amendment 2075)
1	Grain Size Analysis %	IS:2386 Part-1	1.0	Maximum 1.5% Passing 0,075 mm sieve
2	Combined Flakiness and Elongation Index,%	IS:2386 Part-1	28	Maximum 35 %
3	Los Angeles Abrasion, %	IS:2386 Part-4	30	Maximum 35 %
4	Aggregate Impact Value %	IS:2386 Part-4	25	Maximum 27 %
5	Sodium Sulphate Soundness %	IS:2386 Part-5	6	Maximum 12 %
6	Water Absorption %	IS:2386 Part-3	0.4	Maximum 1%
7	Coating and Stripping of Aggregate mix, %	IS:6241	75	Maximum retained coating 95 %
8	Polished Stone Value	BS:812-114	70	Minimum 60
9	Sieve Analysis (Gradation)			
	Sieve Size (mm)	As per Standard Specifications of Road and Bridges 2073(With amendment 2075)	Cumulative % passing	Specification Limit
	19.50		100.00	100
	13.20		90.00	100
	9.50		35.00	40
	5.60		5.00	7
	2.36		1.50	2
	0.075		1.00	1.5
				0



Note: Samples are not taken by us. This test report only represents the tested samples.

Tested by

Checked by

Approved By

Er. Arjun Jung Thapa
 Director General



Government of Nepal
DEPARTMENT OF ROADS
Quality, Research And Development Centre
(Laboratory Unit)
CHAKUPAT, LALITPUR

Ref. No. :

Date:

Subject: Test Result

As Per Standard Specifications of Road and Bridges 2073 with amendment 2075

To,

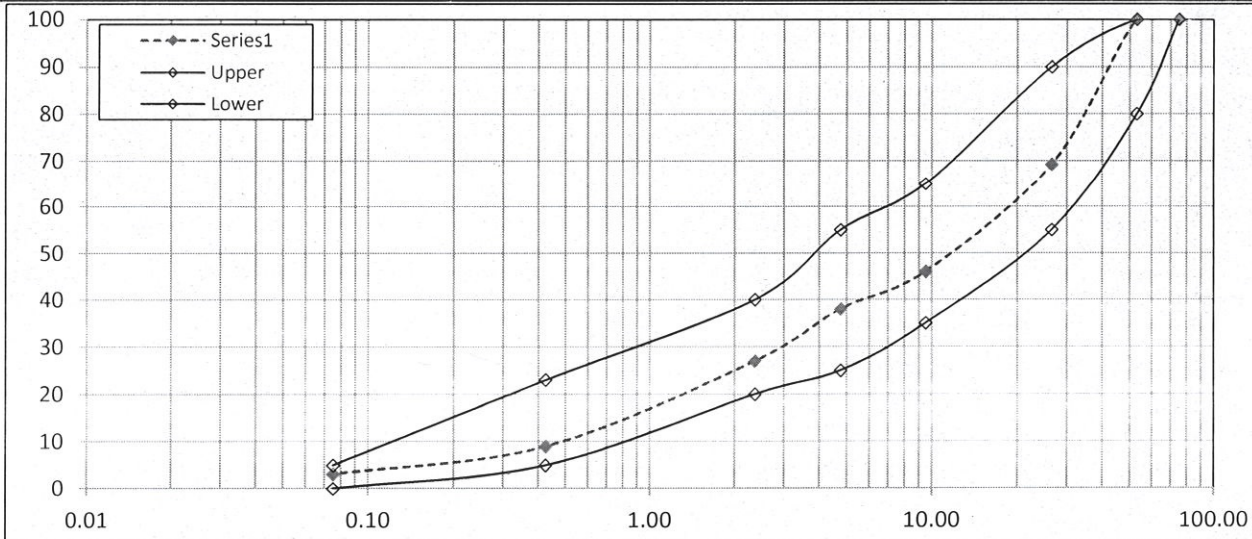
Contract No:

Contractor :

With reference to your letter dated [Insert Date], Ref.No: [Insert Ref No:], we are enclosing herewith test results of provided Granular Sub base samples.

Test Results

S.N.	Name of the Tests	Test Method	Granular Subbase Grading I	Specification Limit(As Per Standard Specifications of Road and Bridges 2073, with amendment 2075)	
1	Optimum Moisture Content %	IS:2720 Part -8	6.7	-	
2	Max. Dry Density g/cc	IS:2720 Part -9	2.246	-	
3	California Bearing Ratio (Soaked) at 95% Compaction	IS:2720 Part-16	64.0	Minimum 30	
4	Liquid Limit	IS:2720 Part-5		Maximum 25	
5	Plasticity Index	IS:2720 Part-5	2.0	Maximum 6	
6	Aggregate Impact Value %	IS:2386 Part-4	25.2	Maximum 40	
7	Sieve Analysis (Gradation)				
	Sieve Size (mm)	As per Standard Specifications of Road and Bridges 2073(With amendment 2075)	Cumulative % passing	Specification Limit	
	75.00		100.00	100	100
	53.00		100.00	100	80
	26.50		69.19	90	55
	9.50		46.08	65	35
	4.75		38.00	55	25
	2.36		27.00	40	20
	0.425		9.00	23	5
	0.075		3.12	5	0



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Jung Thapa
General



Government of Nepal
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(Laboratory Unit)
CHAKUPAT, LALITPUR

Ref. No. :

Date:

Subject: Test Result

As Per Standard Specifications of Road and Bridges 2073 with amendment 2075

To,

Contract No:

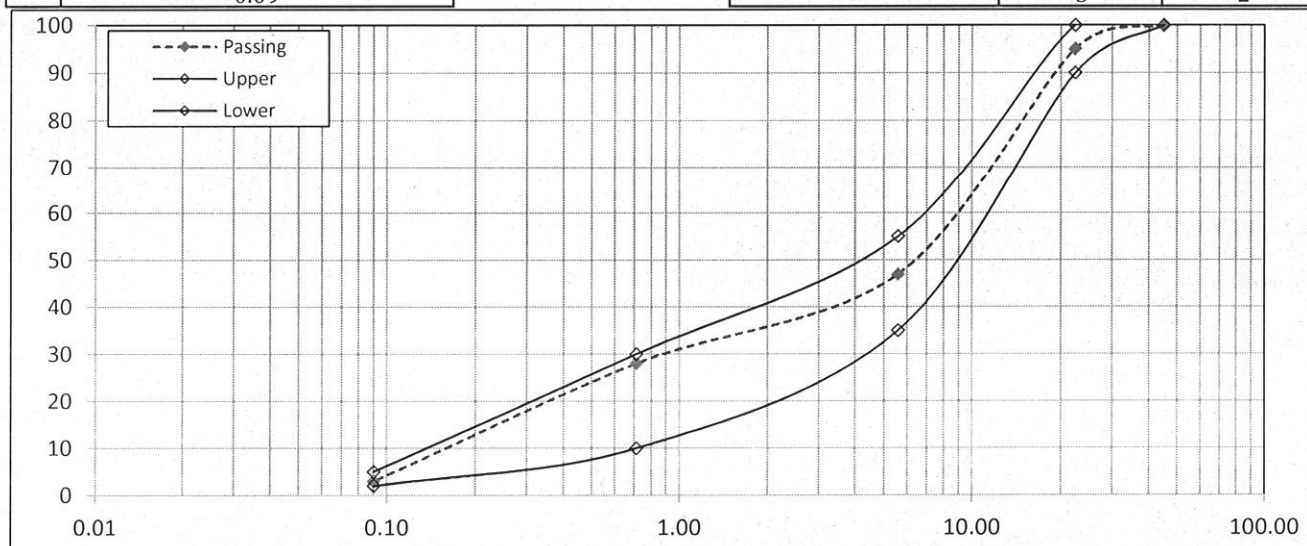
Contractor :

With reference to your letter dated [*Insert Date*], Ref.No: [*Insert Ref No:*], we are enclosing herewith test results of provided **Crusher Run base** samples.

Test Results

Test Results

S.N.	Name of the Tests	Test Method	Crusher Run Base	Specification Limit(As Per Standard Specifications of Road and Bridges 2073, with amendment 2075)	
1	Optimum Moisture Content %	IS:2720 Part -8	6.8	-	
2	Max. Dry Density g/cc	IS:2720 Part -9	2.212	-	
3	Los Angeles Abrassion, %	IS:2386 Part-4	30	40 Maximum	
4	Aggregate Impact Value %	IS:2386 Part-4	28	30 Maximum	
5	Combined Flakiness and Elongation Index,%	IS:2386 Part-1	29	35 Maximum	
6	Water Absorption, %	IS:2386 Part-3	1.8	2 % Maximum	
7	Liquid Limit of material passing 425 micron sieve, %	IS:2720 Part-5	20.0	25 Maximum	
8	Plasticity Index of material passing 425 micron sieve, %	IS:2720 Part-5	4.0	6 Maximum	
9	Sieve Analysis (Gradation)				
	Sieve Size (mm)	As per Standard Specifications of Road and Bridges 2073(With amendment 2075)	Cumulative % passing	Specification Limit	
	45.00		100.00	100	100
	22.40		95.00	100	90
	5.60		47.00	55	35
	0.71		28.00	30	10
	0.09		3.00	5	2



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DEPARTMENT OF ROADS
Quality, Research And Development Centre
(Laboratory Unit)
CHAKUPAT, LALITPUR

Ref. No. :

Date:

Subject: Test Result

As Per Standard Specifications of Road and Bridges 2073 with amendment 2075

To,

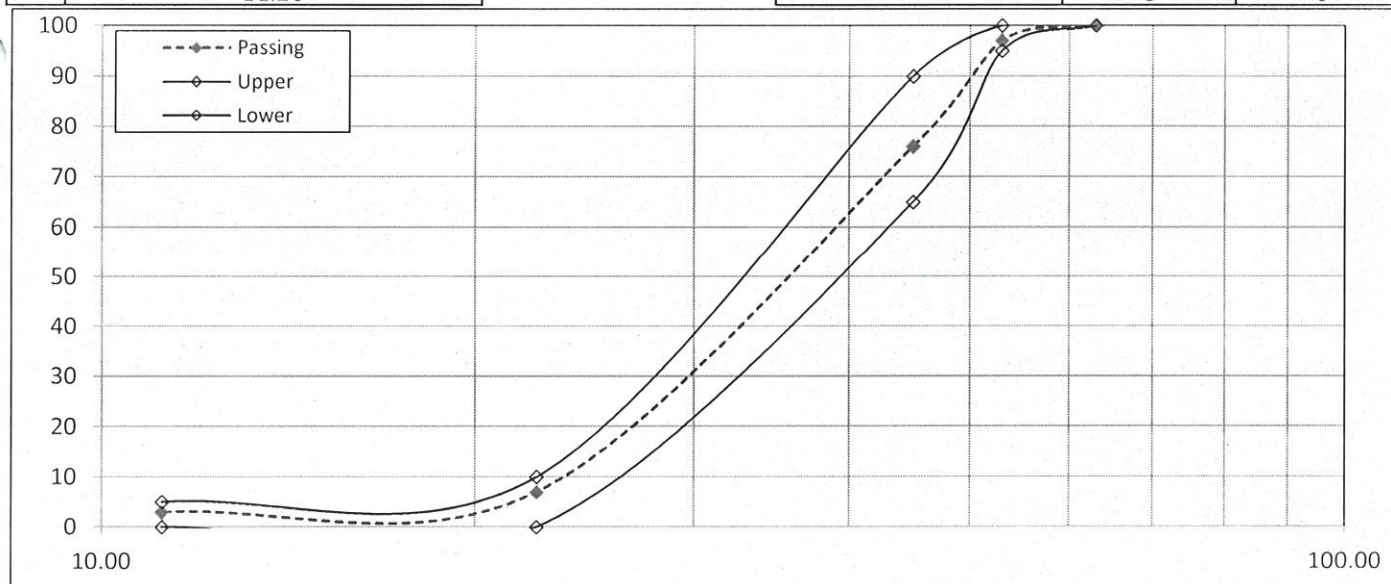
Contract No:

Contractor :

With reference to your letter dated [Insert Date], Ref.No: [Insert Ref No:], we are enclosing herewith test results of provided **Coarse Aggregate for Water Bound Macadam(WBM) Base**

Test Results

S.N.	Name of the Tests	Test Method	Coarse Aggregate for Water Bound Macadam(WBM) Base	Specification Limit(As Per Standard Specifications of Road and Bridges 2073, with amendment 2075)
1	Optimum Moisture Content %	IS:2720 Part -8	6.8	-
2	Max. Dry Density g/cc	IS:2720 Part -9	2.212	-
3	Los Angeles Abrasion, %	IS:2386 Part-4	30	40 Maximum
4	Aggregate Impact Value %	IS:2386 Part-4	28	30 Maximum
5	Combined Flakiness and Elongation Index,%	IS:2386 Part-1	29	35 Maximum
9	Sieve Analysis (Gradation)			
	Sieve Size (mm)	As per Standard Specifications of Road and Bridges 2073(With amendment 2075)	Cumulative % passing	Specification Limit
	63.00		100.00	100 100
	53.00		97.00	100 95
	45.00		76.00	90 65
	22.40		7.00	10 0
	11.20		3.00	5 0



Note: Samples are not taken by us. This test report only represents the tested samples.

Tested by

Checked by

Approved By

Arjun Jung Thapa



Government of Nepal
DEPARTMENT OF ROADS
Quality, Research And Development Centre
(Laboratory Unit)
CHAKUPAT, LALITPUR

Ref. No. :

Date:

Subject: Bitumen Test Result

As Per Standard Specifications of Road and Bridges 2073 with amendment 2075

To,

.....
.....

Contract No:

Contractor :

With reference to your letter dated [Insert Date], Ref.No: [Insert Ref No:], we are enclosing herewith test results of provided **Bitumen** samples.

Test Results

N.	Name of tests	Test Method	Bitumen Grade VG-10	Specification limit as per Standard Specifications for Road & Bridge Works 2073, With amendment 2075
1	Penetration at 25°C, 100 g, 5 s, 0.1 mm, Minimum	NS 221:2047(Part III)/IS 1203	99	80
2	Absolute Viscosity at 60°C	NS 237:2050(Part VIII)/IS 1206-2	920	800-1200
3	Kinematic viscosity at 135°C, cSt, Minimum	NS 237:2050(Part VIII)/IS 1206-3	360	250.0
4	Flash Point(Cleavland Open Cup) oC, Minimum	NS 237:2049(Part VII)/IS 1448-69	280	220
5	Solubility in Trichloroethylene, Percent, Minimum	NS 221:2047(Part IV)/IS 1216	99.9	99
6	Softening Point(R&B), °C, Minimum	NS/IS :1205	60	40
7	Tests on residue from rolling thin film oven test:			
a)	Viscosity ratio at 60°C, Maximum	NS 221:2046(Part II)/IS 1206-2	3.2	4
b)	Ductility at 25°C, cm, Minimum	NS 221:2046(Part I)/IS 1208	100.0	75

This report only represents the tested samples.

Tested by

Checked by

Er. Arjun Jung Thapa
Director General

[Signature]

[Signature]

[Signature]

[Signature]



Government of Nepal
DEPARTMENT OF ROADS
 Quality, Research And Development Centre
 (Laboratory Unit)
 CHAKUPAT, LALITPUR

Ref. No. :

Date:

Subject: Bitumen Test Result

As Per Standard Specifications of Road and Bridges 2073 with amendment 2075

To,

Contract No:

Contractor :

With reference to your letter dated [*Insert Date*], Ref.No: [*Insert Ref No:*], we are enclosing herewith test results of provided **Bitumen** samples.

Test Results

S.N.	Name of tests	Test Method	Bitumen Grade VG-30	Specification limit as per Standard Specifications for Road & Bridge Works 2073, With amendment 2075
1	Penetration at 25°C, 100 g, 5 s, 0.1 mm, Minimum	NS 221:2047(Part III)/IS 1203	80	45
2	Absolute Viscosity at 60°C	NS 237:2050(Part VIII)/IS 1206-2	2765	2400-3600
3	Kinematic viscosity at 135°C, cSt, Minimum	NS 237:2050(Part VIII)/IS 1206-3	450	350
4	Flash Point(Cleavland Open Cup) oC, Minimum	NS 237:2049(Part VII)/IS 1448-69	280	220
5	Solubility in Trichloroethylene, Percent, Minimum	NS 221:2047(Part IV)/IS 1216	99.9	99
6	Softening Point(R&B), °C, Minimum	NS/IS :1205	60	47
7	Tests on residue from rolling thin film oven test:			
	Viscosity ratio at 60°C, Maximum	NS 221:2046(Part II)/IS 1206-2	3	4
b)	Ductility at 25°C, cm, Minimum	NS 221:2046(Part I)/IS 1208	75.0	40

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Tested by

Checked by

Approved by

Er. Arjun Jung Thapa
 Director General



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DEPARTMENT OF ROADS
Quality, Research And Development Centre
(Laboratory Unit)
CHAKUPAT, LALITPUR

Ref. No. :

Date.....

Subject: GI wire Test Result

As per Standard Specifications of Road and Bridges 2073 with amendment 2075

To,

Contract No:

Contractor :

With reference to your letter dated [Insert Date], Ref.No: [Insert Ref No:], we are enclosing herewith test results of provided **GI wire** samples.

S/N	Sample no	Parameters	Unit	Test Method	Desired Value	Observed Value	Remarks
1	1000	Original Diameter	mm	IS:4826	3.800 - 4.000	3.900	
		Mass of Zinc, Minimum	(gm/m ²)	IS:4826	280	303.38	
		Adhesion test of GI Wire	-	IS:4826	Not Flake off	Not Flake off	
		Tensile Strength, Minimum	N/mm ²	ID:4826/IS:1608	350 - 550	455.77	
		Uniformity of Zinc Coating	%	IS:4826/IS:2633	Doesn't Show Red Deposit of Copper	Red Deposit of Copper Not Seen	
2	1001	Original Diameter	mm	IS:4826	3.800 - 4.000	3.897	
		Mass of Zinc, Minimum	(gm/m ²)	IS:4826	280	305.73	
		Adhesion test of GI Wire	-	IS:4826	Not Flake off	Not Flake off	
		Tensile Strength, Minimum	N/mm ²	ID:4826/IS:1608	350 - 550	456.47	
		Uniformity of Zinc Coating	%	IS:4826/IS:2633	Doesn't Show Red Deposit of Copper	Red Deposit of Copper Not Seen	
3	1002	Original Diameter	mm	IS:4826	3.800 - 4.000	3.897	
		Mass of Zinc, Minimum	(gm/m ²)	IS:4826	280	306.75	
		Adhesion test of GI Wire	-	IS:4826	Not Flake off	Not Flake off	
		Tensile Strength, Minimum	N/mm ²	ID:4826/IS:1608	350 - 550	456.47	
		Uniformity of Zinc Coating	%	IS:4826/IS:2633	Doesn't Show Red Deposit of Copper	Red Deposit of Copper Not Seen	
4	1003	Original Diameter	mm	IS:4826	2.920 - 3.080	2.993	
		Mass of Zinc, Minimum	(gm/m ²)	IS:4826	270	287.44	
		Adhesion test of GI Wire	-	IS:4826	Not Flake off	Not Flake off	
		Tensile Strength, Minimum	N/mm ²	ID:4826/IS:1608	350 - 550	462.92	
		Uniformity of Zinc Coating	%	IS:4826/IS:2633	Doesn't Show Red Deposit of Copper	Red Deposit of Copper Not Seen	
5	1004	Original Diameter	mm	IS:4826	2.920 - 3.080	3.000	
		Mass of Zinc, Minimum	(gm/m ²)	IS:4826	270	290.94	
		Adhesion test of GI Wire	-	IS:4826	Not Flake off	Not Flake off	
		Tensile Strength, Minimum	N/mm ²	ID:4826/IS:1608	350 - 550	460.76	
		Uniformity of Zinc Coating	%	IS:4826/IS:2633	Doesn't Show Red Deposit of Copper	Red Deposit of Copper Not Seen	
6	1005	Original Diameter	mm	IS:4826	2.920 - 3.080	2.997	
		Mass of Zinc, Minimum	(gm/m ²)	IS:4826	270	291.89	
		Adhesion test of GI Wire	-	IS:4826	Not Flake off	Not Flake off	
		Tensile Strength, Minimum	N/mm ²	ID:4826/IS:1608	350 - 550	461.68	
		Uniformity of Zinc Coating	%	IS:4826/IS:2633	Doesn't Show Red Deposit of Copper	Red Deposit of Copper Not Seen	
7	1006	Original Diameter	mm	IS:4826	2.340 - 2.460	2.400	
		Mass of Zinc, Minimum	(gm/m ²)	IS:4826	260	263.15	
		Adhesion test of GI Wire	-	IS:4826	Not Flake off	Not Flake off	
		Tensile Strength, Minimum	N/mm ²	ID:4826/IS:1608	350 - 550	453.21	
		Uniformity of Zinc Coating	%	IS:4826/IS:2633	Doesn't Show Red Deposit of Copper	Red Deposit of Copper Not Seen	
8	1007	Original Diameter	mm	IS:4826	2.340 - 2.460	2.400	
		Mass of Zinc, Minimum	(gm/m ²)	IS:4826	260	261.97	
		Adhesion test of GI Wire	-	IS:4826	Not Flake off	Not Flake off	
		Tensile Strength, Minimum	N/mm ²	ID:4826/IS:1608	350 - 550	453.21	
		Uniformity of Zinc Coating	%	IS:4826/IS:2633	Doesn't Show Red Deposit of Copper	Red Deposit of Copper Not Seen	
9	1008	Original Diameter	mm	IS:4826	2.340 - 2.460	2.397	
		Mass of Zinc, Minimum	(gm/m ²)	IS:4826	260	263.03	
		Adhesion test of GI Wire	-	IS:4826	Not Flake off	Not Flake off	
		Tensile Strength, Minimum	N/mm ²	ID:4826/IS:1608	350 - 550	454.35	
		Uniformity of Zinc Coating	%	IS:4826/IS:2633	Doesn't Show Red Deposit of Copper	Red Deposit of Copper Not Seen	

Samples are not taken by us. The report only represents the tested sample.

Tested by:

Checked by

Approved by

Er. Arjun Jung Thapa
Director General



Government of Nepal
DEPARTMENT OF ROADS
Quality, Research And Development Centre
(Laboratory Unit)
CHAKUPAT, LALITPUR

Ref. No. :

Date.....

Subject: Reinforcement Test Result

As per Standard Specifications of Road and Bridges 2073 with amendment 2075

To,

Contract No:

Contractor :

With reference to your letter dated [Insert Date], Ref.No: [Insert Ref No:], we are enclosing herewith test results of provided **Reinforcement** samples.

Product	Property	Unit	Test Method	Desired Value	Observed Value	Remarks
XXX Steel, Fe-500 8 mm Dia	0.2 % Proof Stress, Minimum	N/mm ²	IS: 1786	500	569.01	
	Elongation Percent, Minimum	%		12	25	
	Tensile Strength, Minimum	N/mm ²		614.53	692.46	
XXX Steel, Fe-500 10 mm Dia	0.2 % Proof Stress, Minimum	N/mm ²		500	593.27	
	Elongation Percent, Minimum	%		12	20	
	Tensile Strength, Minimum	N/mm ²		640.73	706.88	
XXX Steel, Fe-500 12 mm Dia	0.2 % Proof Stress, Minimum	N/mm ²		500	506.31	
	Elongation Percent, Minimum	%		12	21	
	Tensile Strength, Minimum	N/mm ²		546.38	670	
XXX Steel, Fe-500 16 mm Dia	0.2 % Proof Stress, Minimum	N/mm ²		500	550	
	Elongation Percent, Minimum	%		12	23	
	Tensile Strength, Minimum	N/mm ²		592.92	682.21	

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Tested By

Checked by

Approved by

Er. Arjun Jung Thapa
Director General



Government of Nepal
DEPARTMENT OF ROADS
Quality, Research And Development Centre
(Laboratory Unit)
CHAKUPAT, LALITPUR

Ref. No. :

Date.....

Subject: Prestress Cable Test Result

As Per Standard Specifications of Road and Bridges 2073 with amendment 2075

To,

.....

.....

Contract No:

Contractor :

With reference to your letter dated [*Insert Date*], Ref.No: [*Insert Ref No:*], we are enclosing herewith test results of provided Prestress Cable samples.

Product	Property	Unit	Test Method	Desired Value	Observed Value	Remarks
LRPC strand Wire 12.7 mm Φ , 7 ply, Class 2	Nominal Diameter	mm	IS:14268	12.55-13.36	12.82	
	Nominal Area	mm ²		98.7	98.7	
	Nominal Mass	Kg/Km		775	780	
	Tensile/Breaking Strength, Minimum	KN		183.7	189	
	0.2 % Proof Load, Minimum	KN		165.3	171	
	Elongation, Minimum	%		3.5	4.8	

Samples are not taken by us. The report only represents the tested sample.

Tested by

Checked by

Approved by

Er. Arjun Jung Thapa
Director General



Government of Nepal
DEPARTMENT OF ROADS
Quality, Research And Development Centre
(Laboratory Unit)
CHAKUPAT, LALITPUR

Ref. No. :

Subject: Cement Test Result

As per Standard Specifications of Road and Bridges 2073 with amendment 2075

To,

Contract No:

Cement Brand Name: XXX OPC

Contractor :

With reference to your letter dated [*Insert Date*], Ref.No: [*Insert Ref No:*], we are enclosing herewith test results of provided **1 Bag of Cement Sample**.

S/N	Parameters	Unit	Test Method	Desired Value	Observed Value	Remarks
1	Normal Consistency	%	IS:269	-	28.6	
2	Initial Setting Time, Minimum	Minutes		45	70	
3	Final Setting Time, Maximum	Minutes		600	136	
Compressive Strength of cement(N/mm ²), Minimum						
Mortar Cube Number	1	IS:269	16	30.4	3 days	
	2		16	30.4	3 days	
	3		16	30.6	3 days	
	4		22	27.4	7 days	
	5		22	28.2	7 days	
	6		22	27.3	7 days	
	7		33	34.6	28 days	
	8		33	36.5	28 days	
	9		33	35.4	28 days	
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Director General