

FUGRO TECHNICAL SERVICES LIMITED

Fugro Development Centre,
5 Lok Yi Street, Tai Lam,
Tuen Mun, N.T.,
Hong Kong.

Tel : +852 2450 8233
Fax : +852 2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materialab.com.hk

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Client Ref. : --
Report No. : 124675ST130008(9)

Page 1 of 3

REPORT ON TENSILE STRENGTH TEST OF E10 ANCHOR BOLT EMBEDDED IN NON-CRACKED CONCRETE

Sample Description

Information Supplied by Client

Client : Sunway Metal Manufactory Limited
Project : Tensile Strength Test of Anchor Bolt
Sample Description : E10 Anchor Bolt
Client's Sample I.D. : --

For Expanding Anchor

Supplier Name : Sunway Metal Manufactory Limited
Reference Number : E10
Location of the Fixings in the Base Specimen : (Please refer to the diagrams)
Embedded Length : 60 mm Minimum requirement of BS 5080 : 180 mm
Hole Diameter : 10 mm for distance of fixing from the edge
Bolt Diameter : 10 mm Minimum requirement of BS 5080 : 300 mm
Hole Depth : 60 mm anchor spacing of fixing
Concrete Grade : 22 N/mm²

For Concrete

Mix Proportions : Not provided
Location of Reinforcement : Not applicable
Type of reinforcement : Not applicable
Cast Unit Shape : Square
Dimensions of Cast Unit : 500 x 500 x 192 mm
Concrete Age : 30 days
Compressive Strength (Average) : 224 kgf/cm²

Laboratory Information

Location of Test : Product Testing Laboratory of Materialab
Lab. Sample I.D. : ST130008/43-45, 75 & 78
Date Received : 03 January 2013
Date Specimens Fixed : 11 April 2013
Date Tested : 22 April 2013
Span of Reaction Support : 240 mm
Test Method : BS 5080 : Part 1 : 1993 and ETAG-001-Annex-A
Loading Method : Increment Loading

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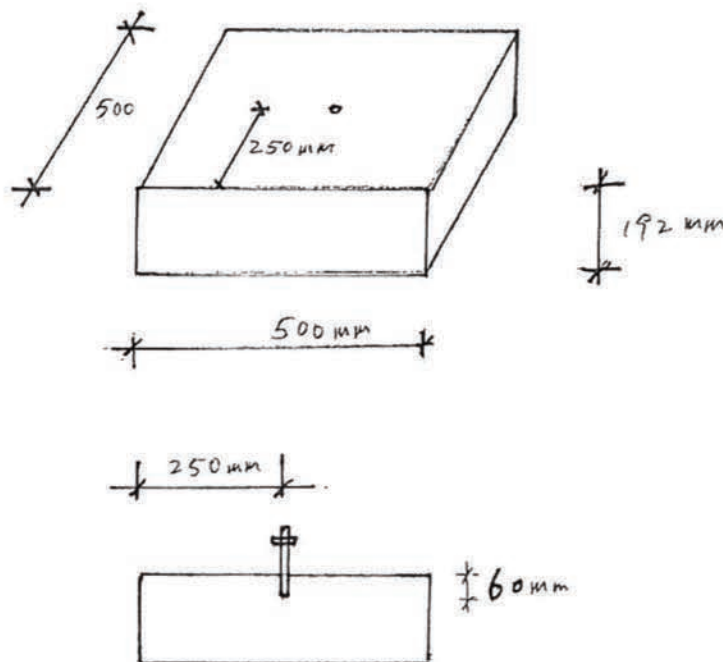
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REPORT ON TENSILE STRENGTH TEST OF E10 ANCHOR BOLT EMBEDDED IN NON-CRACKED CONCRETE

Test Method

石矢强度: $25/20D \pm 5$ MPA, 28 天
数量: 42 件



Sketch 1 : The specified concrete structure

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REPORT ON TENSILE STRENGTH TEST OF E10 ANCHOR BOLT EMBEDDED IN NON-CRACKED CONCRETE

Summary of Test Results

Lab. Sample I.D.	Applied Force at Initial Relative Movement of 0.2mm (kN)	Force Interval (kN) / Displacement (mm)											Ultimate Force (max.) (kN)
		3 kN	6 kN	9 kN	12 kN	15 kN	18 kN	21 kN	24 kN	28 kN	32 kN	36 kN	
ST130008/43	4.56	0.063	0.459	0.924	1.348	1.846	2.476	--	--	--	--	--	20.07
ST130008/44	5.79	0.105	0.227	1.062	1.387	2.217	2.872	--	--	--	--	--	19.09
ST130008/45	5.47	0.084	0.912	1.464	1.706	2.224	2.509	--	--	--	--	--	20.15
ST130008/75	6.55	0.106	0.188	0.446	0.663	1.301	1.695	2.899	--	--	--	--	23.91
ST130008/78	5.40	0.148	0.376	0.937	1.097	1.582	1.882	--	--	--	--	--	19.13
Mean	--	--	--	--	--	--	--	--	--	--	--	--	20.47
Standard Deviation	--	--	--	--	--	--	--	--	--	--	--	--	1.99

Remark : The test results relate only to the samples tested.

Checked by : Sgor Date : 28/5/2013 Certified by : Chan Chun Wai Ivan Date : 28.5.2013
Chan Chun Wai Ivan
Manager (Product Testing Laboratory)

**** End of Report ****

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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Client : Sunway Metal Manufactory Limited

Project : Testing of Anchor Bolt SW-E10

Client Ref : --

Report No. : 092660ST90534

Date : 26 April 2010

CONTENTS

- 1.0 Sample Description
- 2.0 Summary of Test Results
- 3.0 Individual Results
- 4.0 Diagram
- 5.0 Record Photographs

FUGRO TECHNICAL SERVICES LIMITED

MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

1.0 Sample Description

1.1 Information Supplied by Client

Client : Sunway Metal Manufactory Limited
Project : Testing of Anchor Bolt SW-E10
Sample Description : Anchor Bolt SW-E10
Client's Sample I.D. : --

For Expanding Anchor

Type of Drilled Employed : Rotary-Precussive
Location of the Fixings in the Base Specimen : (Please refer to the diagrams)
Embedded Length : 50 mm Minimum requirement of BS 5080
Predrilled Hole Diameter : 10 mm for distance of fixing from the edge : 150 mm
Bolt Diameter : 10 mm Minimum requirement of BS 5080
Hole Depth : 60 mm anchor spacing of fixing : 200 mm
Tightening Torque : 35 Nm Concrete Grade : 30 MPa

For Concrete

Mix Proportions : Not Provided
Location of Reinforcement : NIL
Type of reinforcement : NIL
Cast Unit Shape : Cube
Dimensions of Cast Unit : 800 x 800 x 800 mm
Date Cast : 19 October 2009

1.2 Laboratory Information

Location of Test : Kam Tin Laboratory of MaterialLab
Address of Test Location : DD111, Lot 3028, Wang Toi Shan Village, Pat Heung, Kam Tin, N.T.
Lab. Sample I.D. : ST90534/B1 to B25
Date Received : 25 August 2009
Date Test Started : 03 December 2009
Date Test Completed : 12 January 2010
Span of Support : 300 mm
Test Method : BS 5080 : Part 1 : 1993
Loading Method : Increment Increasing

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Report No. : 092660ST90534

REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT**2.0 Summary of Test Results**

Lab. Sample I.D.	Applied Force at Relative Movement of 0.2mm (kN)	Ultimate Force (kN)
ST90534/B1	9.8	18.6
ST90534/B3	7.2	21.2
ST90534/B5	7.8	21.4
ST90534/B6	7.6	23.2
ST90534/B7	8.5	22.4
ST90534/B8	7.4	21.3
ST90534/B9	7.4	22.4
ST90534/B12	5.6	18.8
ST90534/B13	5.5	16.4
ST90534/B14	6.9	19.6
ST90534/B18	7.8	21.3
ST90534/B24	7.3	20.2
Mean	7.4	20.6
Standard Deviation	1.1	1.9

Remark : The test results relate only to the samples tested.

Checked by :



Date : 26/4/2010

Certified by :



Date : 26.4.2010

Chan Chun Wai Ivan

Manager (Product Testing Laboratory)

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MaterialLab Division,
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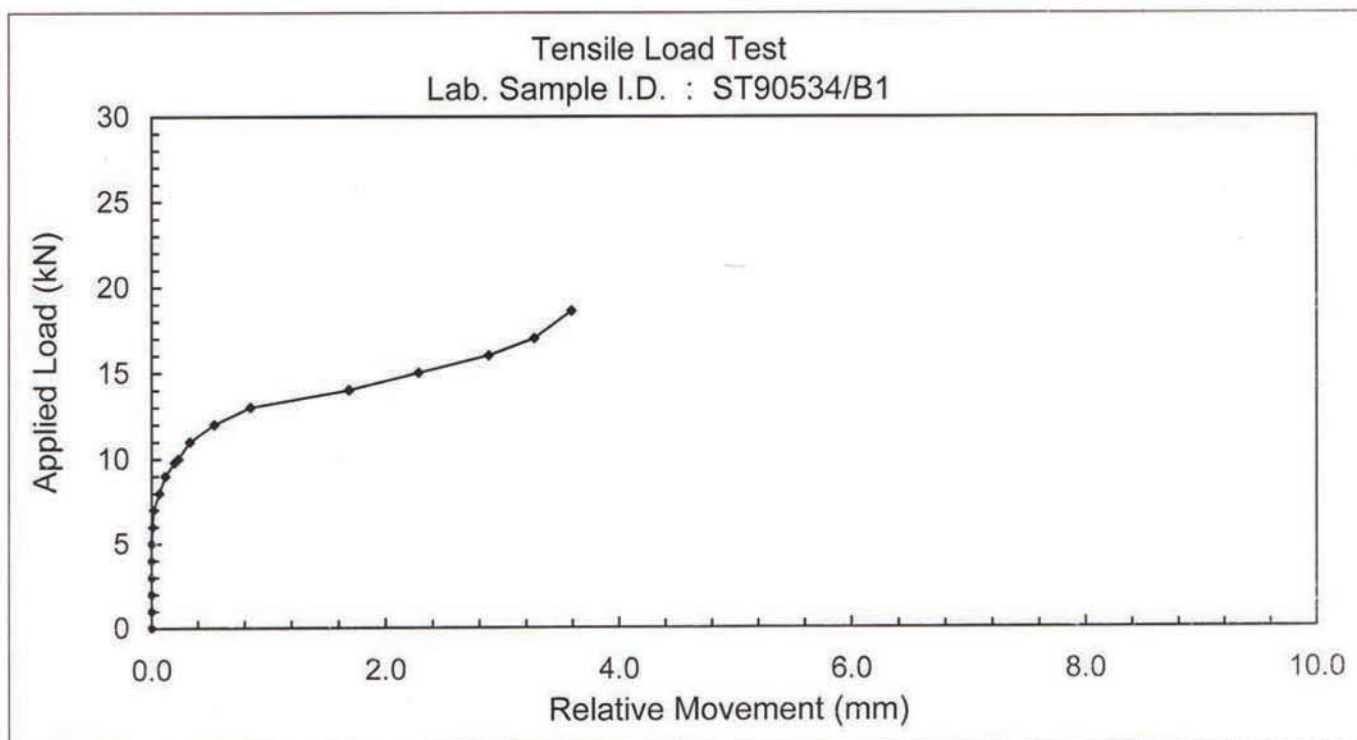
REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

3.0 Test Results

Lab. Sample I.D. : ST90534/B1

Date Tested : 03 December 2009

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	9.8	0.20
1.0	0	10.0	0.23
2.0	0	11.0	0.33
3.0	0	12.0	0.54
4.0	0	13.0	0.85
5.0	0	14.0	1.69
6.0	0.01	15.0	2.28
7.0	0.02	16.0	2.88
8.0	0.07	17.0	3.27
9.0	0.12	18.6	3.59



Observation: Failure of concrete was noted at the applied load of 18.6 kN.

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5 Lok Yi Street, 17 M.S. Castle Peak Road,
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Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

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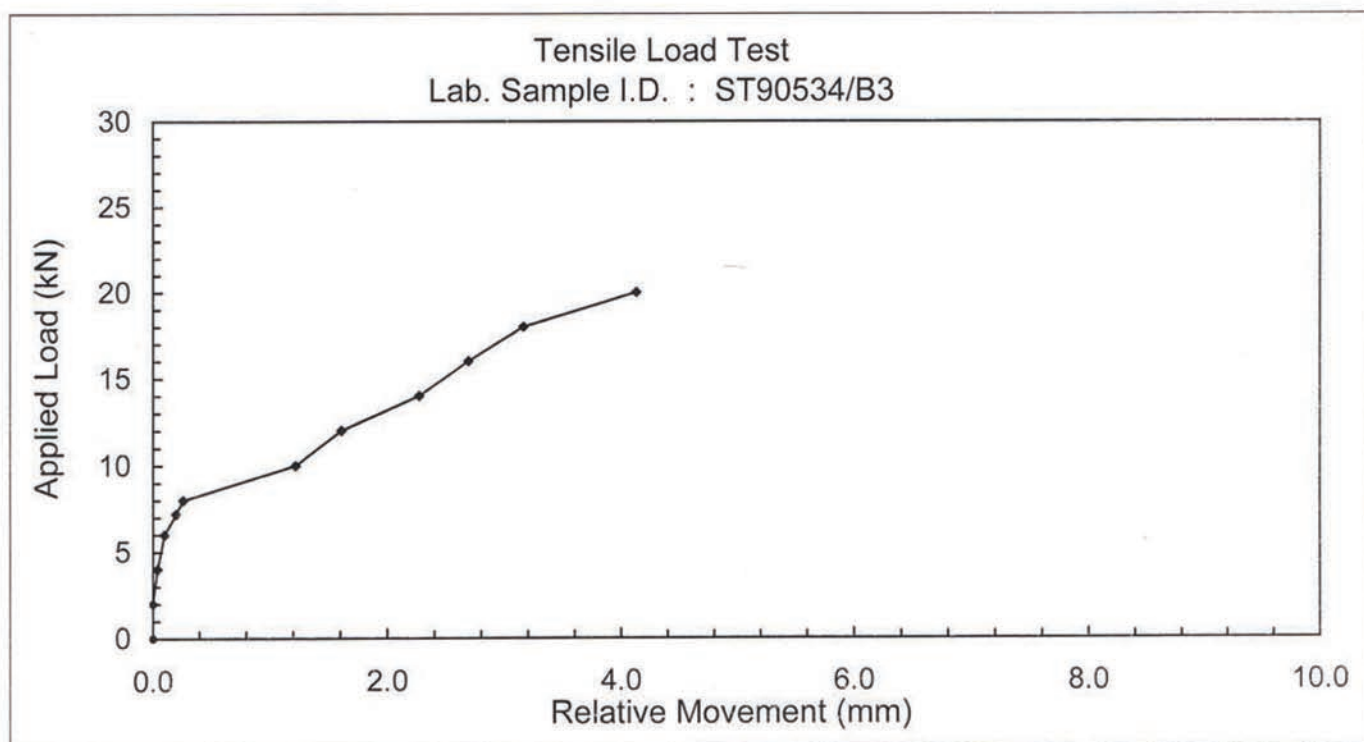
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B3

Date Tested : 11 December 2009

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	1.61
2.0	0	14.0	2.27
4.0	0.04	16.0	2.69
6.0	0.10	18.0	3.16
7.2	0.20	20.0	4.13
8.0	0.26	21.2	--
10.0	1.22		



Observation: Failure of concrete was noted at the applied load of 21.2 kN.

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E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

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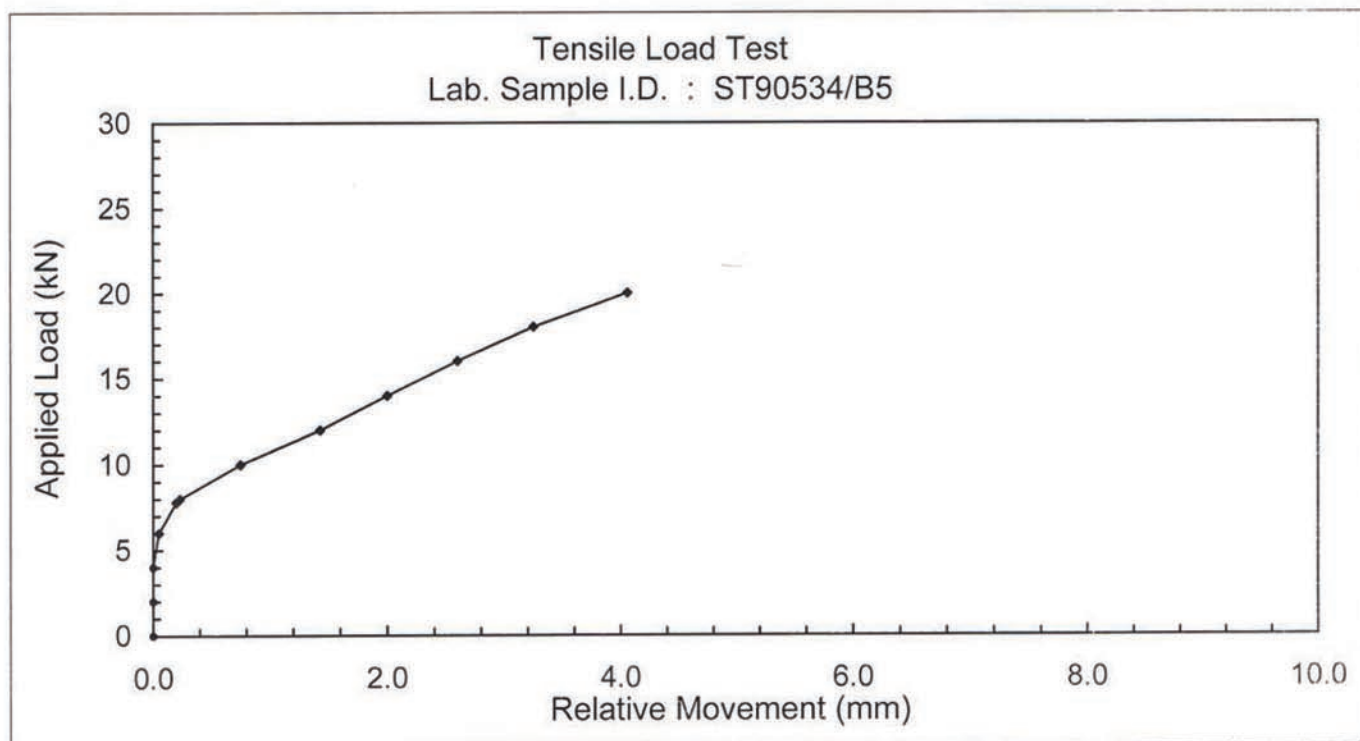
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B5

Date Tested : 11 December 2009

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	1.43
2.0	0	14.0	2.00
4.0	0	16.0	2.60
6.0	0.05	18.0	3.25
7.8	0.20	20.0	4.06
8.0	0.23	21.4	--
10.0	0.75		



Observation: Failure of concrete was noted at the applied load of 21.4 kN.

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MateriaLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materialab.com.hk

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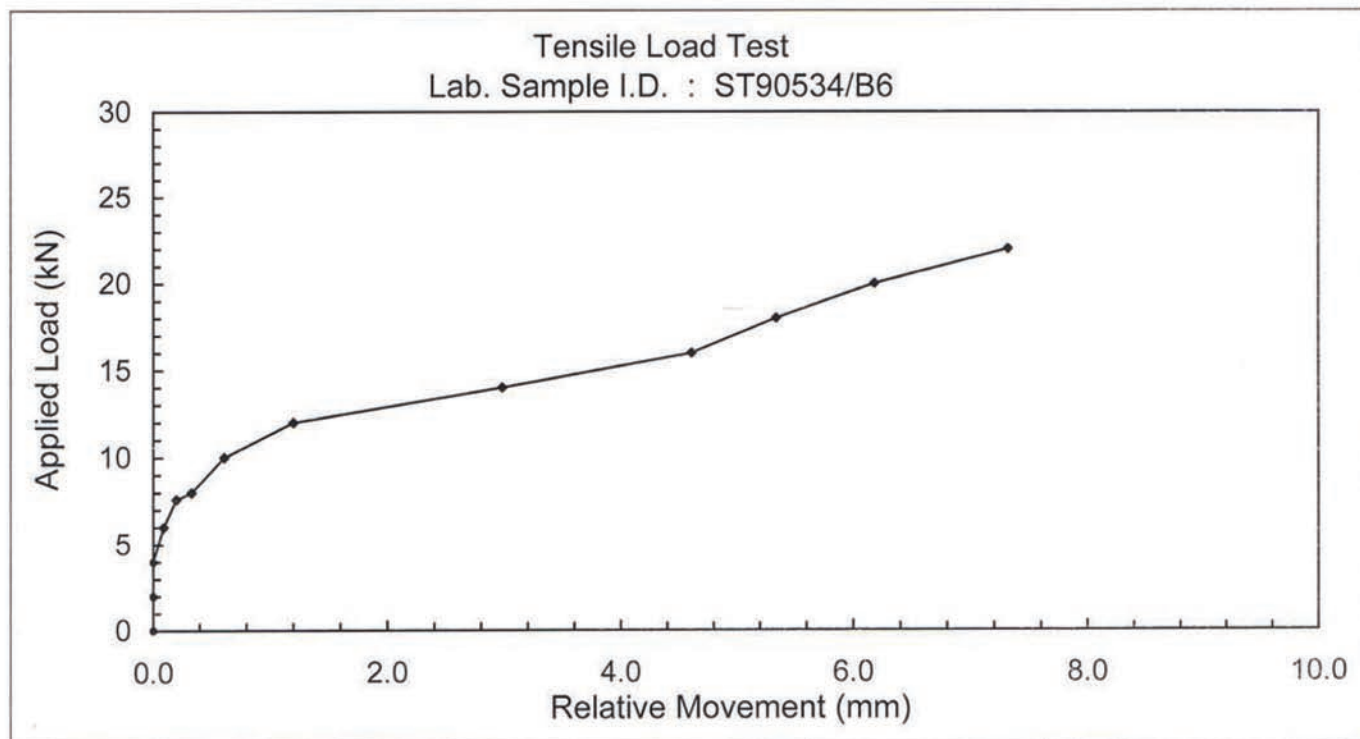
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B6

Date Tested : 11 December 2009

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	1.20
2.0	0	14.0	2.98
4.0	0	16.0	4.61
6.0	0.09	18.0	5.34
7.6	0.20	20.0	6.18
8.0	0.33	22.0	7.32
10.0	0.61	23.2	--



Observation: Failure of concrete was noted at the applied load of 23.2 kN.

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MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

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Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

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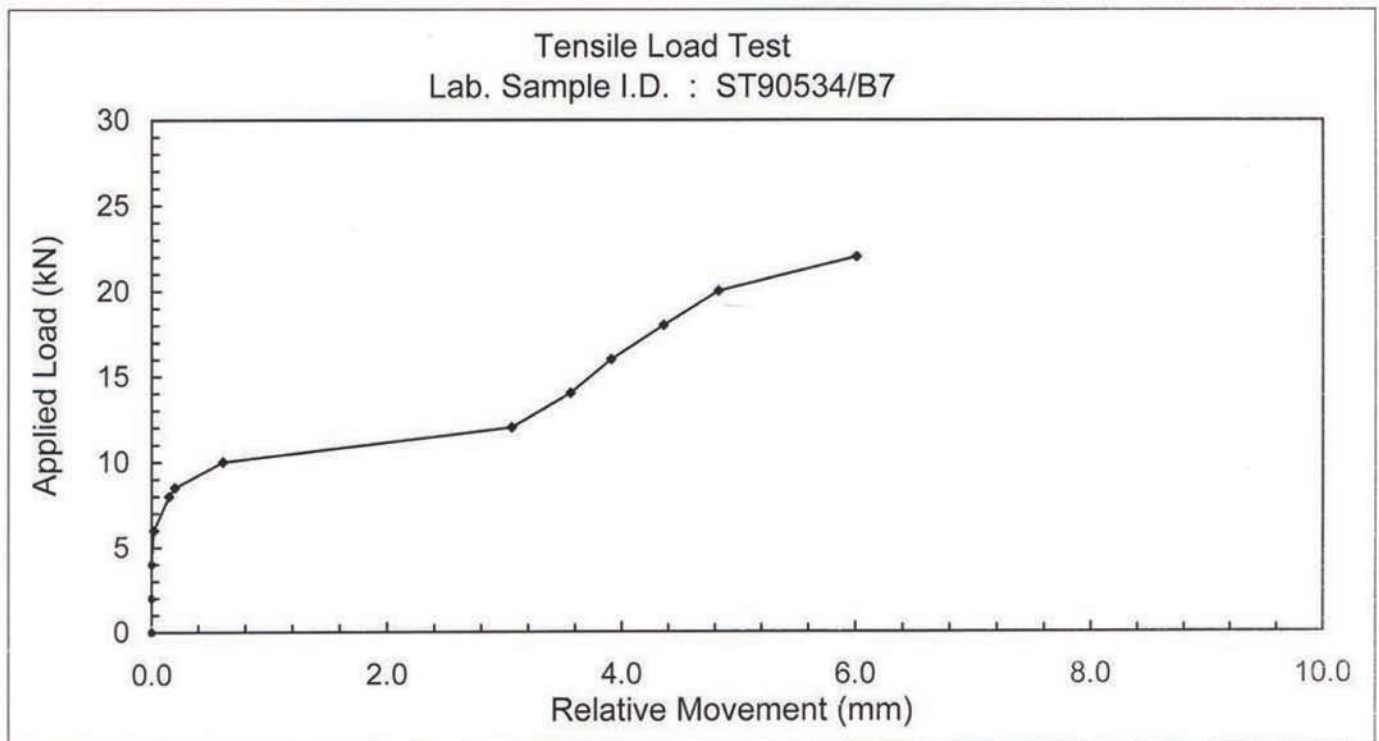
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B7

Date Tested : 11 December 2009

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	3.06
2.0	0	14.0	3.56
4.0	0	16.0	3.91
6.0	0.02	18.0	4.36
8.0	0.15	20.0	4.83
8.5	0.20	22.0	6.01
10.0	0.61	22.4	--



Observation: Failure of concrete was noted at the applied load of 22.4 kN.

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5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

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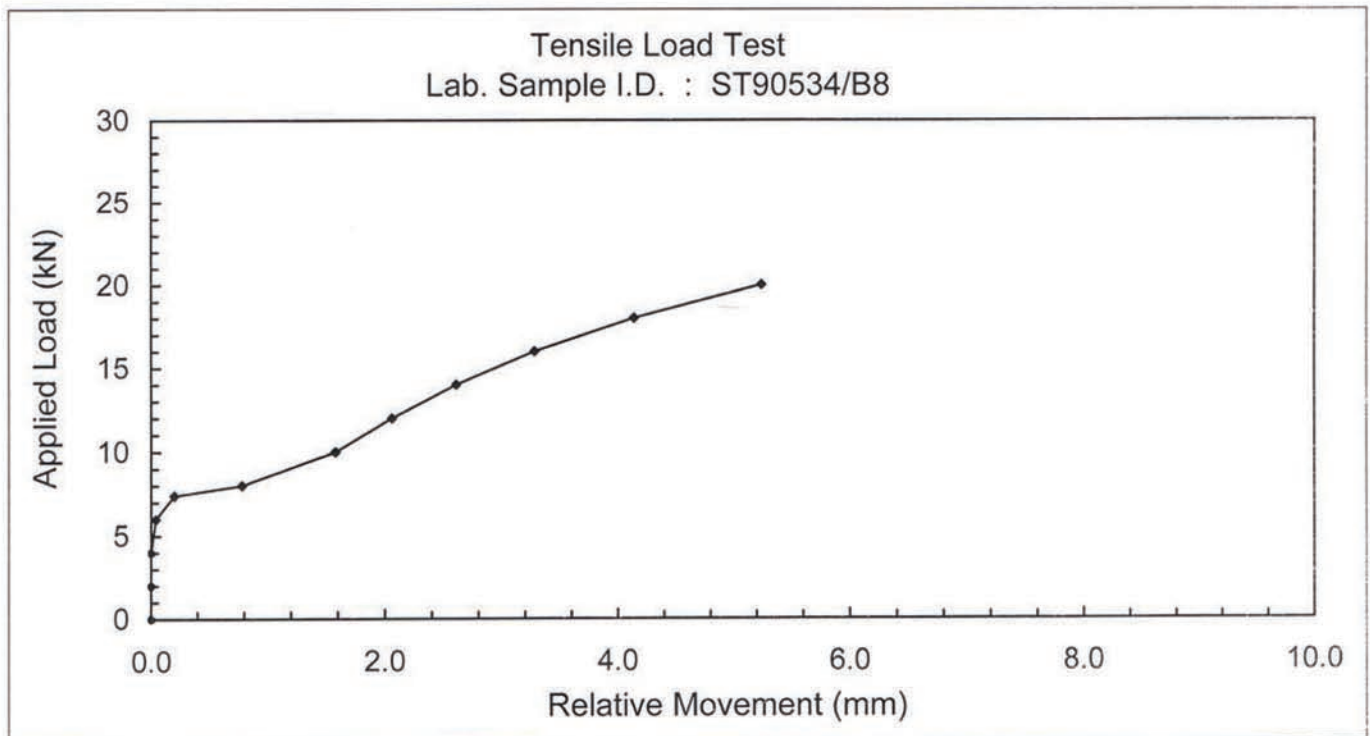
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B8

Date Tested : 11 December 2009

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	2.06
2.0	0	14.0	2.61
4.0	0	16.0	3.28
6.0	0.04	18.0	4.14
7.4	0.20	20.0	5.24
8.0	0.78	21.3	--
10.0	1.58		



Observation: Failure of concrete was noted at the applied load of 21.3 kN.

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MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

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Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
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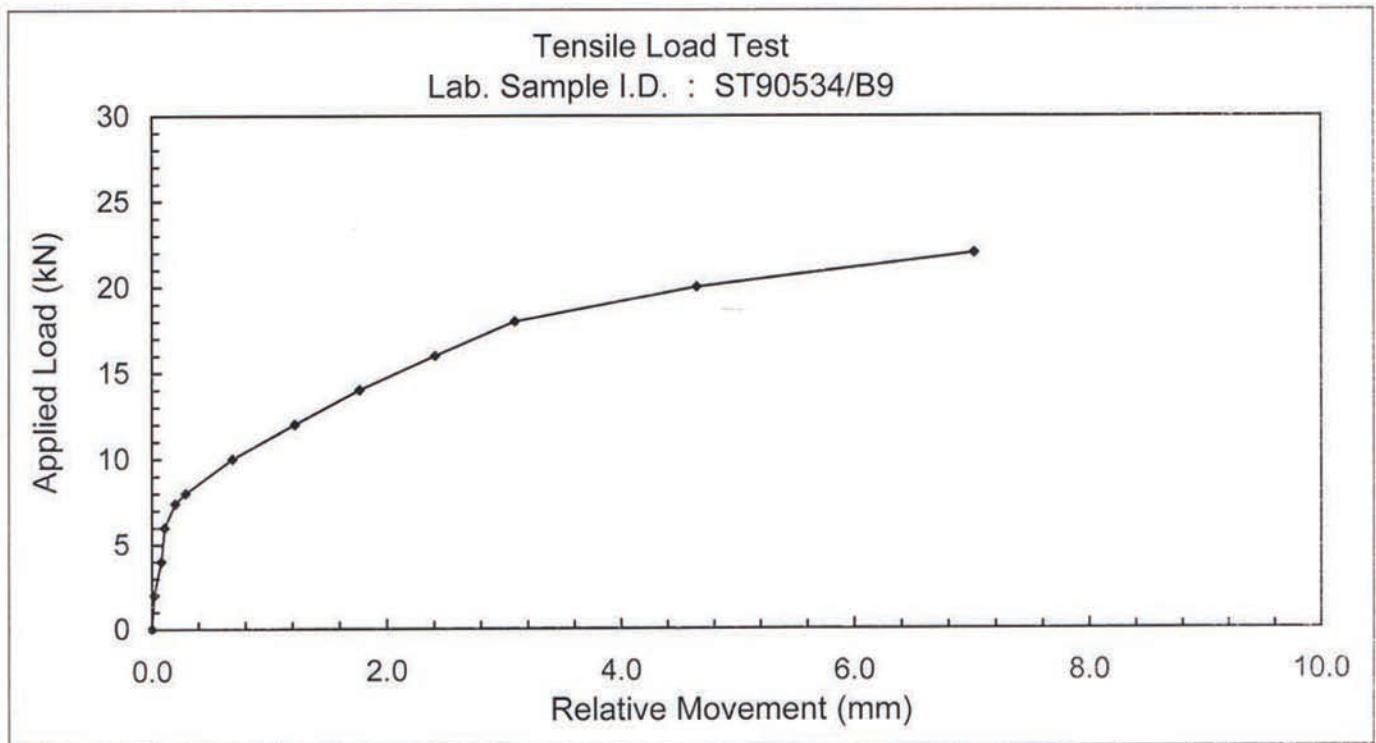
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B9

Date Tested : 06 January 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	1.22
2.0	0.02	14.0	1.77
4.0	0.08	16.0	2.41
6.0	0.11	18.0	3.09
7.4	0.20	20.0	4.65
8.0	0.29	22.0	7.02
10.0	0.69	22.4	--



Observation: Failure of concrete was noted at the applied load of 22.4 kN.

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Fugro Development Centre,
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Tai Lam, Tuen Mun, N.T., Hong Kong.

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Fax : +852-2450 6138
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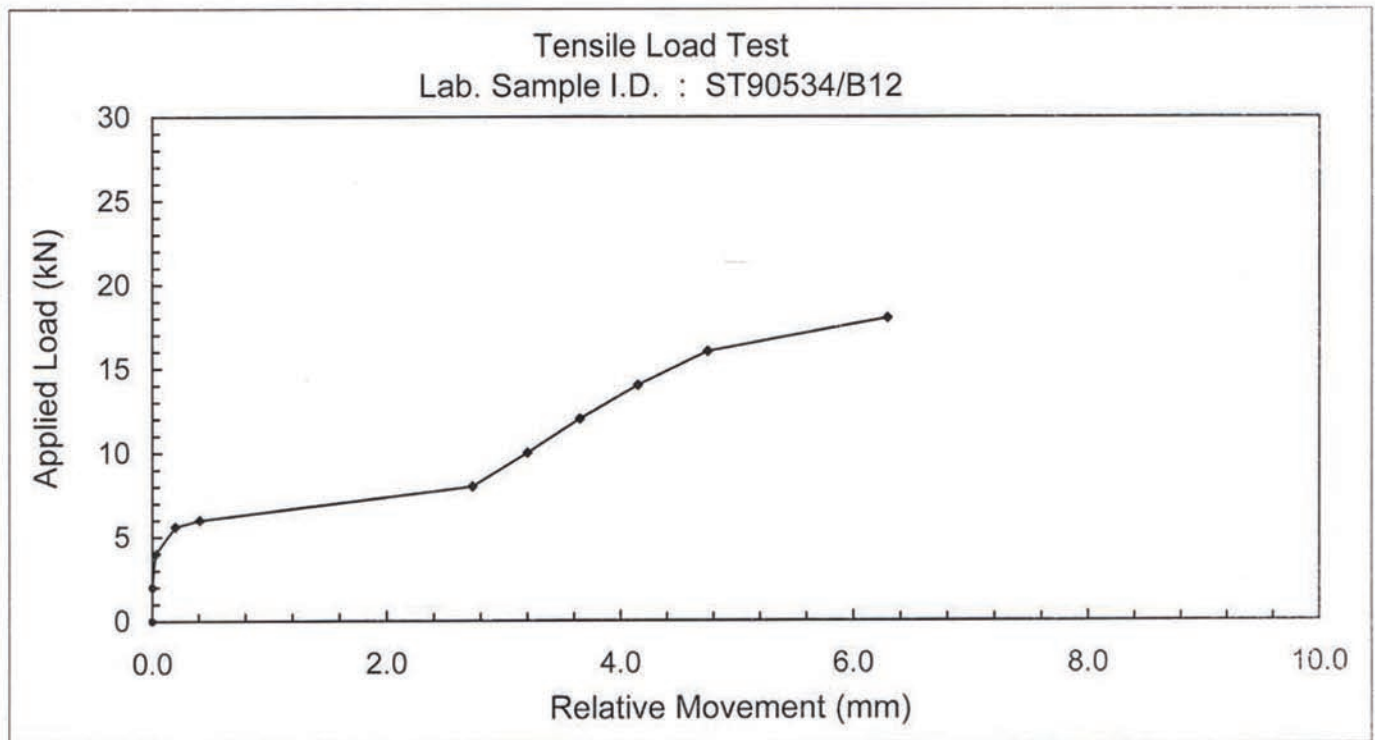
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B12

Date Tested : 06 January 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	10.0	3.20
2.0	0	12.0	3.65
4.0	0.03	14.0	4.15
5.6	0.20	16.0	4.75
6.0	0.41	18.0	6.29
8.0	2.73	18.8	--



Observation: Failure of concrete was noted at the applied load of 18.8 kN.

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Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

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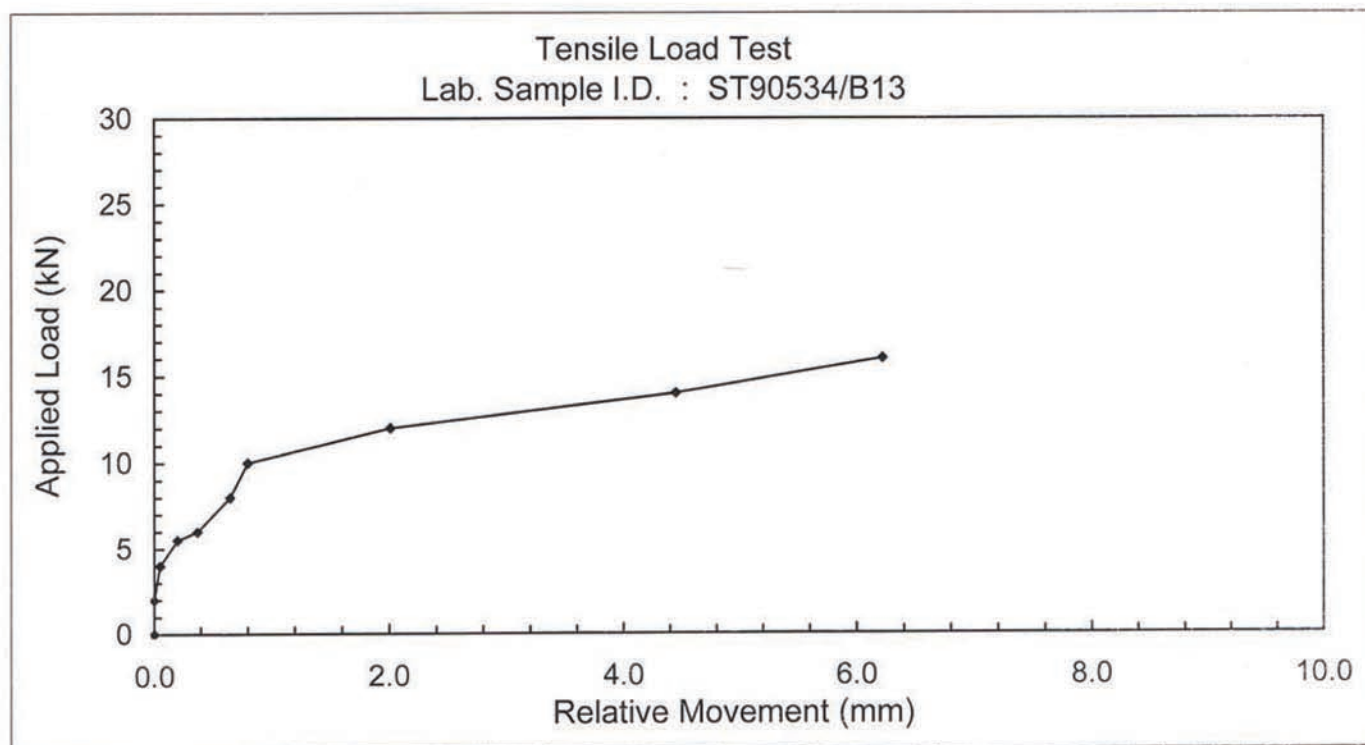
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B13

Date Tested : 06 January 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	10.0	0.80
2.0	0	12.0	2.01
4.0	0.05	14.0	4.45
5.5	0.20	16.0	6.22
6.0	0.37	16.4	--
8.0	0.65		



Observation: Failure of concrete was noted at the applied load of 16.4 kN.

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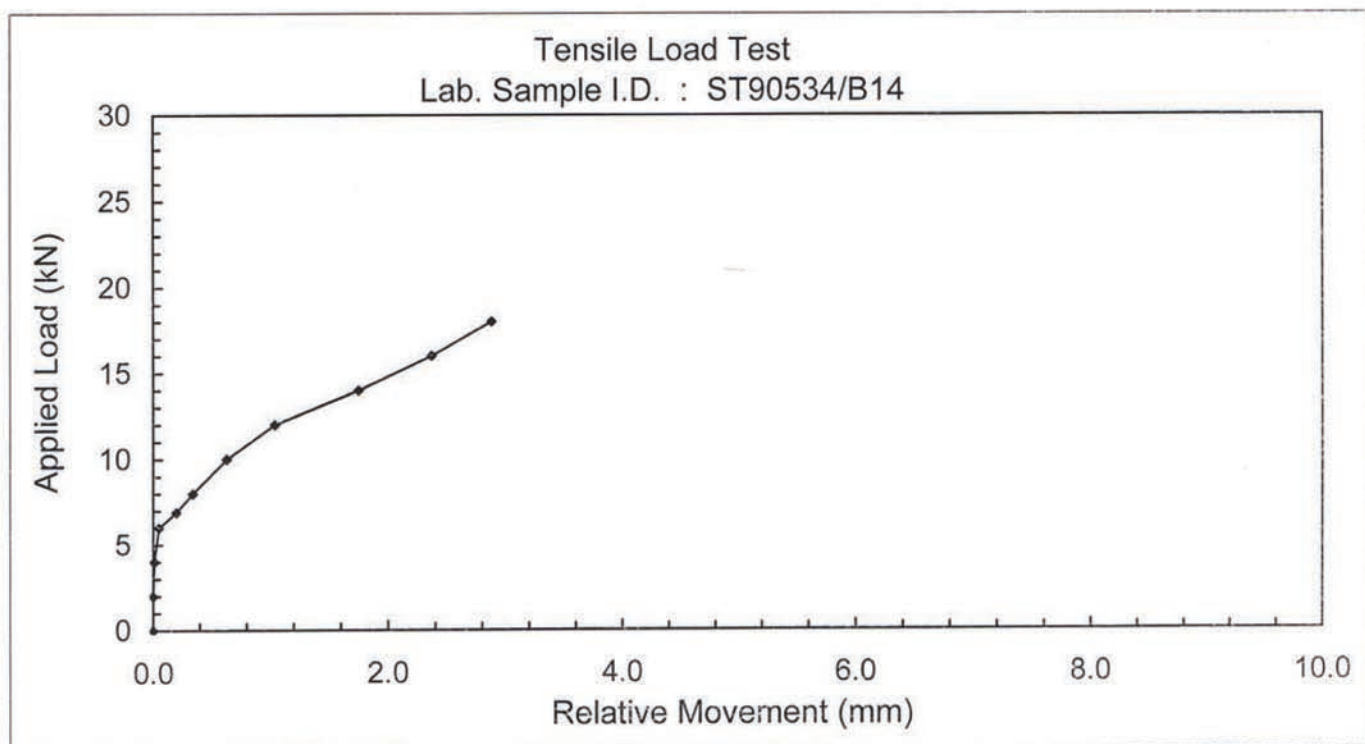
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B14

Date Tested : 06 January 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	10.0	0.63
2.0	0	12.0	1.04
4.0	0.01	14.0	1.75
6.0	0.05	16.0	2.37
6.9	0.20	18.0	2.88
8.0	0.34	19.6	--



Observation: Failure of concrete was noted at the applied load of 19.6 kN.

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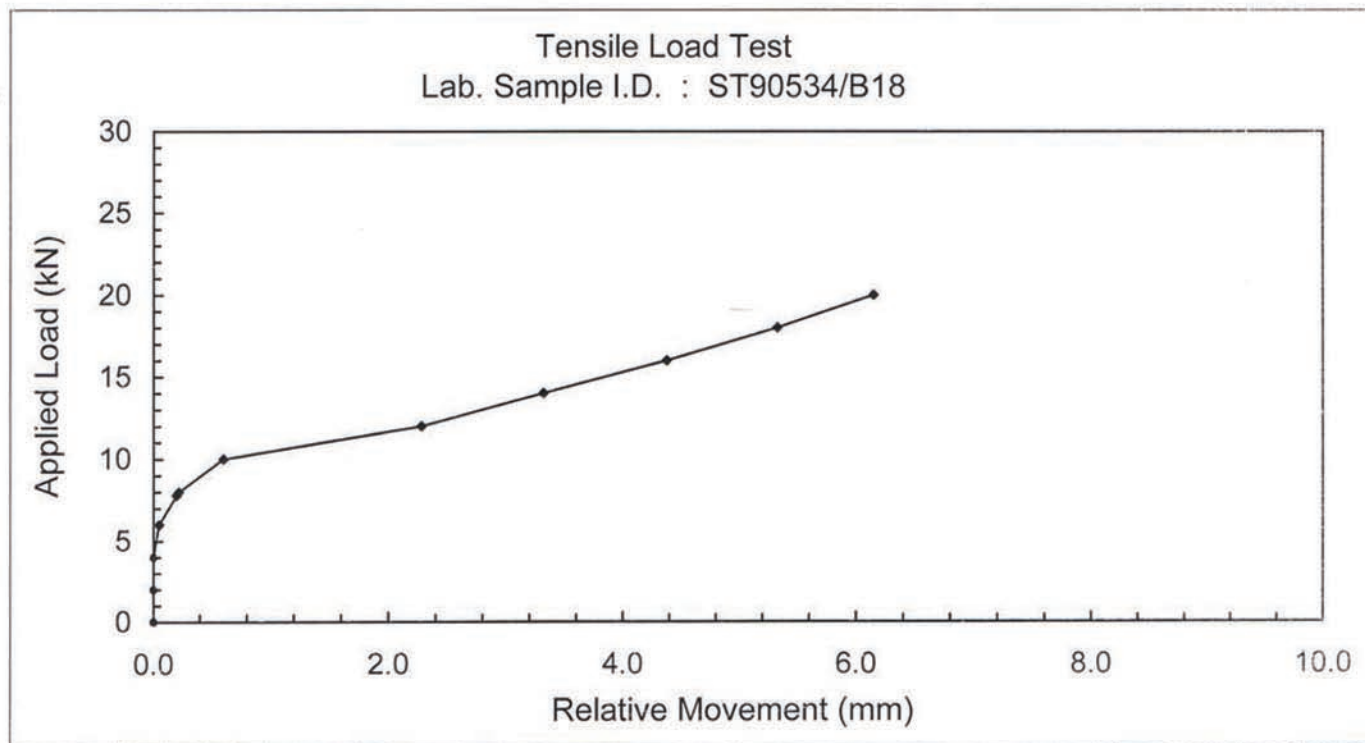
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B18

Date Tested : 11 January 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	2.28
2.0	0	14.0	3.32
4.0	0	16.0	4.38
6.0	0.05	18.0	5.33
7.8	0.20	20.0	6.15
8.0	0.22	21.3	--
10.0	0.60		



Observation: Failure of concrete was noted at the applied load of 21.3 kN.

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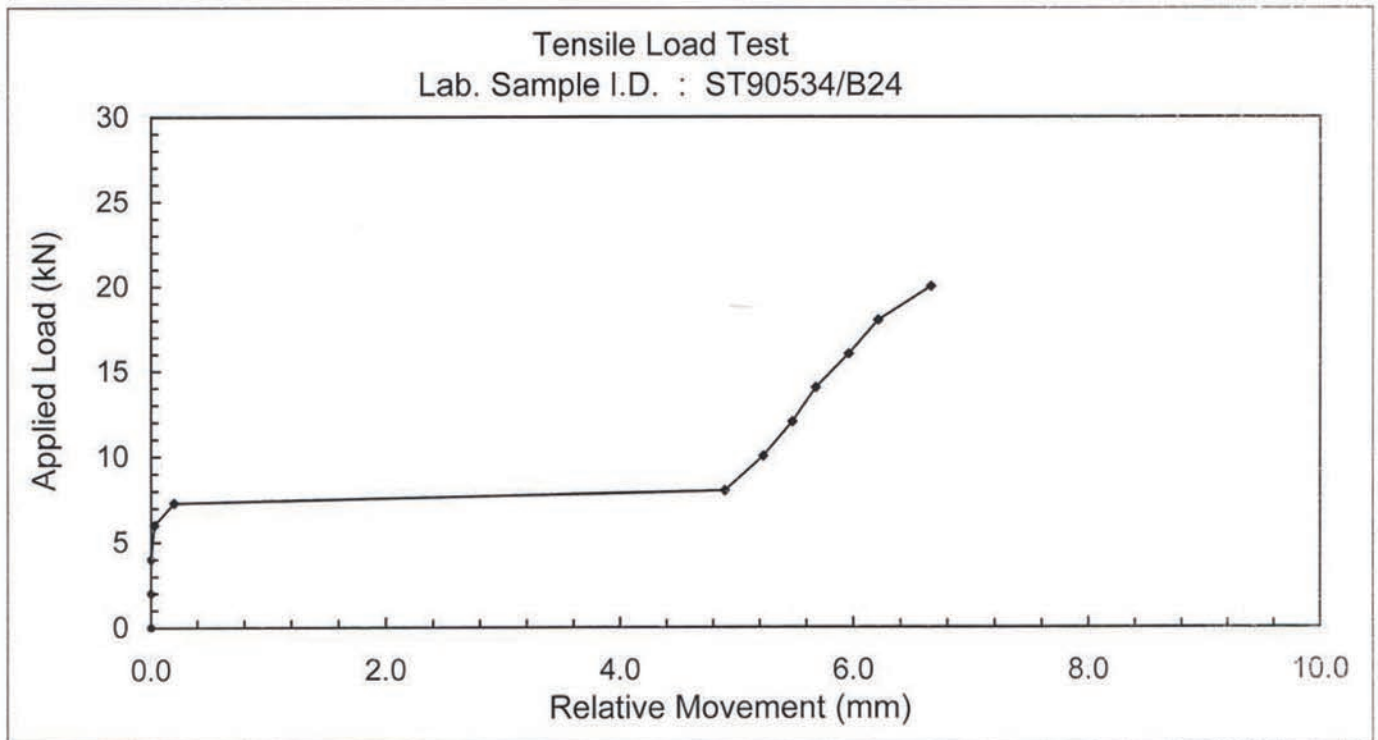
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B24

Date Tested : 12 January 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	5.48
2.0	0	14.0	5.68
4.0	0	16.0	5.96
6.0	0.03	18.0	6.21
7.3	0.20	20.0	6.66
8.0	4.90	20.2	--
10.0	5.23		



Observation: Failure of concrete was noted at the applied load of 20.2 kN.

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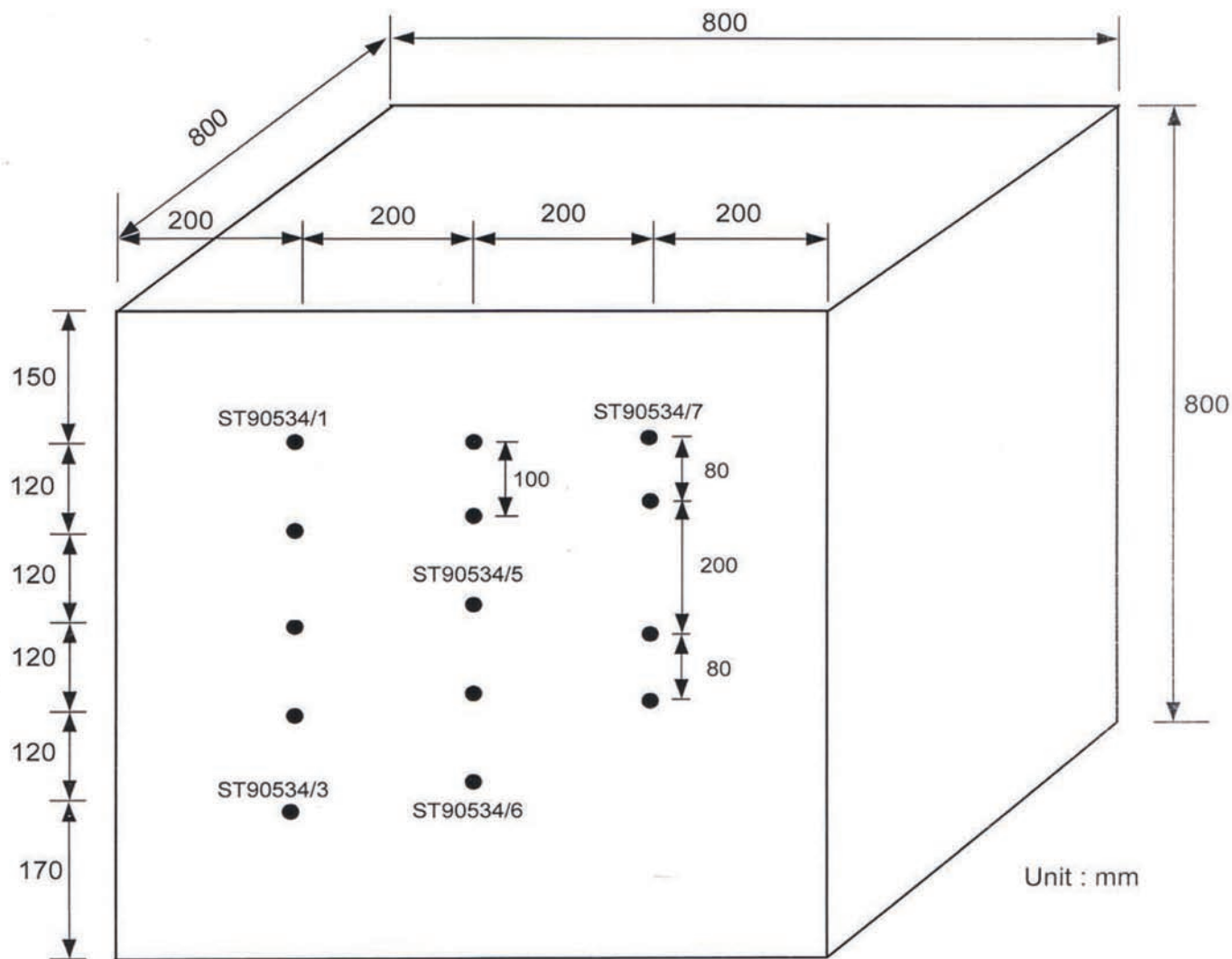
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4.0 Diagram



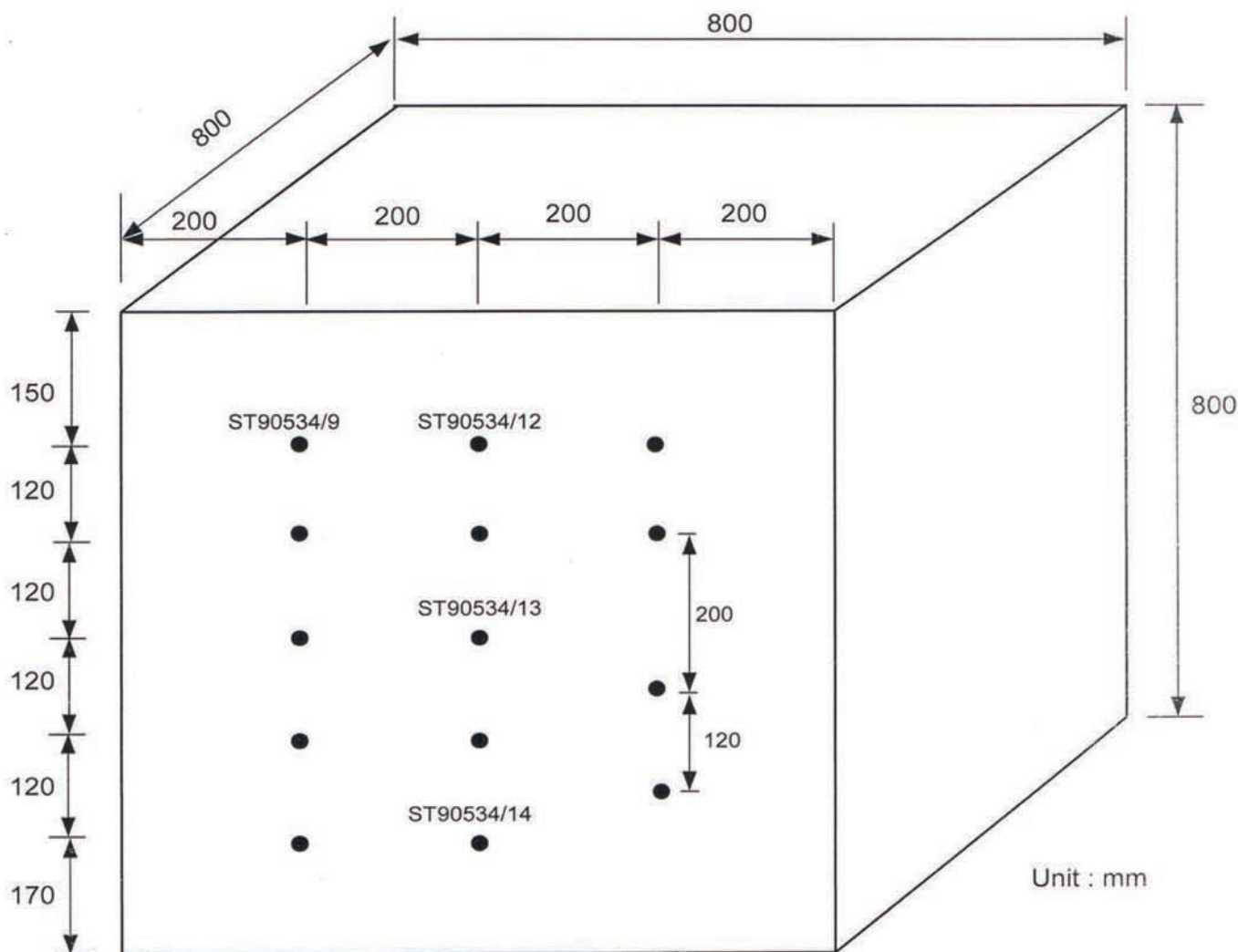
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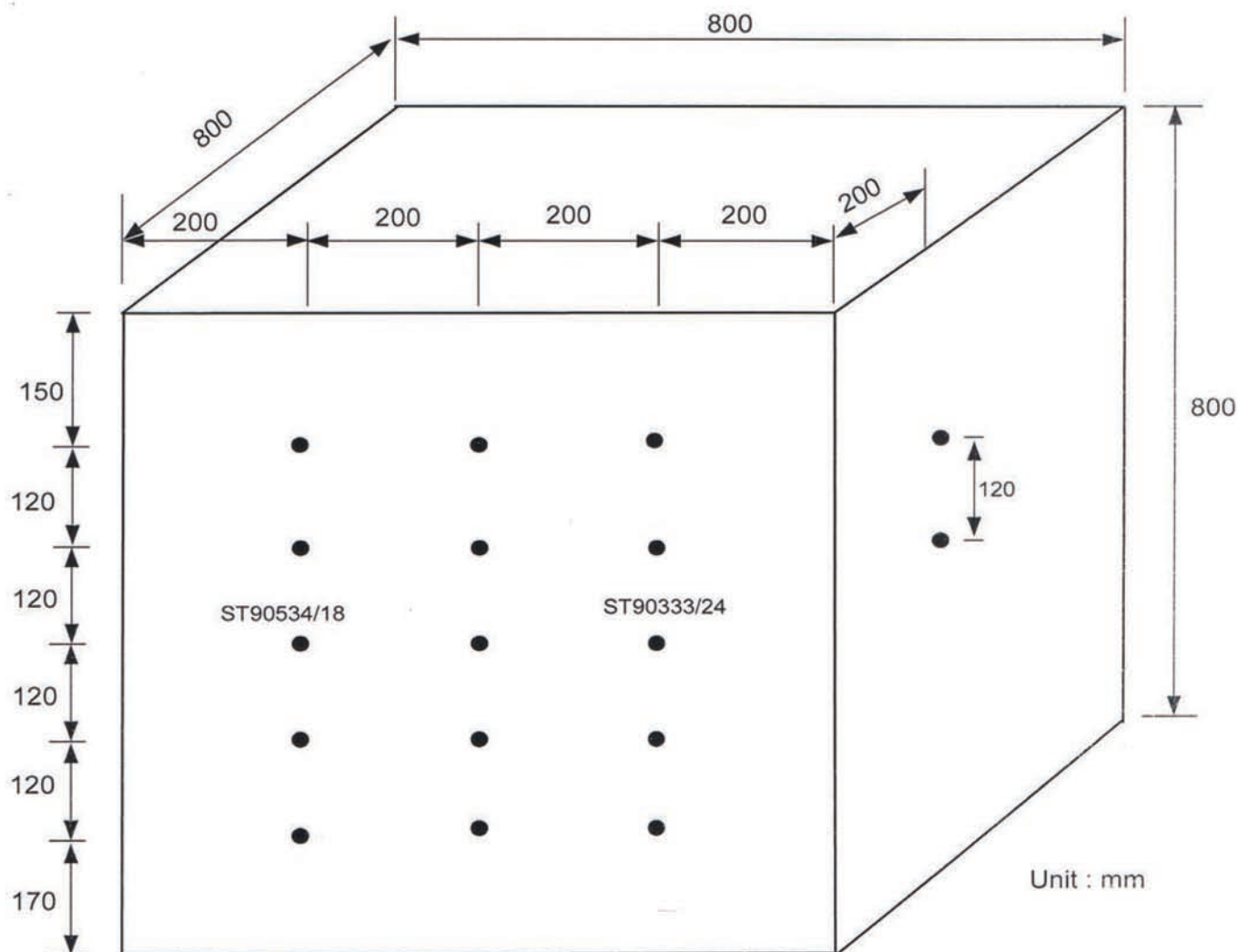
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5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materialab.com.hk

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MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
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5.0 Record Photographs



Test Configuration
Sample I.D. : ST90534/B1-B25



After Test
Sample I.D. : ST90534/B1

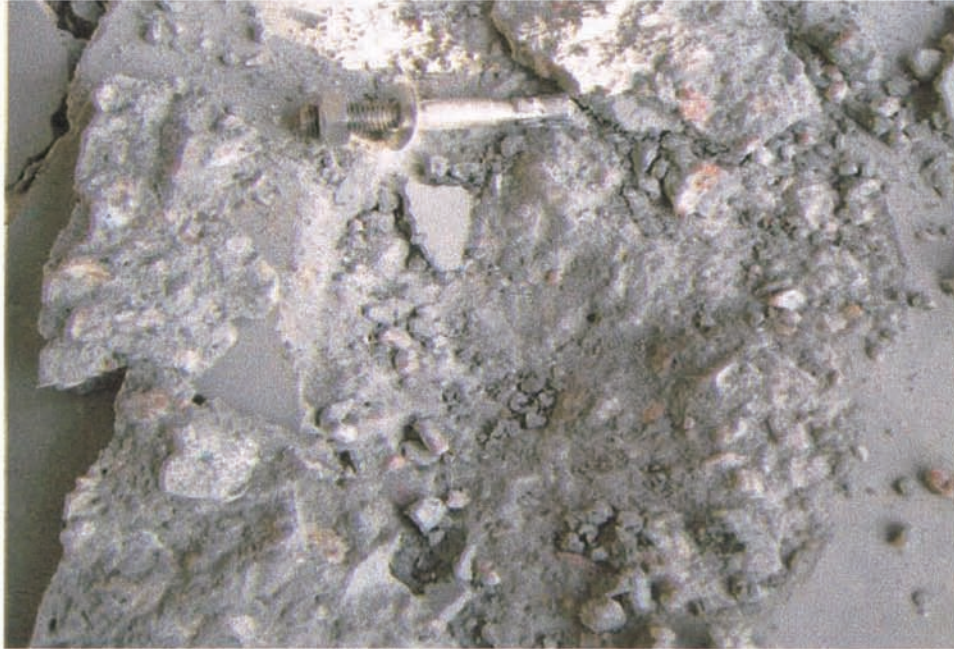
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MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
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After Test
Sample I.D. : ST90534/B3



After Test
Sample I.D. : ST90534/B5

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Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

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After Test
Sample I.D. : ST90534/B6



After Test
Sample I.D. : ST90534/B7

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Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

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After Test
Sample I.D. : ST90534/B8



After Test
Sample I.D. : ST90534/B9

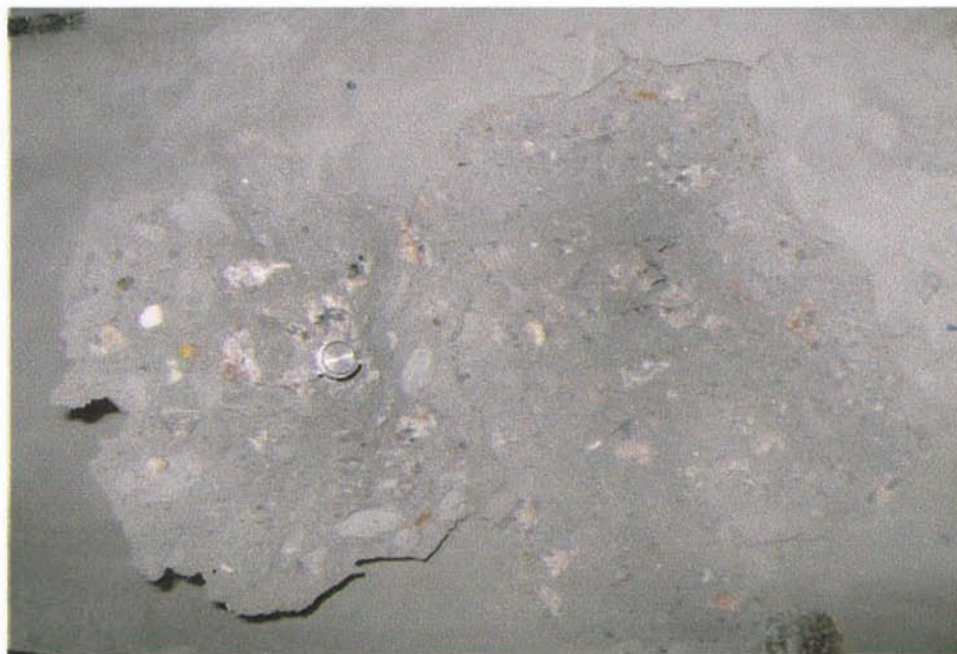
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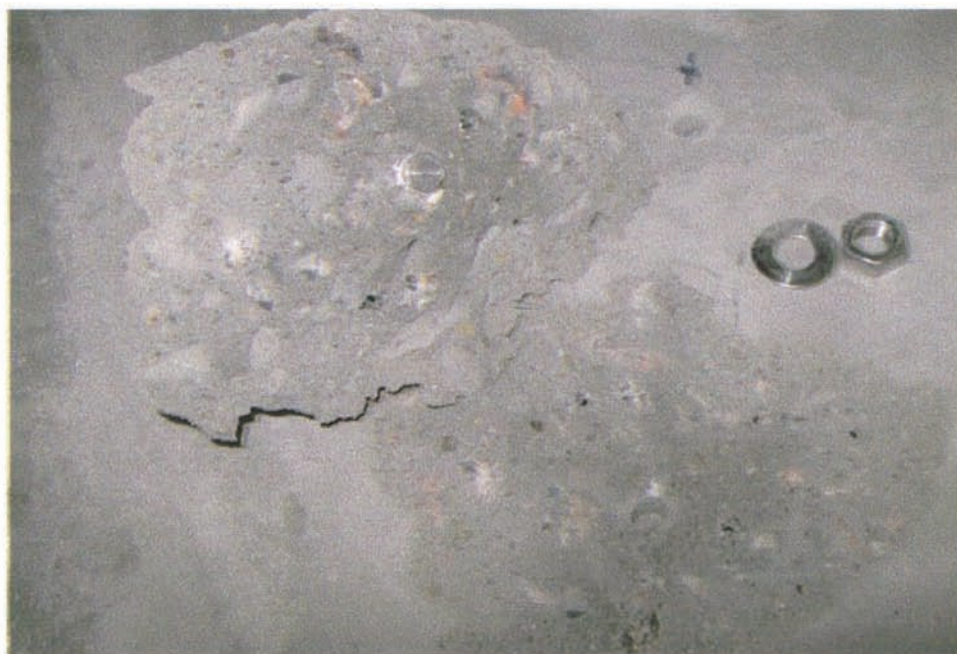
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E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

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After Test
Sample I.D. : ST90534/B12



After Test
Sample I.D. : ST90534/B13

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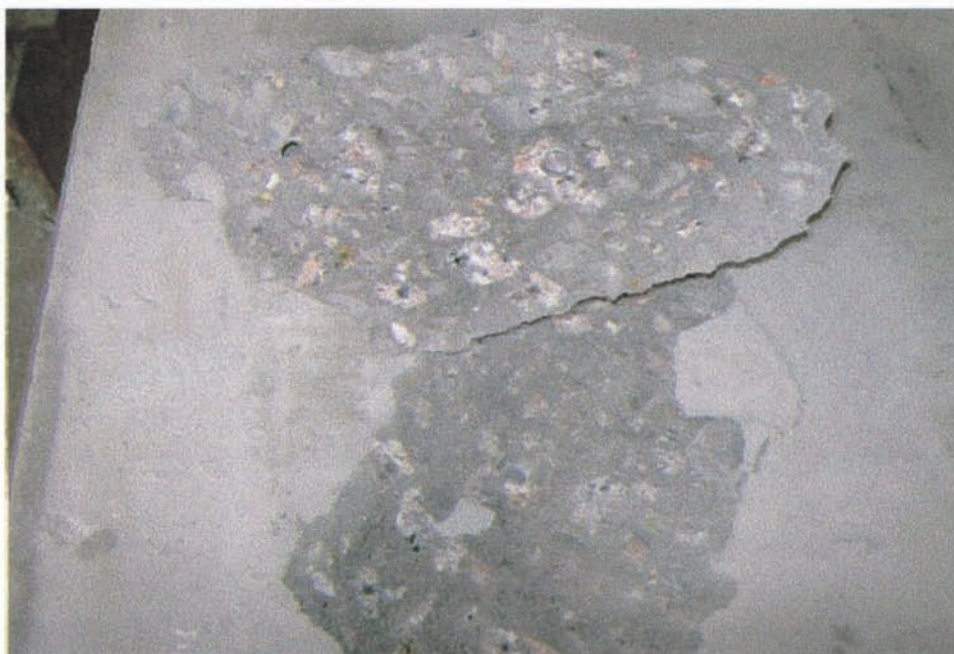
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Fax : +852-2450 6138
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After Test
Sample I.D. : ST90534/B14



After Test
Sample I.D. : ST90534/B18

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5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

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Report No. : 092660ST90534



After Test
Sample I.D. : ST90534/B24

REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Client : Sunway Metal Manufactory Limited

Project : Testing of Anchor Bolt SW-E10

Client Ref : --

Report No. : 092660ST90534(2)

Date : 26 April 2010

CONTENTS

- 1.0 Sample Description
- 2.0 Summary of Test Results
- 3.0 Individual Results
- 4.0 Diagram
- 5.0 Record Photographs

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MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

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Report No. : 092660ST90534(2)

REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

1.0 Sample Description

1.1 Information Supplied by Client

Client : Sunway Metal Manufactory Limited
Project : Testing of Anchor Bolt SW-E10
Sample Description : SW-E10 Anchor Bolt
Client's Sample I.D. : --

For Expanding Anchor

Type of Drilled Employed : Rotary-Precussive
Location of the Fixings in the Base Specimen : (Please refer to the diagrams)
Embedded Length : 50 mm Minimum requirement of BS 5080
Predrilled Hole Diameter : 10 mm for distance of fixing from the edge : 150 mm
Bolt Diameter : 10 mm Minimum requirement of BS 5080
Hole Depth : 60 mm anchor spacing of fixing : 200 mm
Tightening Torque : 35 Nm Concrete Grade : 40 MPa

For Concrete

Mix Proportions : Not Provided
Location of Reinforcement : NIL
Type of reinforcement : NIL
Cast Unit Shape : Cube
Dimensions of Cast Unit : 800 x 800 x 800 mm
Date Cast : 19 October 2009

1.2 Laboratory Information

Location of Test : Kam Tin Laboratory of MaterialLab
Address of Test Location : DD111, Lot 3028, Wang Toi Shan Village, Pat Heung, Kam Tin, N.T.
Lab. Sample I.D. : ST90534/B26-B50
Date Received : 25 August 2009
Date Test Started : 14 January 2010
Date Test Completed : 08 February 2010
Span of Support : 300 mm
Test Method : BS 5080 : Part 1 : 1993
Loading Method : Increment Increasing

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Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

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Client Ref. : --

Report No. : 092660ST90534(2)

REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT**2.0 Summary of Test Results**

Lab. Sample I.D.	Applied Force at Relative Movement of 0.2mm (kN)	Ultimate Force (kN)
ST90534/B29	7.8	21.6
ST90534/B31	8.8	21.2
ST90534/B33	7.2	21.5
ST90534/B35	7.0	21.5
ST90534/B36	9.5	20.4
ST90534/B37	7.2	19.5
ST90534/B38	7.7	19.3
ST90534/B44	5.9	20.2
ST90534/B45	7.2	23.1
ST90534/B46	7.6	20.9
ST90534/B48	6.9	21.4
ST90534/B49	8.2	19.5
Mean	7.6	20.8
Standard Deviation	0.9	1.1

Remark : The test results relate only to the samples tested.

Checked by :  Date : 26/4/2010 Certified by :  Date : 26.4.2010

Chan Chun Wai Ivan
Manager (Product Testing Laboratory)

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MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

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Fax : +852-2450 6138
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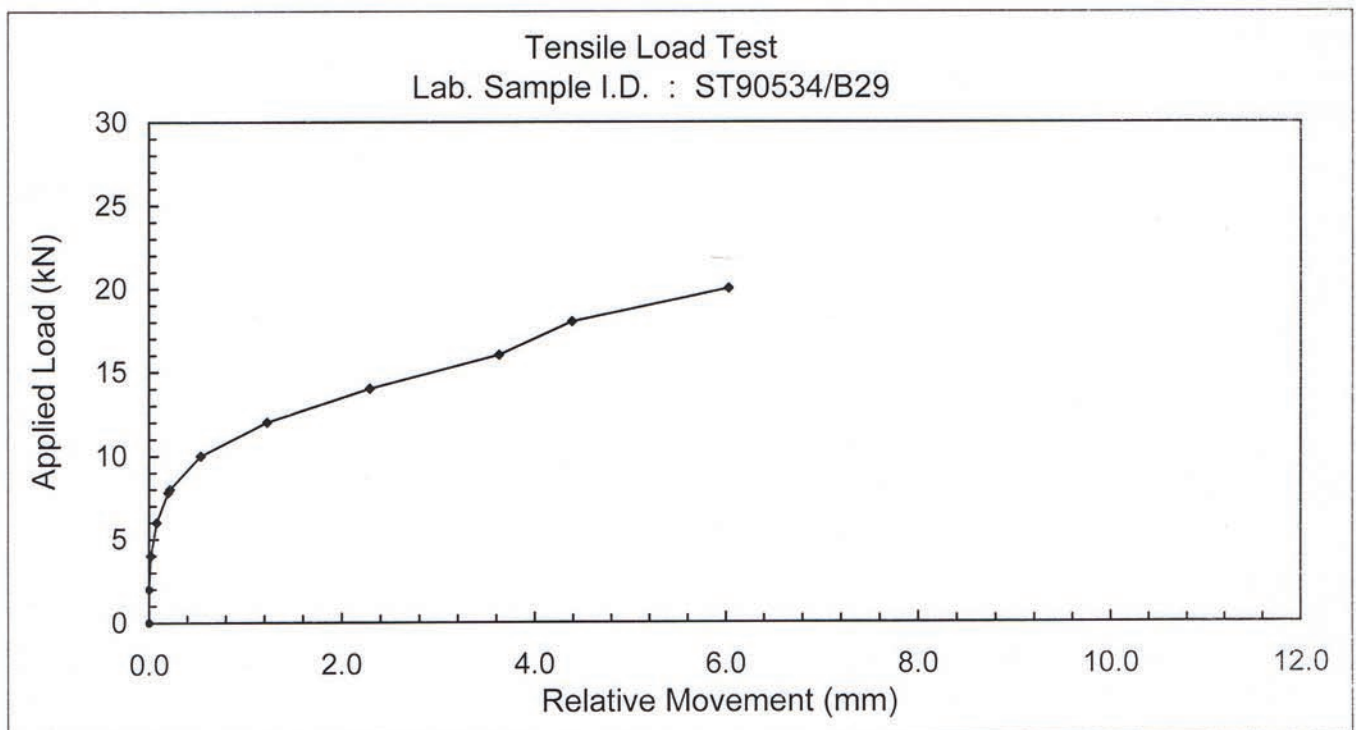
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Report No. : 092660ST90534(2)

REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B29

Date Tested : 14 January 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	1.23
2.0	0	14.0	2.29
4.0	0.02	16.0	3.63
6.0	0.08	18.0	4.39
7.8	0.20	20.0	6.03
8.0	0.22	21.6	--
10.0	0.54		



Observation: Failure of concrete was noted at the applied load of 21.6 kN.

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MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

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Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
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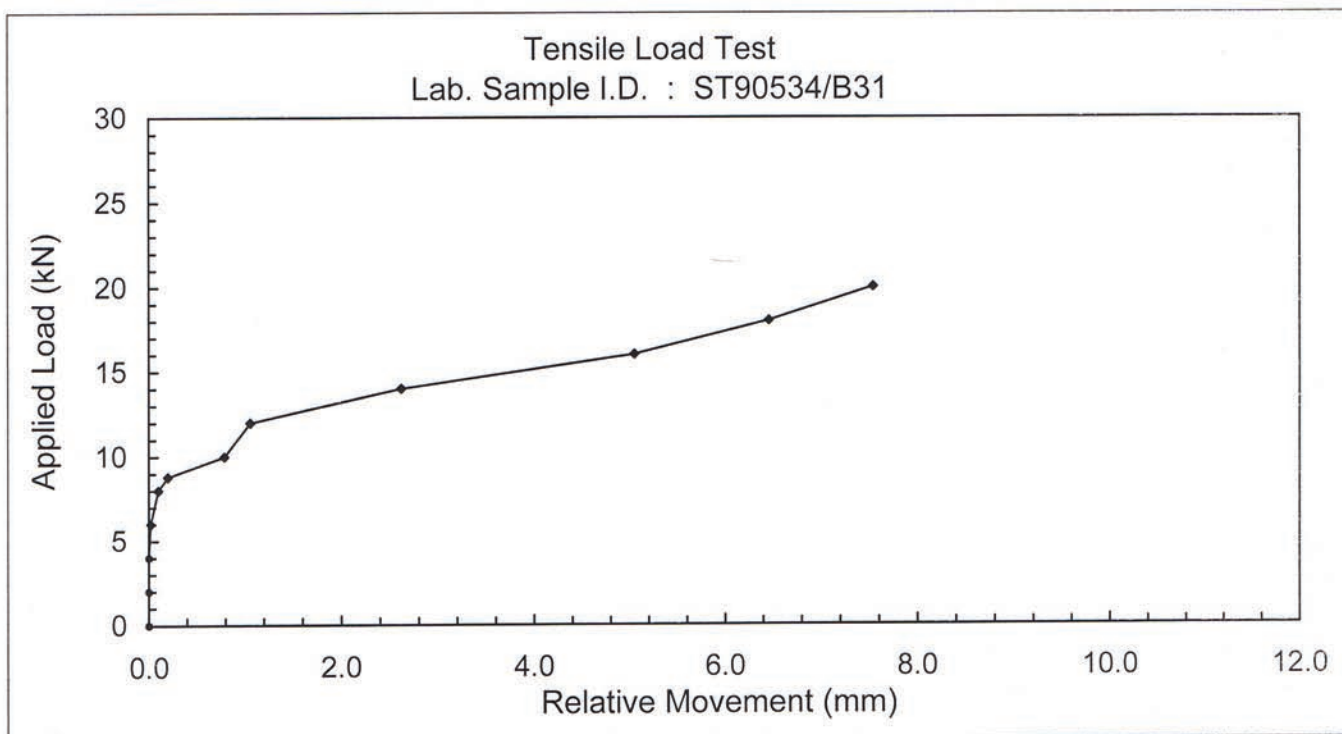
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Report No. : 092660ST90534(2)

REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B31

Date Tested : 14 January 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	1.06
2.0	0	14.0	2.62
4.0	0	16.0	5.05
6.0	0.02	18.0	6.46
8.0	0.10	20.0	7.54
8.8	0.20	21.2	--
10.0	0.79		



Observation: Failure of concrete was noted at the applied load of 21.2 kN.

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MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

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E-mail : matlab@fugro.com.hk
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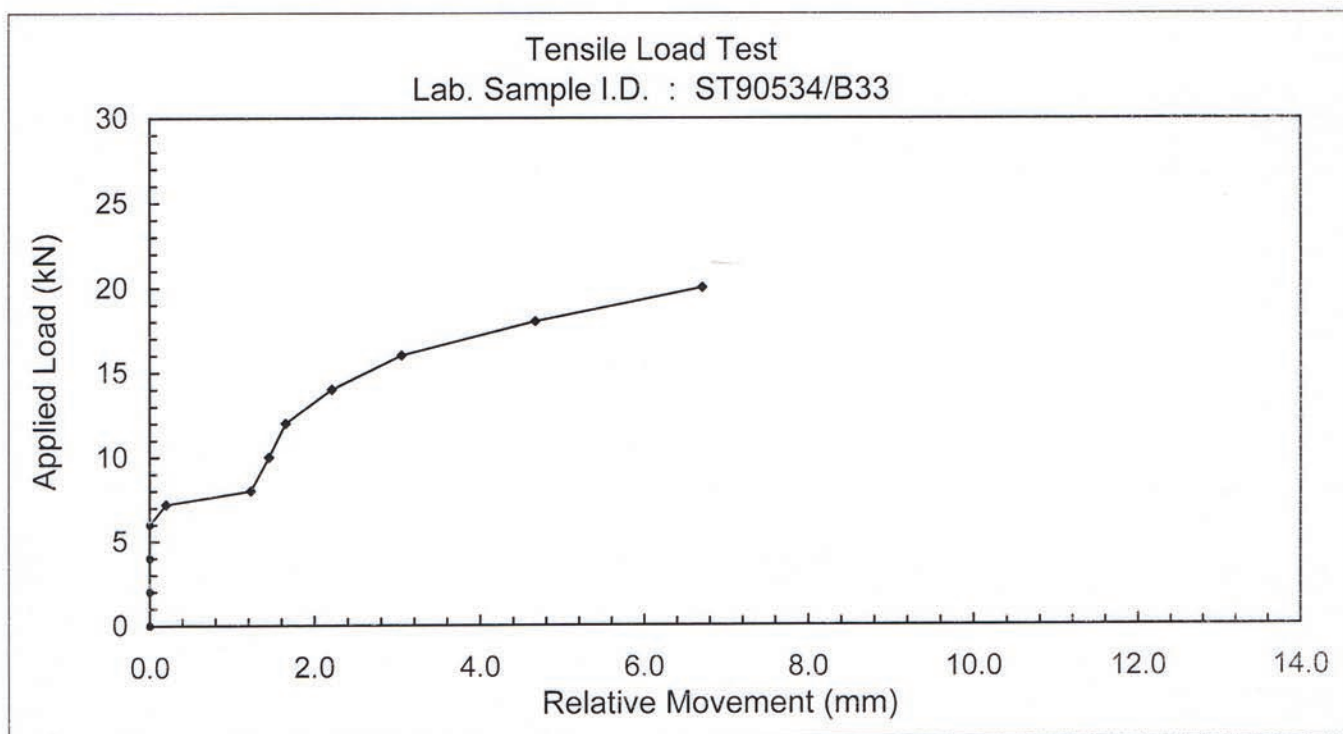
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B33

Date Tested : 14 January 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	1.65
2.0	0	14.0	2.21
4.0	0	16.0	3.05
6.0	0	18.0	4.67
7.2	0.20	20.0	6.71
8.0	1.23	21.5	--
10.0	1.45		



Observation: Failure of concrete was noted at the applied load of 21.5 kN.

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MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

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Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

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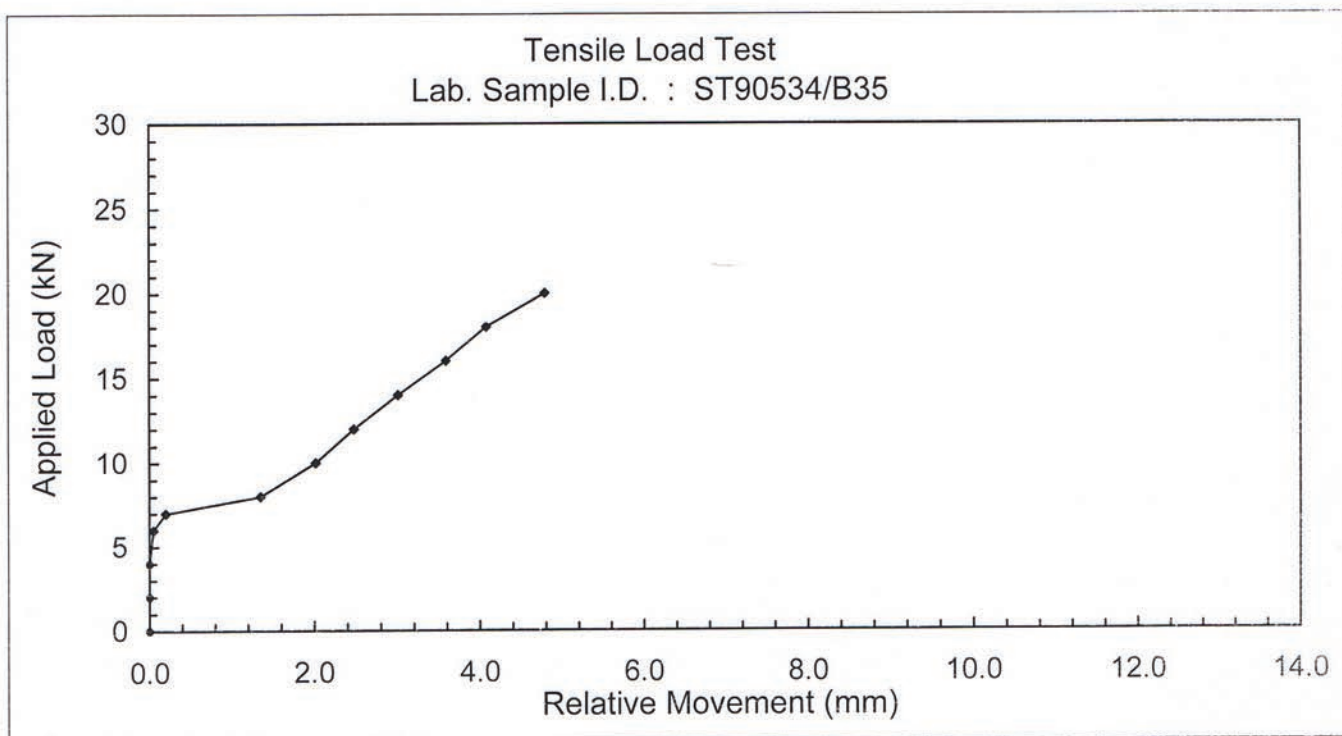
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B35

Date Tested : 14 January 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	2.48
2.0	0	14.0	3.01
4.0	0	16.0	3.59
6.0	0.05	18.0	4.08
7.0	0.20	20.0	4.79
8.0	1.35	21.5	--
10.0	2.02		



Observation: Failure of concrete was noted at the applied load of 21.5 kN.

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MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

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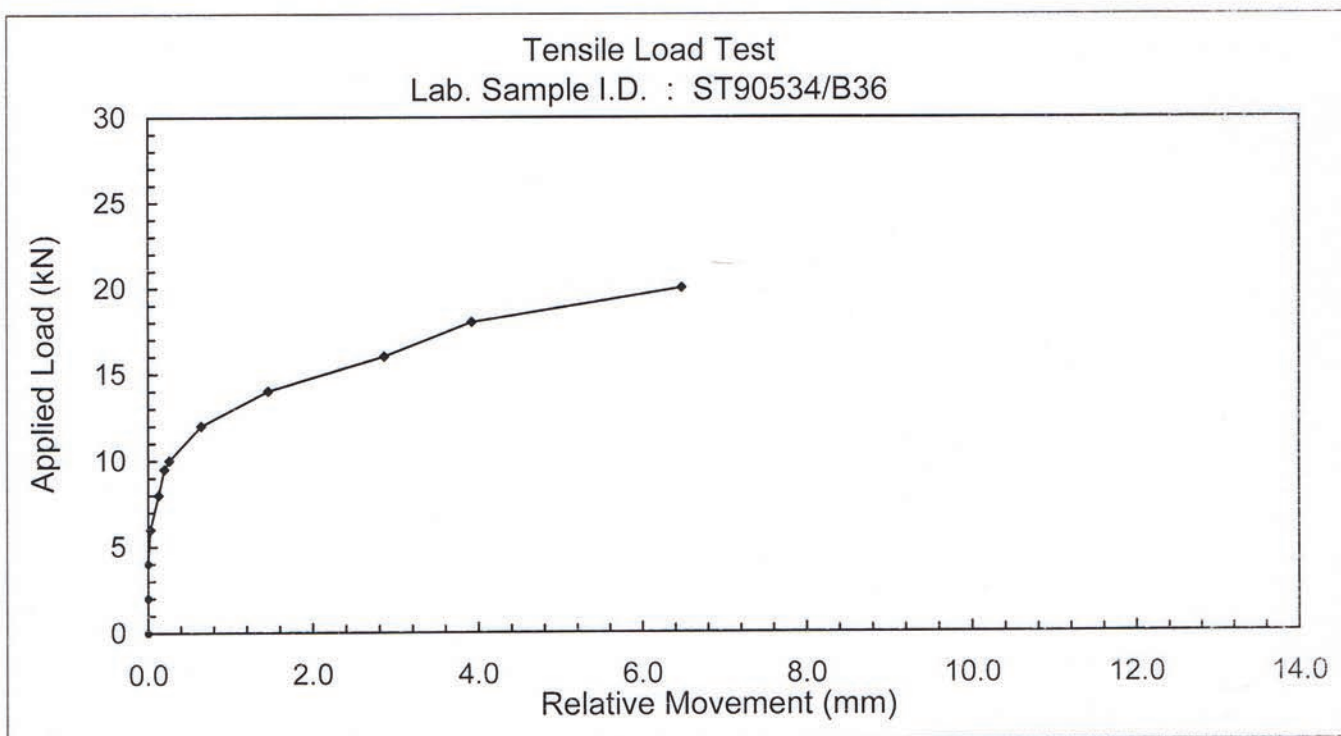
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B36

Date Tested : 18 January 2010
Date Cast : 24 October 2009

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	0.65
2.0	0	14.0	1.46
4.0	0	16.0	2.86
6.0	0.03	18.0	3.92
8.0	0.13	20.0	6.48
9.5	0.20	20.4	--
10.0	0.26		



Observation: Failure of concrete was noted at the applied load of 20.4 kN.

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MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
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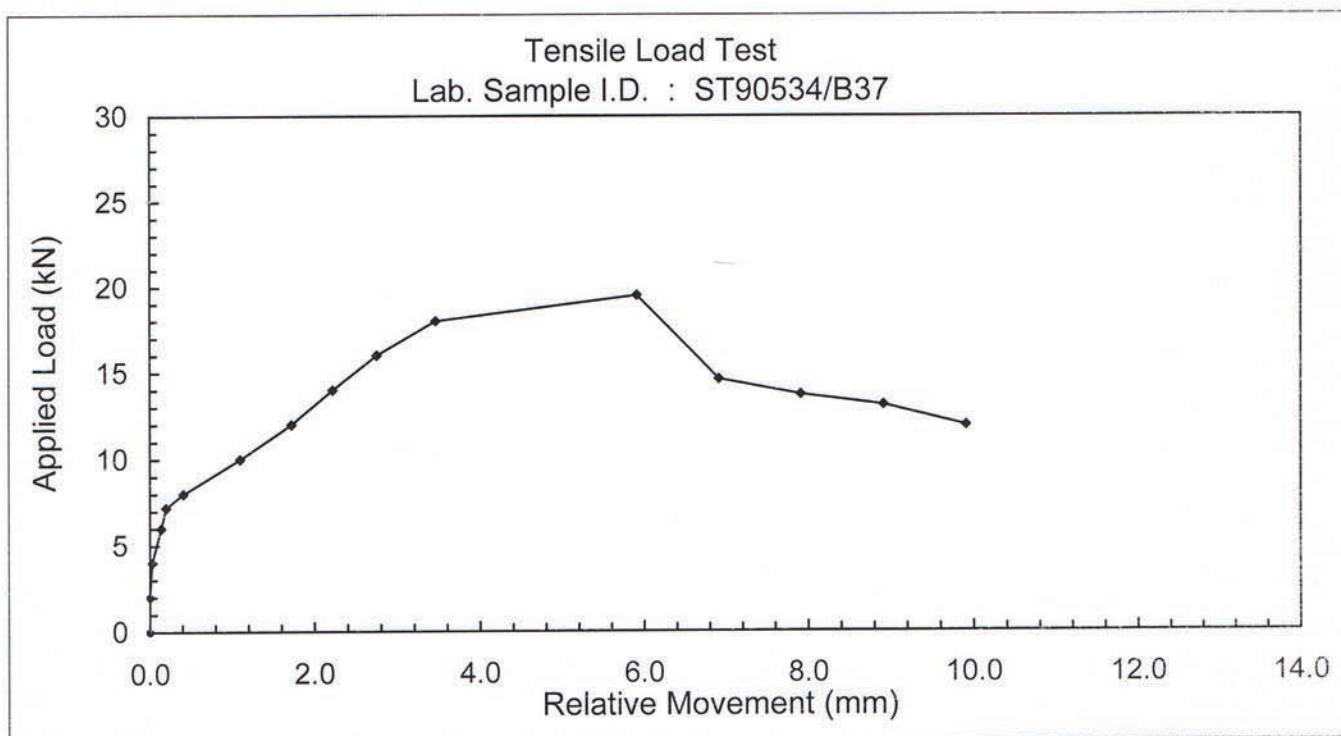
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B37

Date Tested : 18 January 2010
Date Cast : 24 October 2009

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	14.0	2.22
2.0	0	16.0	2.75
4.0	0.03	18.0	3.46
6.0	0.14	19.5	5.91
7.2	0.20	14.6	6.91
8.0	0.41	13.7	7.91
10.0	1.10	13.1	8.91
12.0	1.72	11.9	9.91



Observation: Slip of anchor bolt was noted at the applied load of 19.5 kN.

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MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
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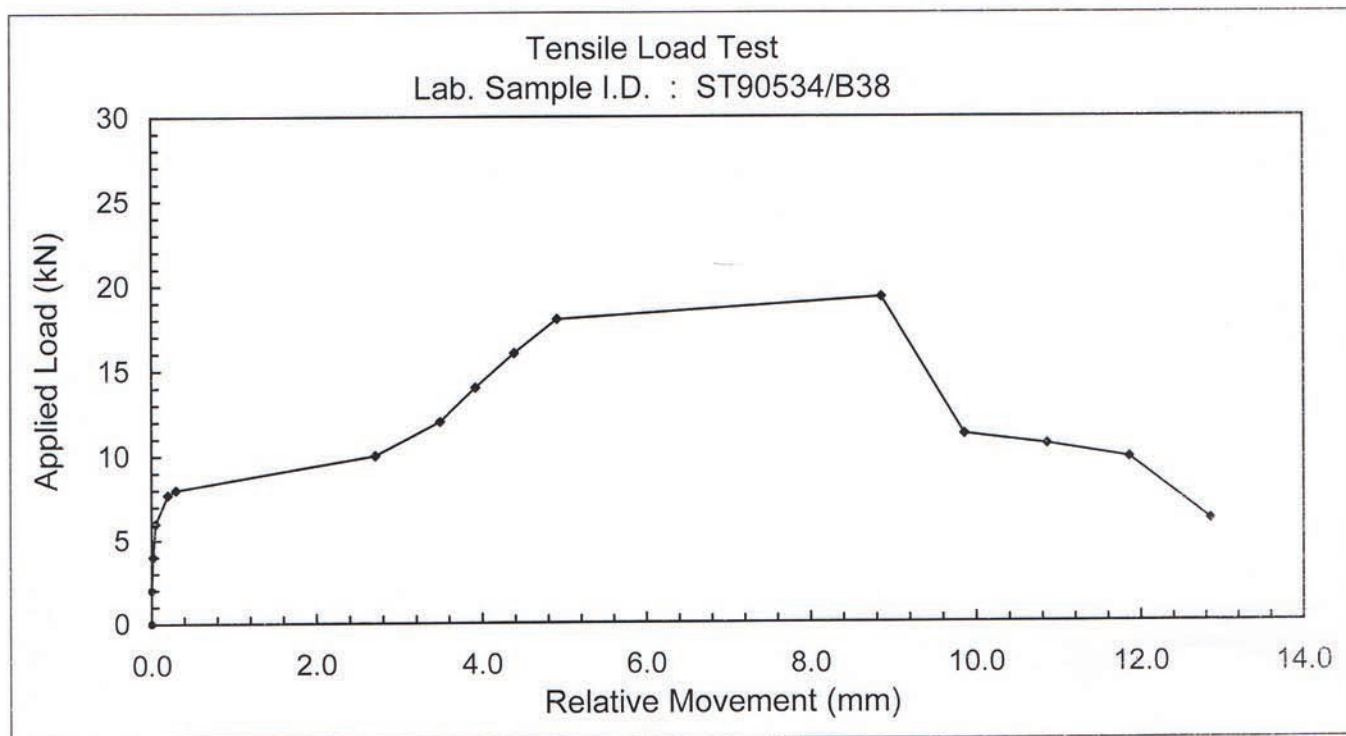
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B38

Date Tested : 18 January 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	14.0	3.92
2.0	0	16.0	4.39
4.0	0.02	18.0	4.91
6.0	0.05	19.3	8.86
7.7	0.20	11.2	9.86
8.0	0.30	10.6	10.86
10.0	2.71	9.8	11.86
12.0	3.49	6.1	12.86



Observation: Slip of anchor bolt was noted at the applied load of 19.3 kN.

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MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

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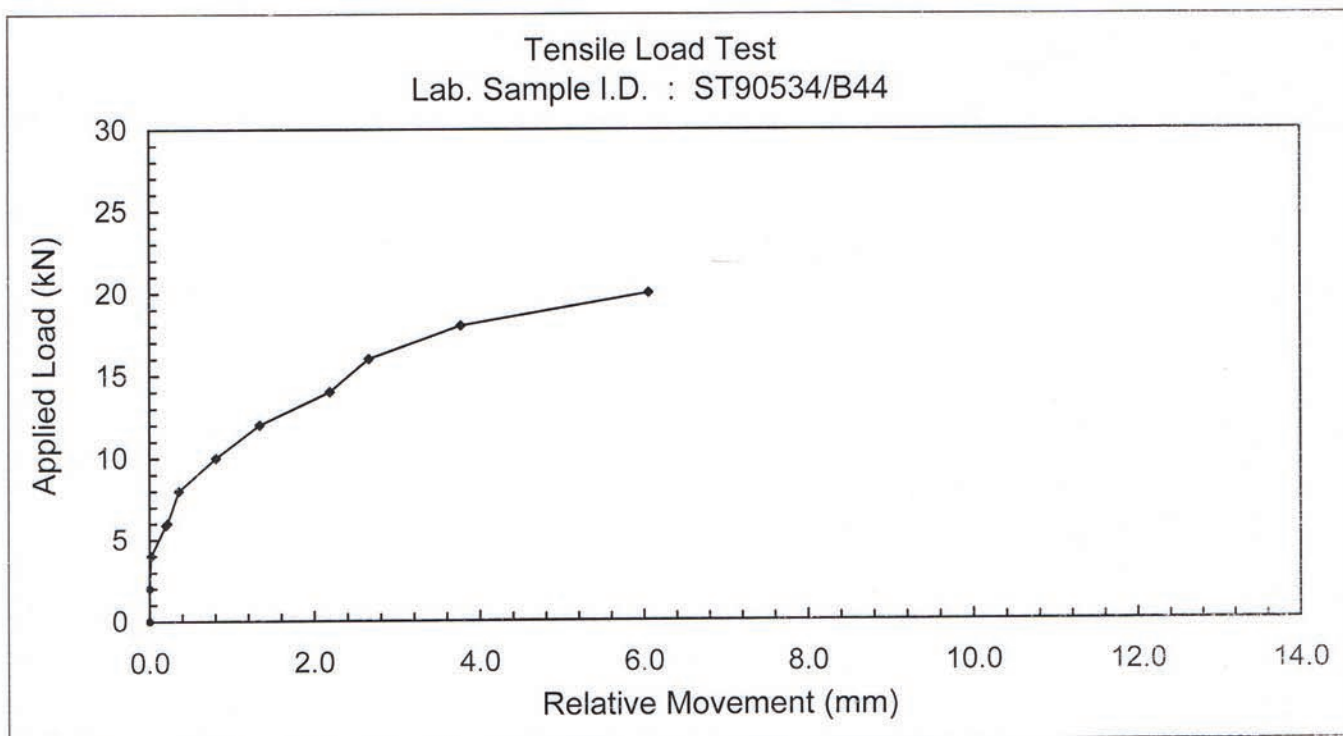
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B44

Date Tested : 23 January 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	1.34
2.0	0	14.0	2.19
4.0	0.02	16.0	2.66
5.9	0.20	18.0	3.77
6.0	0.22	20.0	6.06
8.0	0.36	20.2	--
10.0	0.81		



Observation: Failure of concrete was noted at the applied load of 20.2 kN.

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MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
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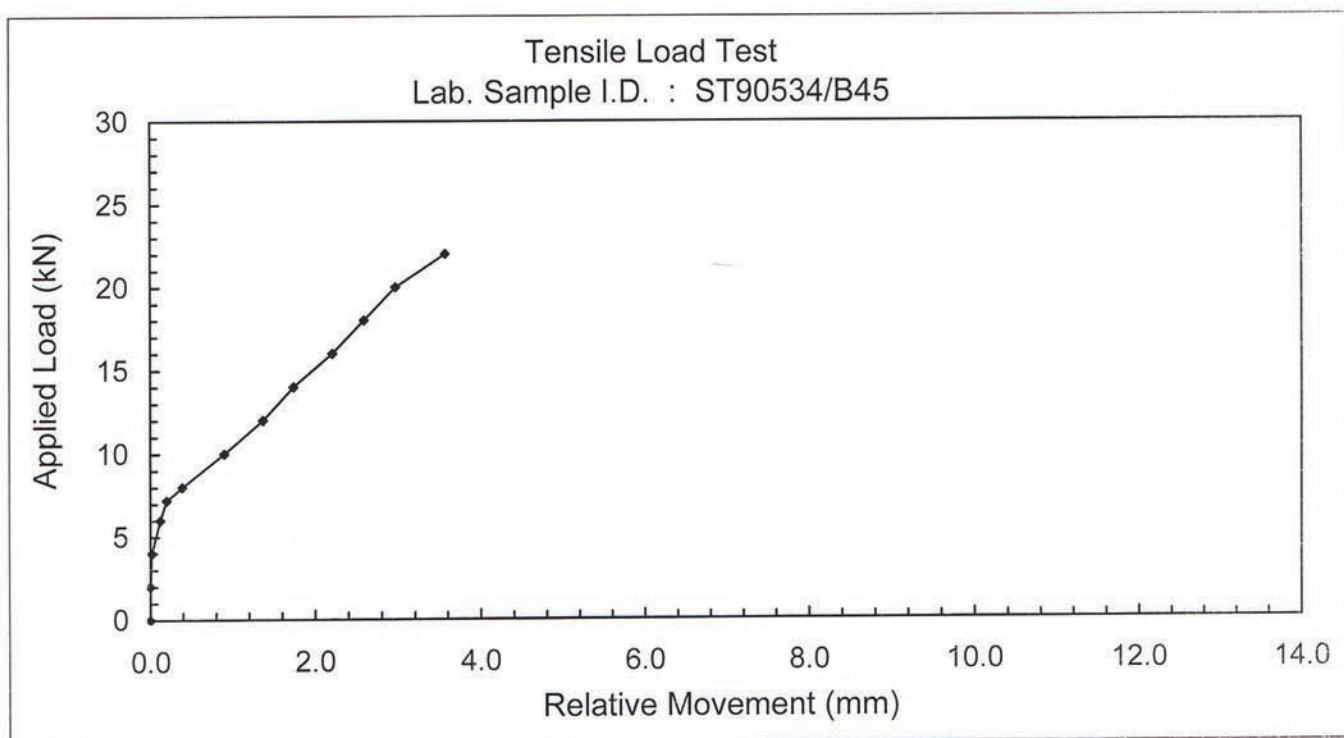
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REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B45

Date Tested : 23 January 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	1.37
2.0	0	14.0	1.74
4.0	0.02	16.0	2.21
6.0	0.12	18.0	2.59
7.2	0.20	20.0	2.97
8.0	0.39	22.0	3.57
10.0	0.90	23.1	--



Observation: Failure of concrete was noted at the applied load of 23.1 kN.

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MaterialLab Division,
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5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

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Fax : +852-2450 6138
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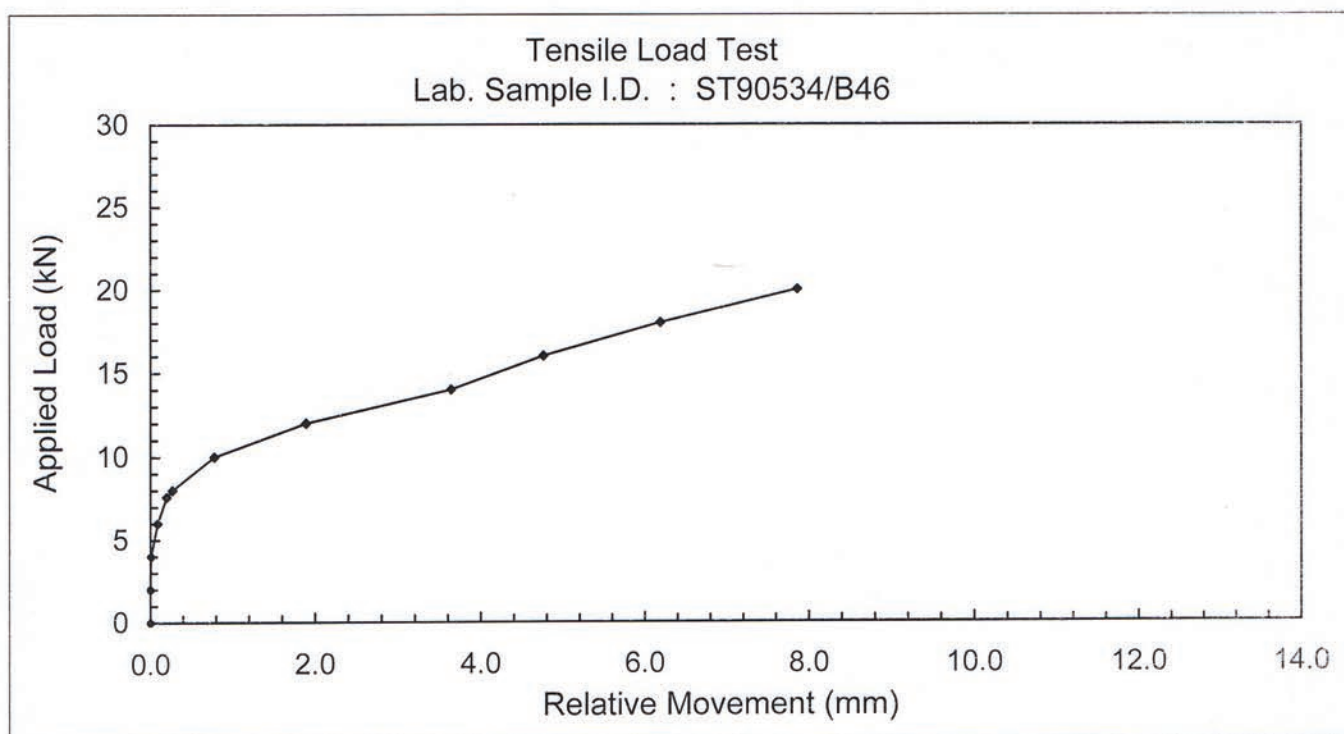
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Report No. : 092660ST90534(2)

REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B46

Date Tested : 08 February 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	1.89
2.0	0	14.0	3.64
4.0	0.01	16.0	4.76
6.0	0.09	18.0	6.19
7.6	0.20	20.0	7.86
8.0	0.27	20.9	--
10.0	0.78		



Observation: Failure of concrete was noted at the applied load of 20.9 kN.

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MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
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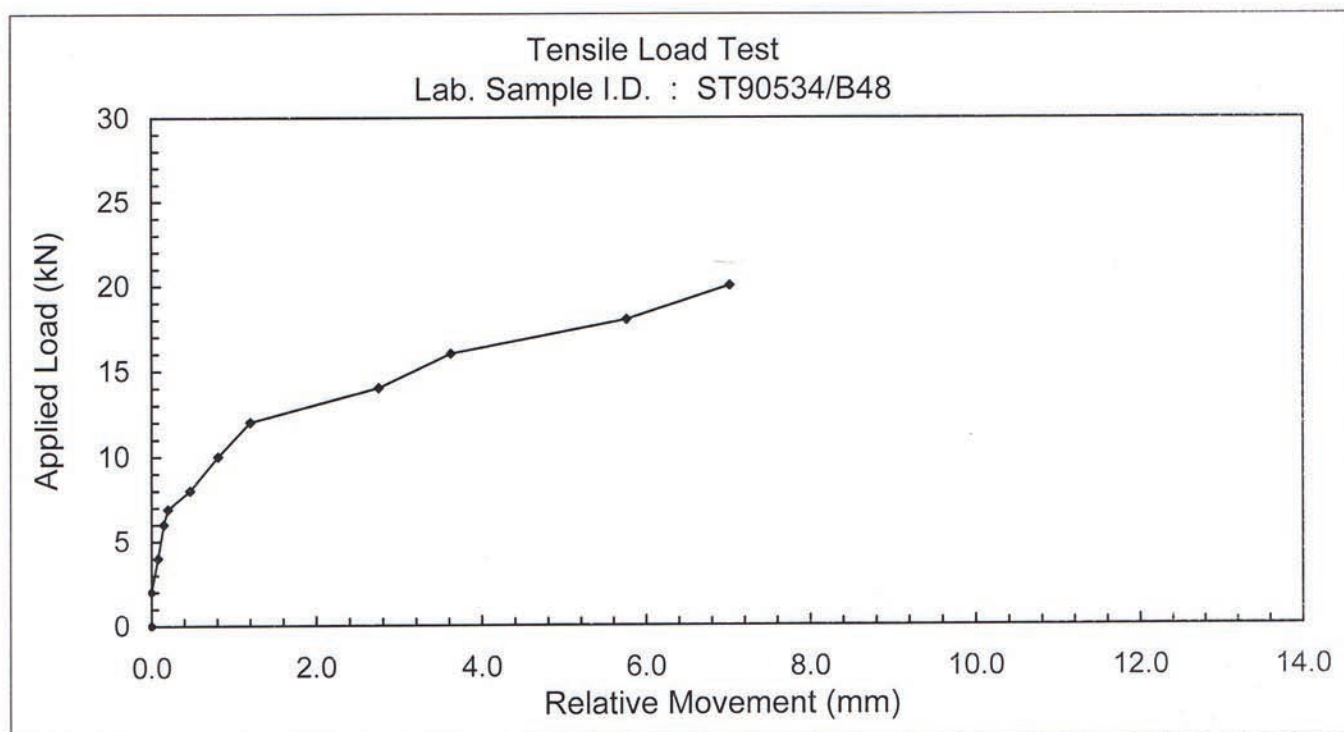
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Report No. : 092660ST90534(2)

REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B48

Date Tested : 04 February 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	12.0	1.20
2.0	0	14.0	2.75
4.0	0.08	16.0	3.62
6.0	0.15	18.0	5.76
6.9	0.20	20.0	7.02
8.0	0.47	21.4	--
10.0	0.81		



Observation: Failure of concrete was noted at the applied load of 21.4 kN.

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Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
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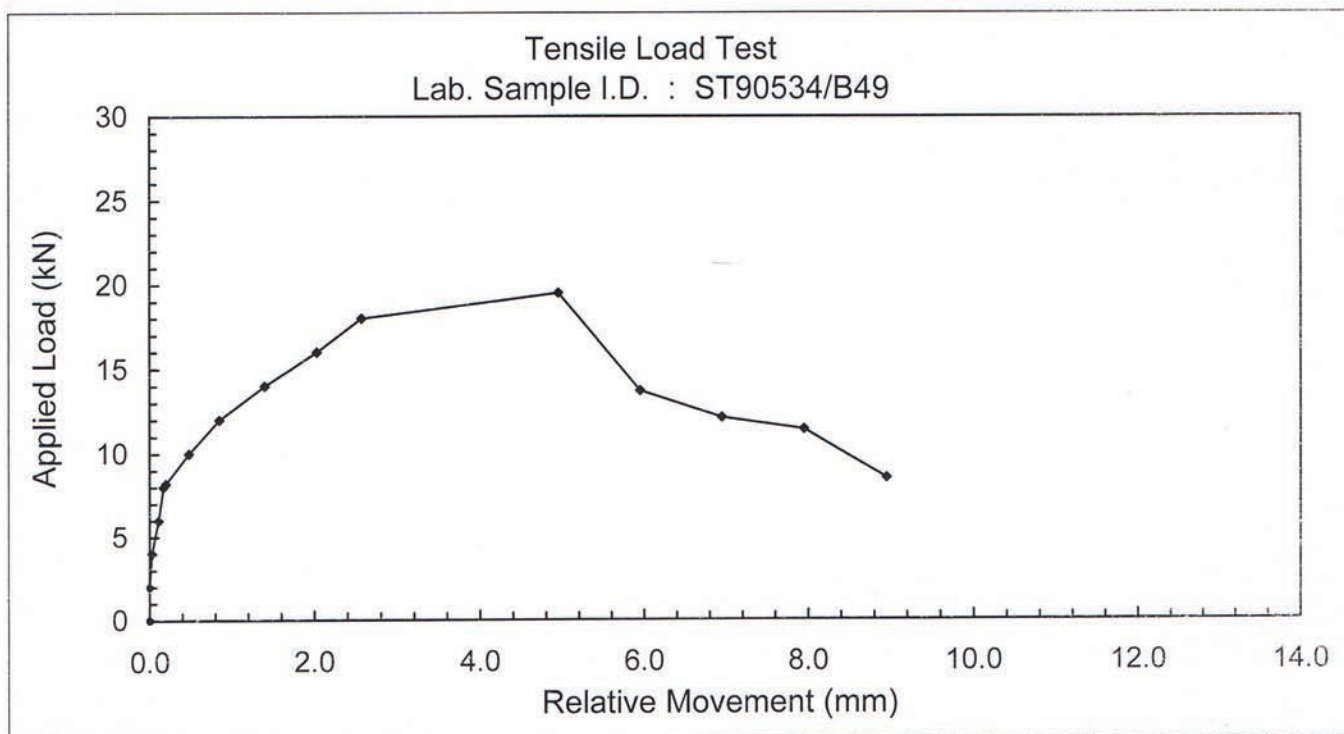
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Report No. : 092660ST90534(2)

REPORT ON THE TENSILE LOAD TEST OF ANCHOR BOLT

Lab. Sample I.D. : ST90534/B49

Date Tested : 04 February 2010

Applied Load (kN)	Relative Movement (mm)	Applied Load (kN)	Relative Movement (mm)
0	0	14.0	1.40
2.0	0	16.0	2.03
4.0	0.03	18.0	2.57
6.0	0.11	19.5	4.95
8.0	0.17	13.7	5.95
8.2	0.20	12.1	6.95
10.0	0.48	11.4	7.95
12.0	0.85	8.5	8.95



Observation: Slip of anchor bolt was noted at the applied load of 19.5 kN.

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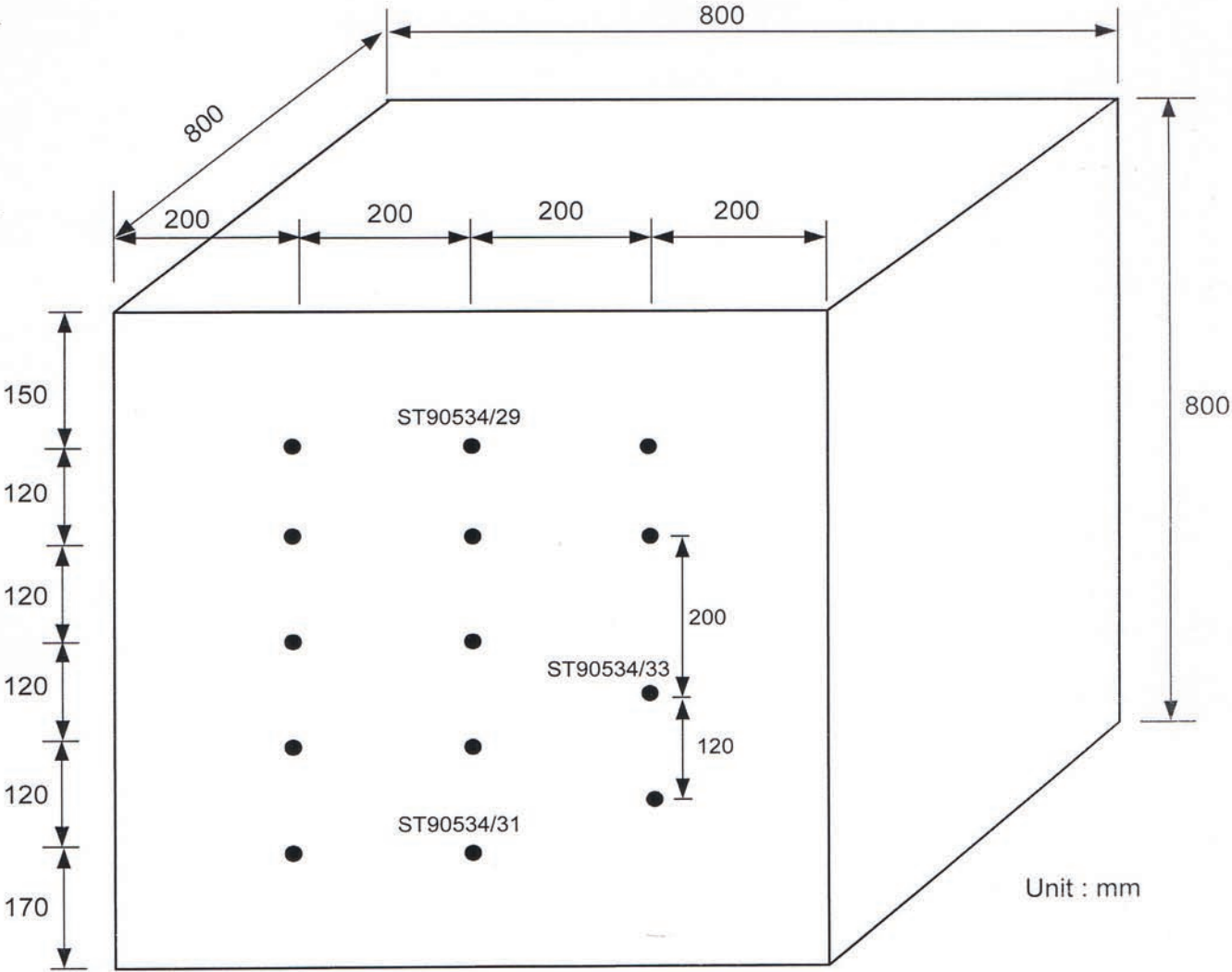
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Tai Lam, Tuen Mun, N.T., Hong Kong.

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Fax : +852-2450 6138
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4.0 Diagram



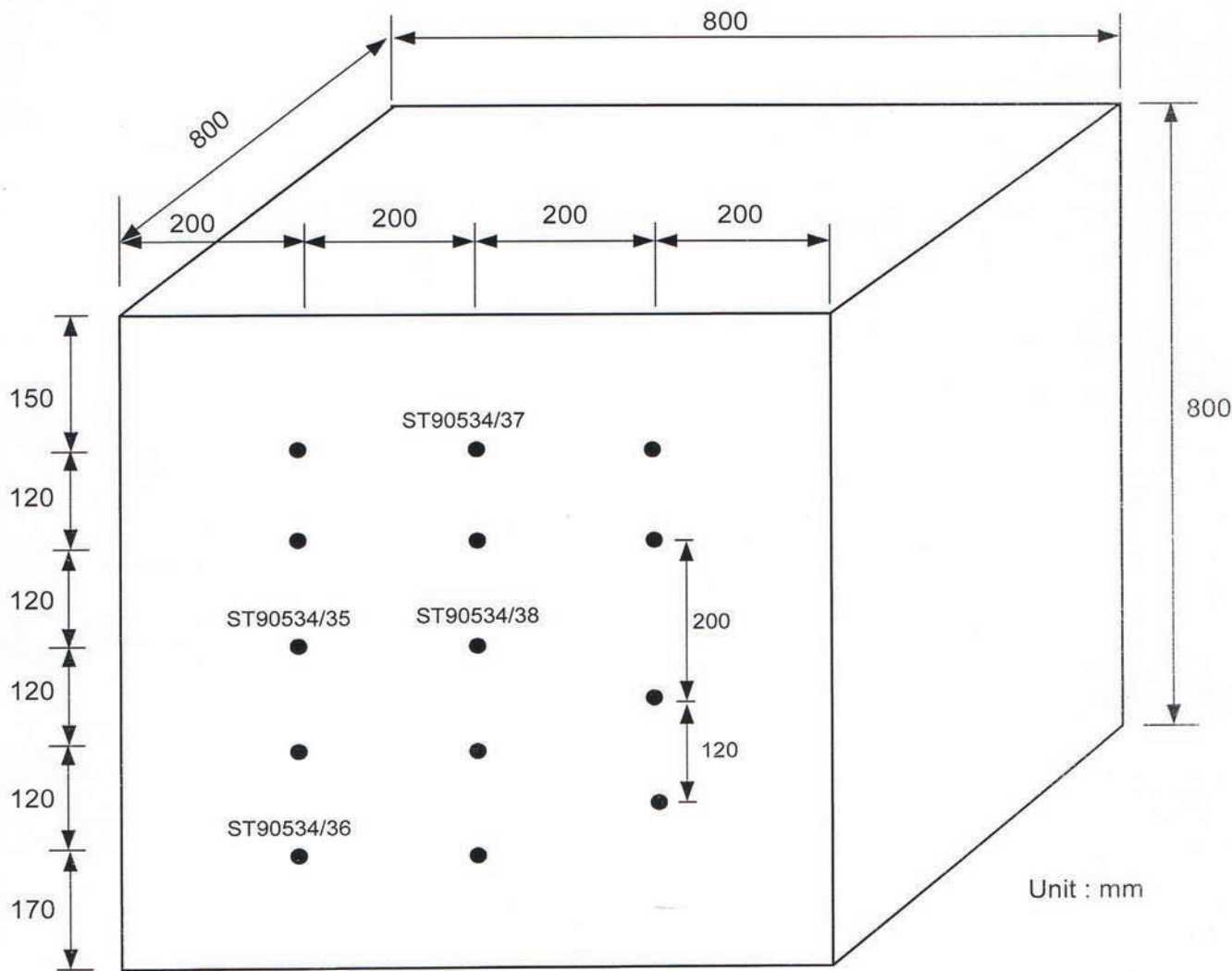
FUGRO TECHNICAL SERVICES LIMITED

MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk



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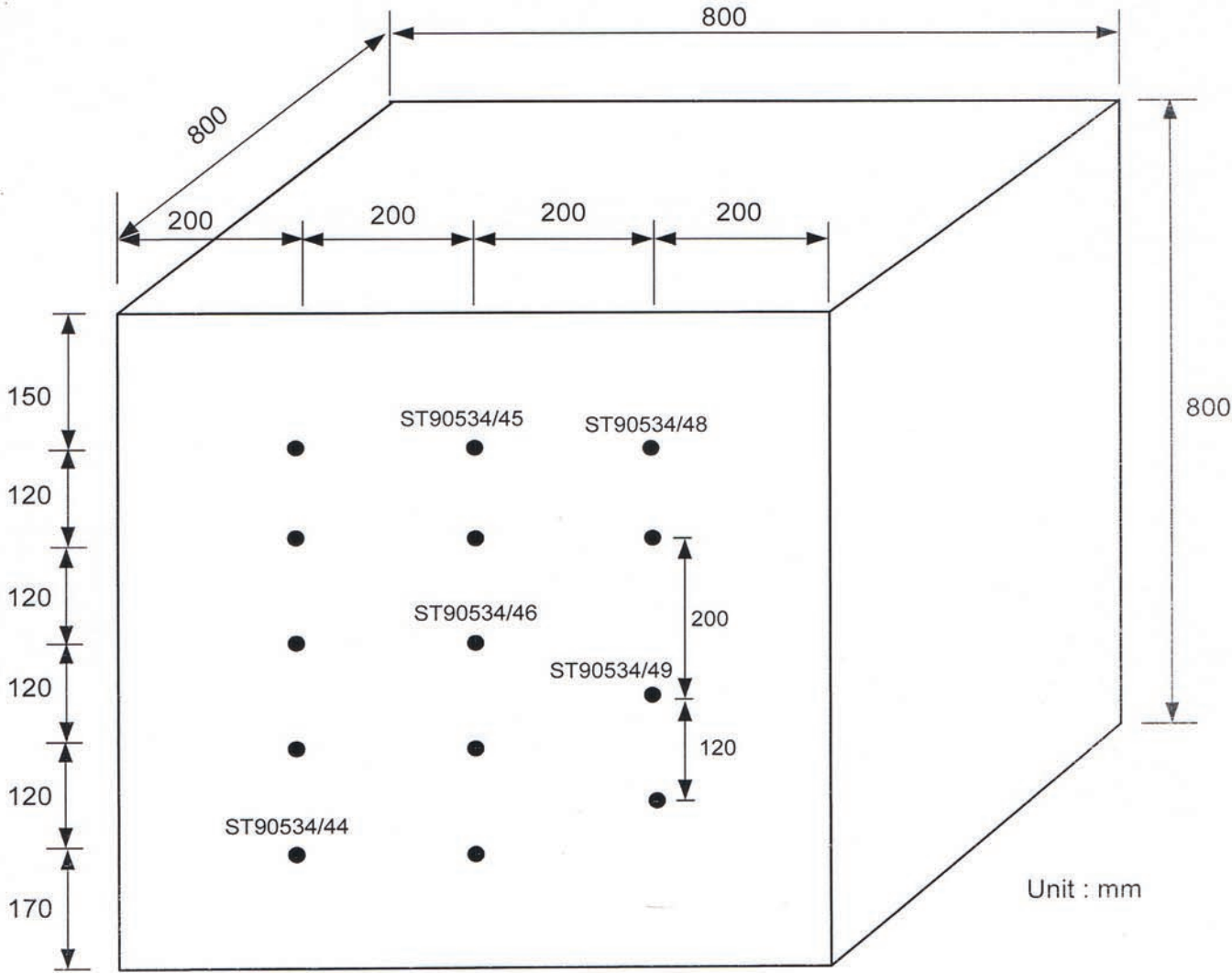
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5.0 Record Photographs



Test Configuration
Sample I.D. : ST90534/B26-B50

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MaterialLab Division,
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Tai Lam, Tuen Mun, N.T., Hong Kong.

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Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

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After Test
Sample I.D. : ST90534/B29



After Test
Sample I.D. : ST90534/B31

FUGRO TECHNICAL SERVICES LIMITED

MateriaLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materialab.com.hk

MateriaLab

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After Test
Sample I.D. : ST90534/B33



After Test
Sample I.D. : ST90534/B35

FUGRO TECHNICAL SERVICES LIMITED

MateriaLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materialab.com.hk

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After Test
Sample I.D. : ST90534/B36



After Test
Sample I.D. : ST90534/B37

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MateriaLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materialab.com.hk

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After Test
Sample I.D. : ST90534/B38



After Test
Sample I.D. : ST90534/B44

FUGRO TECHNICAL SERVICES LIMITED

MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

MaterialLab

Client Ref. : --
Report No. : 092660ST90534(2)



After Test
Sample I.D. : ST90534/B45



After Test
Sample I.D. : ST90534/B46

FUGRO TECHNICAL SERVICES LIMITED

MaterialLab Division,
Fugro Development Centre,
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Tel : +852-2450 8233
Fax : +852-2450 6138
E-mail : matlab@fugro.com.hk
Website : www.materiallab.com.hk

MaterialLab

Client Ref. : --
Report No. : 092660ST90534(2)



After Test
Sample I.D. : ST90534/B48



After Test
Sample I.D. : ST90534/B49