



AMERICAN BUREAU OF SHIPPING

Customer Name	NIEDAX (THAILAND) LTD	Purchase Order No.	4501006002
Attending Office	Bangkok	Report Number	BG2999787-A
First Visit Date	12-Oct-2015	Last Visit Date	16-Oct-2015

Certification Of: Metal Cable Support & Tray Systems **Quantity:** One(1)
Manufacturer: NIEDAX (THAILAND) LTD

Survey Location: Banchang - Rayong, Thailand

Equipment Data

Model Number USL4900-5.0/4.0T 30H 3M MARINE LADDER S6

This is to Certify that the undersigned surveyor(s) to this Bureau did, at the request of the customer, carry out the following survey and report as follows:

Traceability of materials used on this project has been verified.

The principal data has been verified in accordance with the applicable Rules/specifications and approved plans, and confirmed to be within acceptable tolerances.

All testing (pressure/load/operational/etc.) has been carried out as applicable and verified in accordance with the applicable Rules/specifications.

Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.

At the specific request of the Manufacturer's Representative, the samples of "Metal Cable Support & Tray Systems" as listed herein have been witnessed the Load Tests carried out at "NIEDAX (Thailand) Ltd" and reported as follows :-

Load Testing of Metal Cable Ladder : USL4900-5.0/4.0T 30H 3M MARINE LADDER S6

- Standard/Type of Test : NEMA VE1-2009, Section 5.2.8 : Loading to Destruction (Method A)
- Test Product : Cable Ladder 900W x 30H x 3000L x 5.0T, Stainless Steel : SS316L : Marine Ladder
- Loading Material : Steel Strip 1.6mmT x 67mmW x 2.4mL, 2.021 Kg/strip
- Rung Space Distance = 300 mm ; Side Rial = 5 mm. Thk. ; Rung = 4 mm. Thk.
- Loading Distribution :-
 - o No.of rows across the specimen breadth = 10
 - o No.of loading strip for each layers = 10
 - o No.of rows across the specimen length = 1
 - o Weight of each loading layer = 21.5 / Test span = 2.4 m
- Destruction load, kg/m = 123.6 / Rated load capacity, kg/m = 82.4 (Safety factor 1.5)
- Test Results : Maximum Deflection = 214.5

NOTE: This report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item or material equipment, machinery or any other item covered by this Report has been examined for compliance with, or has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in the contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.

Customer Name **NIEDAX (THAILAND) LTD**
Attending Office **Bangkok**
First Visit Date **12-Oct-2015**

Purchase Order No. **4501006002**
Report Number **BG2999787-A**
Last Visit Date **16-Oct-2015**

**Surveyor(s) to The American Bureau of Shipping
Attending Surveyors**

Srihaprom Apichart

Electronically Signed on 26-Oct-2015

Reviewed By

Suwanyen, Tawatchai

Electronically Signed on 26-Oct-2015, Bangkok Port



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AMERICAN BUREAU OF SHIPPING

Customer Name	NIEDAX (THAILAND) LTD	Purchase Order No.	4501006002
Attending Office	Bangkok	Report Number	BG2999787-B
First Visit Date	12-Oct-2015	Last Visit Date	16-Oct-2015

Certification Of: Metal Cable Support & Tray Systems Quantity: One(1)
Manufacturer: NIEDAX (THAILAND) LTD

Survey Location: Banchang - Rayong, Thailand

Equipment Data

Model Number USL4900-5.0/2.0T 38H 3M MARINE LADDER S6

This is to Certify that the undersigned surveyor(s) to this Bureau did, at the request of the customer, carry out the following survey and report as follows:

Traceability of materials used on this project has been verified.

The principal data has been verified in accordance with the applicable Rules/specifications and approved plans, and confirmed to be within acceptable tolerances.

All testing (pressure/load/operational/etc.) has been carried out as applicable and verified in accordance with the applicable Rules/specifications.

Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.

At the specific request of the Manufacturer's Representative, the samples of "Metal Cable Support & Tray Systems" as listed herein have been witnessed the Load Tests carried out at "NIEDAX (Thailand) Ltd" and reported as follows :-

Load Testing of Metal Cable Ladder : **USL4900-5.0/2.0T 38H 3M MARINE LADDER S6**

- Standard/Type of Test : NEMA VE1-2009, Section 5.2.8 : Loading to Destruction (Method A)
- Test Product : Cable Ladder 900W x 38H x 3000L x 5.0T, Stainless Steel : SS316L : Marine Ladder
- Loading Material : Steel Strip 1.6mmT x 67mmW x 2.4mL, 2.021 Kg/strip
- Rung Space Distance = 300 mm. ; Side Rial = 5 mm. Thk. ; Rung = 2 mm. Thk.
- Loading Distribution :-
 - o No.of rows across the specimen breadth = 10
 - o No.of loading strip for each layers = 20
 - o No.of rows across the specimen length = 1
 - o Weight of each loading layer = 43.0 / Test span = 2.4 m
- Destruction load, kg/m = 240.1 / Rated load capacity, kg/m = 160.1 (Safety factor 1.5)
- Test Results: Maximum Deflection = 209.5

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Customer Name **NIEDAX (THAILAND) LTD**
Attending Office **Bangkok**
First Visit Date **12-Oct-2015**

Purchase Order No. **4501006002**
Report Number **BG2999787-B**
Last Visit Date **16-Oct-2015**

**Surveyor(s) to The American Bureau of Shipping
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Srihaprom Apichart

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AMERICAN BUREAU OF SHIPPING

Customer Name	NIEDAX (THAILAND) LTD	Purchase Order No.	4501006002
Attending Office	Bangkok	Report Number	BG2999787-C
First Visit Date	12-Oct-2015	Last Visit Date	16-Oct-2015

Certification Of: Metal Cable Support & Tray Systems Quantity: One(1)
Manufacturer: NIEDAX (THAILAND) LTD

Survey Location: Banchang - Rayong, Thailand

Equipment Data

Model Number TS6STLD3W900-3M-T2.0 STR H50

This is to Certify that the undersigned surveyor(s) to this Bureau did, at the request of the customer, carry out the following survey and report as follows:

Traceability of materials used on this project has been verified.

The principal data has been verified in accordance with the applicable Rules/specifications and approved plans, and confirmed to be within acceptable tolerances.

All testing (pressure/load/operational/etc.) has been carried out as applicable and verified in accordance with the applicable Rules/specifications.

Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.

At the specific request of the Manufacturer's Representative, the samples of "Metal Cable Support & Tray Systems" as listed herein have been witnessed the Load Tests carried out at "NIEDAX (Thailand) Ltd" and reported as follows :-

Load Testing of Metal Cable Tray : TS6STLD3W900-3M-T2.0 STR H50

- Standard/Type of Test : NEMA VE1-2009, Section 5.2.8 : Loading to Destruction (Method A)
- Test Product : Cable Tray 900W x 50H x 3000L x 2.0T, Stainless Steel : SS316L : Light Duty
- Loading Material : Steel Strip 1.6mmT x 67mmW x 2.4mL, 2.021 Kg/strip
- Loading Distribution :-
 - o No.of rows across the specimen breadth = 10
 - o No.of loading strip for each layers = 10
 - o No.of rows across the specimen length = 1
 - o Weight of each loading layer = 21.5 / Test span = 2.4 m
- Destruction load, kg/m = 136.2 / Rated load capacity, kg/m = 90.8 (Safety factor 1.5)
- Test Results: Maximum Deflection = 18.5

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Customer Name **NIEDAX (THAILAND) LTD**
Attending Office **Bangkok**
First Visit Date **12-Oct-2015**

Purchase Order No. **4501006002**
Report Number **BG2999787-C**
Last Visit Date **16-Oct-2015**

**Surveyor(s) to The American Bureau of Shipping
Attending Surveyors**

Srihaprom Apichart

Electronically Signed on 26-Oct-2015

Reviewed By

Suwanyen, Tawatchai

Electronically Signed on 26-Oct-2015, Bangkok Port



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AMERICAN BUREAU OF SHIPPING

Customer Name	NIEDAX (THAILAND) LTD	Purchase Order No.	4501006002
Attending Office	Bangkok	Report Number	BG2999787-D
First Visit Date	12-Oct-2015	Last Visit Date	16-Oct-2015

Certification Of: Metal Cable Support & Tray Systems Quantity: One(1)
Manufacturer: NIEDAX (THAILAND) LTD

Survey Location: Banchang - Rayong, Thailand

Equipment Data

Model Number TS6STMD3W900-3M-T2.0 STR H50

This is to Certify that the undersigned surveyor(s) to this Bureau did, at the request of the customer, carry out the following survey and report as follows:

Traceability of materials used on this project has been verified.

The principal data has been verified in accordance with the applicable Rules/specifications and approved plans, and confirmed to be within acceptable tolerances.

All testing (pressure/load/operational/etc.) has been carried out as applicable and verified in accordance with the applicable Rules/specifications.

Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.

At the specific request of the Manufacturer's Representative, the samples of "Metal Cable Support & Tray Systems" as listed herein have been witnessed the Load Tests carried out at "NIEDAX (Thailand) Ltd" and reported as follows :-

Load Testing of Metal Cable Tray : TS6STMD3W900-3M-T2.0 STR H50

- Standard/Type of Test : NEMA VE1-2009, Section 5.2.8 : Loading to Destruction (Method A)
- Test Product : Cable Tray 900W x 50H x 3000L x 2.0T, Stainless Steel : SS316L : Medium Duty
- Loading Material : Steel Strip 1.6mmT x 67mmW x 2.4mL, 2.021 Kg/strip
- Loading Distribution :-
 - o No.of rows across the specimen breadth = 10
 - o No.of loading strip for each layers = 20
 - o No.of rows across the specimen length = 1
 - o Weight of each loading layer = 43.0 / Test span = 2.4 m
- Destruction load, kg/m = 261.6 / Rated load capacity, kg/m = 174.4 (Safety factor 1.5)
- Test Results: Maximum Deflection = 26

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Customer Name **NIEDAX (THAILAND) LTD**
Attending Office **Bangkok**
First Visit Date **12-Oct-2015**

Purchase Order No. **4501006002**
Report Number **BG2999787-D**
Last Visit Date **16-Oct-2015**

**Surveyor(s) to The American Bureau of Shipping
Attending Surveyors**

Srihaprom Apichart

Electronically Signed on 26-Oct-2015

Reviewed By

Suwanyen, Tawatchai

Electronically Signed on 26-Oct-2015, Bangkok Port



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Customer Name **NIEDAX (THAILAND) LTD**
Attending Office **Bangkok**
First Visit Date **12-Oct-2015**

Purchase Order No. **4501006002**
Report Number **BG2999787-E**
Last Visit Date **16-Oct-2015**

**Surveyor(s) to The American Bureau of Shipping
Attending Surveyors**

Srihaprom Apichart

Electronically Signed on 26-Oct-2015

Reviewed By

Suwanyen, Tawatchai

Electronically Signed on 26-Oct-2015, Bangkok Port



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Customer Name **NIEDAX (THAILAND) LTD**
Attending Office **Bangkok**
First Visit Date **12-Oct-2015**

Purchase Order No. **4501006002**
Report Number **BG2999787-F**
Last Visit Date **16-Oct-2015**

**Surveyor(s) to The American Bureau of Shipping
Attending Surveyors**

Srihaprom Apichart

Electronically Signed on 26-Oct-2015

Reviewed By

Suwanyen, Tawatchai

Electronically Signed on 26-Oct-2015, Bangkok Port



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AMERICAN BUREAU OF SHIPPING

Customer Name	NIEDAX (THAILAND) LTD	Purchase Order No.	4501006002
Attending Office	Bangkok	Report Number	BG2999787-G
First Visit Date	12-Oct-2015	Last Visit Date	16-Oct-2015

Certification Of: Metal Cable Support & Tray Systems Quantity: One(1)
Manufacturer: NIEDAX (THAILAND) LTD

Survey Location: Banchang - Rayong, Thailand

Equipment Data

Model Number TS6STHD3W900-3M-T1.0 STR H50

This is to Certify that the undersigned surveyor(s) to this Bureau did, at the request of the customer, carry out the following survey and report as follows:

Traceability of materials used on this project has been verified.

The principal data has been verified in accordance with the applicable Rules/specifications and approved plans, and confirmed to be within acceptable tolerances.

All testing (pressure/load/operational/etc.) has been carried out as applicable and verified in accordance with the applicable Rules/specifications.

Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.

At the specific request of the Manufacturer's Representative, the samples of "Metal Cable Support & Tray Systems" as listed herein have been witnessed the Load Tests carried out at "NIEDAX (Thailand) Ltd" and reported as follows :-

Load Testing of Metal Cable Tray : TS6STHD3W900-3M-T1.0 STR H50

- Standard/Type of Test : NEMA VE1-2009, Section 5.2.8 : Loading to Destruction (Method A)
- Test Product : Cable Tray 900W x 50H x 3000L x 1.0T, Stainless Steel : SS316L : Heavy Duty
- Loading Material : Steel Strip 1.6mmT x 67mmW x 2.4mL, 2.021 Kg/strip
- Side Rial = 1.0 mm. Thk.
- Loading Distribution :-
 - o No.of rows across the specimen breadth = 10
 - o No.of loading strip for each layers = 20
 - o No.of rows across the specimen length = 1
 - o Weight of each loading layer = 43.0 / Test span = 2.4 m
- Destruction load, kg/m = 250.8 / Rated load capacity, kg/m = 167.2 (Safety factor 1.5)
- Test Results: Maximum Deflection = 39

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Customer Name **NIEDAX (THAILAND) LTD**
Attending Office **Bangkok**
First Visit Date **12-Oct-2015**

Purchase Order No. **4501006002**
Report Number **BG2999787-G**
Last Visit Date **16-Oct-2015**

**Surveyor(s) to The American Bureau of Shipping
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Srihaprom Apichart

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AMERICAN BUREAU OF SHIPPING

Customer Name	NIEDAX (THAILAND) LTD	Purchase Order No.	4501006002
Attending Office	Bangkok	Report Number	BG2999787-H
First Visit Date	12-Oct-2015	Last Visit Date	16-Oct-2015

Certification Of: Metal Cable Support & Tray Systems Quantity: One(1)
Manufacturer: NIEDAX (THAILAND) LTD

Survey Location: Banchang - Rayong, Thailand

Equipment Data

Model Number TS6STHD11W900-3M-T2.0 STR H40

This is to Certify that the undersigned surveyor(s) to this Bureau did, at the request of the customer, carry out the following survey and report as follows:

Traceability of materials used on this project has been verified.

The principal data has been verified in accordance with the applicable Rules/specifications and approved plans, and confirmed to be within acceptable tolerances.

All testing (pressure/load/operational/etc.) has been carried out as applicable and verified in accordance with the applicable Rules/specifications.

Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.

At the specific request of the Manufacturer's Representative, the samples of "Metal Cable Support & Tray Systems" as listed herein have been witnessed the Load Tests carried out at "NIEDAX (Thailand) Ltd" and reported as follows :-

Load Testing of Metal Cable Tray : **TS6STHD11W900-3M-T2.0 STR H40**

- Standard/Type of Test : NEMA VE1-2009, Section 5.2.8 : Loading to Destruction (Method A)
- Test Product : Cable Tray 900W x 40H x 3000L x 2.0T, Stainless Steel : SS316L : Heavy Duty
- Loading Material : Steel Strip 1.6mmT x 67mmW x 2.4mL, 2.021 Kg/strip
- Loading Distribution :-
 - o No.of rows across the specimen breadth = 10
 - o No.of loading strip for each layers = 20
 - o No.of rows across the specimen length = 1
 - o Weight of each loading layer = 43.0 / Test span = 2.4 m
- Destruction load, kg/m = 197.1 / Rated load capacity, kg/m = 131.4 (Safety factor 1.5)
- Test Results: Maximum Deflection = 52.5

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Attending Office	Bangkok	Report Number	BG2999787-H
First Visit Date	12-Oct-2015	Last Visit Date	16-Oct-2015

**Surveyor(s) to The American Bureau of Shipping
Attending Surveyors**

Srihaprom Apichart

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AMERICAN BUREAU OF SHIPPING

Customer Name	NIEDAX (THAILAND) LTD	Purchase Order No.	4501006002
Attending Office	Bangkok	Report Number	BG2999787-I
First Visit Date	12-Oct-2015	Last Visit Date	16-Oct-2015

Certification Of: Metal Cable Support & Tray Systems Quantity: One(1)
Manufacturer: NIEDAX (THAILAND) LTD

Survey Location: Banchang - Rayong, Thailand

Equipment Data

Model Number TS6STHD11W900-3M-T1.5 STR H40

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Traceability of materials used on this project has been verified.

The principal data has been verified in accordance with the applicable Rules/specifications and approved plans, and confirmed to be within acceptable tolerances.

All testing (pressure/load/operational/etc.) has been carried out as applicable and verified in accordance with the applicable Rules/specifications.

Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.

At the specific request of the Manufacturer's Representative, the samples of "Metal Cable Support & Tray Systems" as listed herein have been witnessed the Load Tests carried out at "NIEDAX (Thailand) Ltd" and reported as follows :-

Load Testing of Metal Cable Tray : TS6STHD11W900-3M-T1.5 STR H40

- Standard/Type of Test : NEMA VE1-2009, Section 5.2.8 : Loading to Destruction (Method A)
- Test Product : Cable Tray 900W x 40H x 3000L x 1.5T, Stainless Steel : SS316L : Heavy Duty
- Loading Material : Steel Strip 1.6mmT x 67mmW x 2.4mL, 2.021 Kg/strip
- Loading Distribution :-
 - o No.of rows across the specimen breadth = 10
 - o No.of loading strip for each layers = 10
 - o No.of rows across the specimen length = 1
 - o Weight of each loading layer = 21.5 / Test span = 2.4 m
- Destruction load, kg/m = 134.4 / Rated load capacity, kg/m = 89.6 (Safety factor 1.5)
- Test Results: Maximum Deflection = 42.5

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Customer Name **NIEDAX (THAILAND) LTD**
Attending Office **Bangkok**
First Visit Date **12-Oct-2015**

Purchase Order No. **4501006002**
Report Number **BG2999787-I**
Last Visit Date **16-Oct-2015**

**Surveyor(s) to The American Bureau of Shipping
Attending Surveyors**

Srihaprom Apichart

Electronically Signed on 26-Oct-2015

Reviewed By

Suwanyen, Tawatchai

Electronically Signed on 26-Oct-2015, Bangkok Port



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Customer Name	NIEDAX (THAILAND) LTD	Purchase Order No.	4501006002
Attending Office	Bangkok	Report Number	BG2999787-J
First Visit Date	12-Oct-2015	Last Visit Date	16-Oct-2015

**Surveyor(s) to The American Bureau of Shipping
Attending Surveyors**

Srihaprom Apichart Electronically Signed on 26-Oct-2015

Reviewed By
Suwanyen, Tawatchai Electronically Signed on 26-Oct-2015, Bangkok Port



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AMERICAN BUREAU OF SHIPPING

Customer Name	NIEDAX (THAILAND) LTD	Purchase Order No.	4501006002
Attending Office	Bangkok	Report Number	BG2999787-K
First Visit Date	12-Oct-2015	Last Visit Date	16-Oct-2015

Certification Of: Metal Cable Support & Tray Systems Quantity: One(1)
 Manufacturer: NIEDAX (THAILAND) LTD

Survey Location: Banchang - Rayong, Thailand

Equipment Data

Model Number LS6ST4W900-4M-T1.5/1.5 STR H75

This is to Certify that the undersigned surveyor(s) to this Bureau did, at the request of the customer, carry out the following survey and report as follows:

Traceability of materials used on this project has been verified.

The principal data has been verified in accordance with the applicable Rules/specifications and approved plans, and confirmed to be within acceptable tolerances.

All testing (pressure/load/operational/etc.) has been carried out as applicable and verified in accordance with the applicable Rules/specifications.

Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.

At the specific request of the Manufacturer's Representative, the samples of "Metal Cable Support & Tray Systems" as listed herein have been witnessed the Load Tests carried out at "NIEDAX (Thailand) Ltd" and reported as follows :-

Load Testing of Metal Cable Ladder : LS6ST4W900-4M-T1.5/1.5 STR H75

- Standard/Type of Test : NEMA VE1-2009, Section 5.2.8 : Loading to Destruction (Method A)
- Test Product : Cable Ladder 900W x 75H x 4000L, Stainless Steel : SS316L
- Loading Material : Steel Strip 1.6mmT x 67mmW x 3.7mL, 3.115 Kg/strip
- Rung Space Distance = 300 mm. ; Side Rial = 1.5 mm. Thk. ; Rung 1.5 mm. Thk.
- Loading Distribution :-
 - o No.of rows across the specimen breadth = 10
 - o No.of loading strip for each layers = 10
 - o No.of rows across the specimen length = 1
 - o Weight of each loading layer = 31.0 / Test span = 3.7 m
- Destruction load, kg/m = 159.2 / Rated load capacity, kg/m = 106.1 (Safety factor 1.5)
- Test Results: Maximum Deflection = 174.5

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Customer Name	NIEDAX (THAILAND) LTD	Purchase Order No.	4501006002
Attending Office	Bangkok	Report Number	BG2999787-K
First Visit Date	12-Oct-2015	Last Visit Date	16-Oct-2015

**Surveyor(s) to The American Bureau of Shipping
Attending Surveyors**

Srihaprom Apichart Electronically Signed on 26-Oct-2015

Reviewed By
Suwanyen, Tawatchai Electronically Signed on 26-Oct-2015, Bangkok Port



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AMERICAN BUREAU OF SHIPPING

Customer Name	NIEDAX (THAILAND) LTD	Purchase Order No.	4501006002
Attending Office	Bangkok	Report Number	BG2999787-L
First Visit Date	12-Oct-2015	Last Visit Date	16-Oct-2015

Certification Of: Metal Cable Support & Tray Systems Quantity: One(1)
Manufacturer: NIEDAX (THAILAND) LTD

Survey Location: Banchang - Rayong, Thailand

Equipment Data

Model Number LHGST8W900-6.5M-T1.6/1.6 STR H150 20C

This is to Certify that the undersigned surveyor(s) to this Bureau did, at the request of the customer, carry out the following survey and report as follows:

Traceability of materials used on this project has been verified.
The principal data has been verified in accordance with the applicable Rules/specifications and approved plans, and confirmed to be within acceptable tolerances.
All testing (pressure/load/operational/etc.) has been carried out as applicable and verified in accordance with the applicable Rules/specifications.
Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.

At the specific request of the Manufacturer's Representative, the samples of "Metal Cable Support & Tray Systems" as listed herein have been witnessed the Load Tests carried out at "NIEDAX (Thailand) Ltd" and reported as follows :-

Load Testing of Metal Cable Ladder : LHGST8W900-6.5M-T1.6/1.6 STR H150 20C

- Standard/Type of Test : NEMA VE1-2009, Section 5.2.8 : Loading to Destruction (Method A)
- Test Product : Cable Ladder 900W x 150H x 6500L, SS400 : Hot - Dip Galvanize
- Loading Material : Steel Strip 1.6mmT x 67mmW x 6.0mL, 5.136 Kg/strip
- Rung Space Distance = 300 mm. ; Side Rial = 1.6 mm. Thk. ; Rung 1.6 mm. Thk.
- Loading Distribution :-
 - o No.of rows across the specimen breadth = 10
 - o No.of loading strip for each layers = 20
 - o No.of rows across the specimen length = 1
 - o Weight of each loading layer = 102.6 / Test span = 6.0 m
- Destruction load, kg/m = 242.8 / Rated load capacity, kg/m = 161.9 (Safety factor 1.5)
- Test Results: Maximum Deflection = 104.5

NOTE: This report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item or material equipment, machinery or any other item covered by this Report has been examined for compliance with, or has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in the contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.

Customer Name	NIEDAX (THAILAND) LTD	Purchase Order No.	4501006002
Attending Office	Bangkok	Report Number	BG2999787-L
First Visit Date	12-Oct-2015	Last Visit Date	16-Oct-2015

**Surveyor(s) to The American Bureau of Shipping
Attending Surveyors**

Srihaprom Apichart

Electronically Signed on 26-Oct-2015

Reviewed By

Suwanyen, Tawatchai

Electronically Signed on 26-Oct-2015, Bangkok Port



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AMERICAN BUREAU OF SHIPPING

Customer Name	NIEDAX (THAILAND) LTD	Purchase Order No.	4501006002
Attending Office	Bangkok	Report Number	BG2999787-M
First Visit Date	12-Oct-2015	Last Visit Date	16-Oct-2015

Certification Of: Metal Cable Support & Tray Systems Quantity: One(1)
Manufacturer: NIEDAX (THAILAND) LTD

Survey Location: Banchang - Rayong, Thailand

Equipment Data

Model Number LALST5W900-4M-T1.8/1.6 STR H100

This is to Certify that the undersigned surveyor(s) to this Bureau did, at the request of the customer, carry out the following survey and report as follows:

Traceability of materials used on this project has been verified.

The principal data has been verified in accordance with the applicable Rules/specifications and approved plans, and confirmed to be within acceptable tolerances.

All testing (pressure/load/operational/etc.) has been carried out as applicable and verified in accordance with the applicable Rules/specifications.

Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.

At the specific request of the Manufacturer's Representative, the samples of "Metal Cable Support & Tray Systems" as listed herein have been witnessed the Load Tests carried out at "NIEDAX (Thailand) Ltd" and reported as follows :-

Load Testing of Metal Cable Ladder : LALST5W900-4M-T1.8/1.6 STR H100

- Standard/Type of Test : NEMA VE1-2009, Section 5.2.8 : Loading to Destruction (Method A)
- Test Product : Cable Ladder 900W x 100H x 4000L : Aluminum
- Loading Material : Steel Strip 1.6mmT x 67mmW x 3.7mL, 3.115 Kg/strip
- Rung Space Distance = 300 mm. ; Side Rial = 1.8 mm. Thk.; Rung = 1.6 mm. Thk.
- Loading Distribution :-
 - o No.of rows across the specimen breadth = 10
 - o No.of loading strip for each layers = 20
 - o No.of rows across the specimen length = 1
 - o Weight of each loading layer = 62.0 / Test span = 3.7 m
- Destruction load, kg/m = 221.2 / Rated load capacity, kg/m = 147.5 (Safety factor 1.5)
- Test Results: Maximum Deflection = 103.0

NOTE: This report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item or material equipment, machinery or any other item covered by this Report has been examined for compliance with, or has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in the contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.

Customer Name **NIEDAX (THAILAND) LTD**
Attending Office **Bangkok**
First Visit Date **12-Oct-2015**

Purchase Order No. **4501006002**
Report Number **BG2999787-M**
Last Visit Date **16-Oct-2015**

**Surveyor(s) to The American Bureau of Shipping
Attending Surveyors**

Srihaprom Apichart

Electronically Signed on 26-Oct-2015

Reviewed By

Suwanyen, Tawatchai

Electronically Signed on 26-Oct-2015, Bangkok Port



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AMERICAN BUREAU OF SHIPPING

Customer Name	NIEDAX (THAILAND) LTD	Purchase Order No.	4501006002
Attending Office	Bangkok	Report Number	BG2999787-N
First Visit Date	12-Oct-2015	Last Visit Date	16-Oct-2015

Certification Of: Metal Cable Support & Tray Systems Quantity: One(1)
Manufacturer: NIEDAX (THAILAND) LTD

Survey Location: Banchang - Rayong, Thailand

Equipment Data

Model Number LALST5W900-4M-T1.5/1.5 STR H100

This is to Certify that the undersigned surveyor(s) to this Bureau did, at the request of the customer, carry out the following survey and report as follows:

Traceability of materials used on this project has been verified.

The principal data has been verified in accordance with the applicable Rules/specifications and approved plans, and confirmed to be within acceptable tolerances.

All testing (pressure/load/operational/etc.) has been carried out as applicable and verified in accordance with the applicable Rules/specifications.

Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.

At the specific request of the Manufacturer's Representative, the samples of "Metal Cable Support & Tray Systems" as listed herein have been witnessed the Load Tests carried out at "NIEDAX (Thailand) Ltd" and reported as follows :-

Load Testing of Metal Cable Ladder : LALST5W900-4M-T1.5/1.5 STR H100

- Standard/Type of Test : NEMA VE1-2009, Section 5.2.8 : Loading to Destruction (Method A)
- Test Product : Cable Ladder 900W x 100H x 4000L, Stainless SS316L
- Loading Material : Steel Strip 1.6mmT x 67mmW x 3.7mL, 3.115 Kg/strip
- Rung Space Distance = 300 mm. ; Side Rial = 1.5 mm. Thk. ; Rung = 1.5 mm. Thk.
- Loading Distribution :-
 - o No.of rows across the specimen breadth = 10
 - o No.of loading strip for each layers = 20
 - o No.of rows across the specimen length = 1
 - o Weight of each loading layer = 62.0 / Test span = 3.7 m
- Destruction load, kg/m = 216.2 / Rated load capacity, kg/m = 144.1 (Safety factor 1.5)
- Test Results: Maximum Deflection = 85.0

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Attending Office **Bangkok**
First Visit Date **12-Oct-2015**

Purchase Order No. **4501006002**
Report Number **BG2999787-N**
Last Visit Date **16-Oct-2015**

**Surveyor(s) to The American Bureau of Shipping
Attending Surveyors**

Srihaprom Apichart

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