

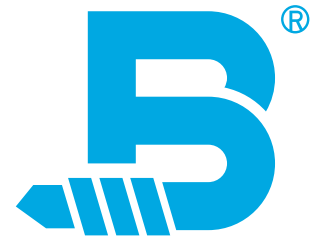


BDN FASTENERS



TEST CERTIFICATES
3RD PARTY LABORATORIES






BDN FASTENERS



CONTENT

Test Certificates - Surface Treatment _____ 01

 SGS Salt Spray Test _____ 02-21

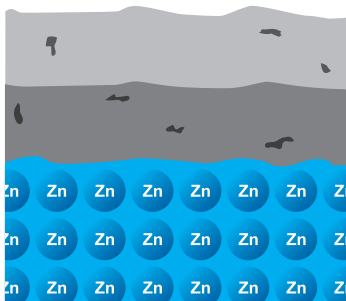
 SGS Kesternich Test _____ 22-41

 SGS UV Exposure and Humidity Test _____ 42-48

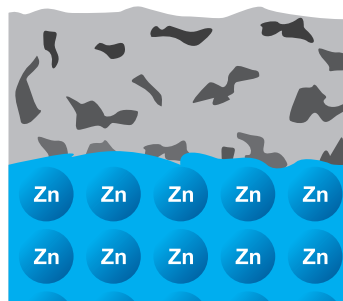
 Test Certificates - Washers _____ 49-60

TEST CERTIFICATES SURFACE TREATMENT

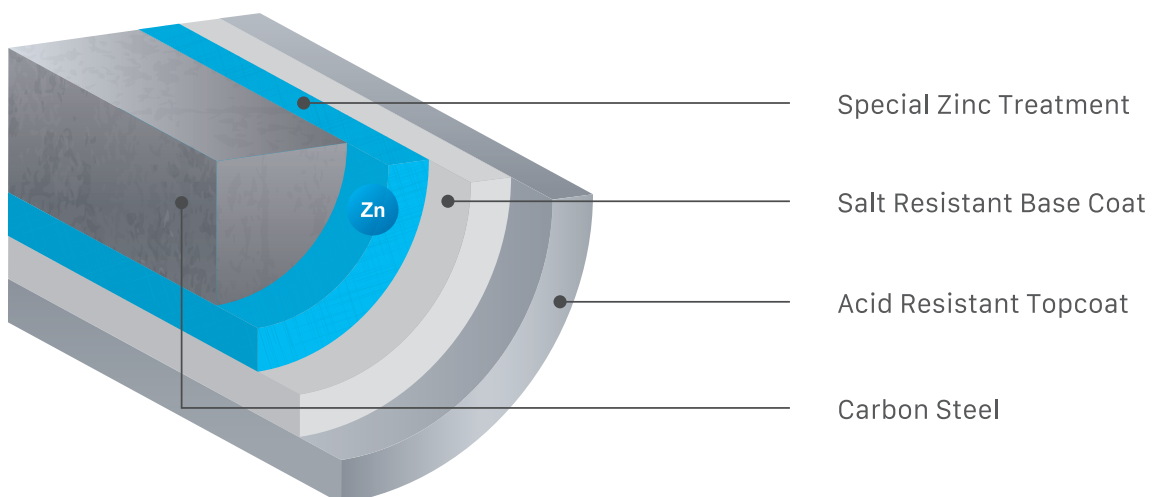
BDN® Ruspert Coating consists of multiple layers of specially formulated coatings that can easily withstand 1000hrs of salt spray test (AS 2331.3.1-2001) and 15 Kesternich cycles (DIN50018 2.0 SFW)



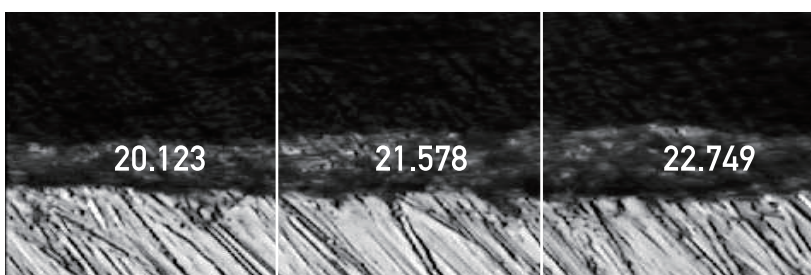
BDN® Ruspert Coating



Conventional Coating



Coating Thickness: 18-25um





Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01076A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHC1019C3N(10-16x19)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 1, 2022~Dec. 13, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Salt Spray Test

Test Method : AS 2331.3.1 (2001)

Quantity : 4

Test Duration : 1000 Hours (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Condition :

Test Equipment	ERICHSEN MODEL 606/400
Test Temperature (°C)	35 ± 2
NaCl solution (%)	5 ± 1
The pH of the Salt Solution	6.8 ~ 6.9
Atomization and Quantity of Fog (ml/hr/80cm ²)	1.3 ~ 1.7
The Specific Gravity of the Salt Solution	1.031 ~ 1.033
Method of Supporting Specimens	As show in Fig. 2

Remark: Test location is the same as the laboratory address.

----- 1 -----

The required specification(s) offered in this test report is/are for reference only.

The conformity judgment is at the Applicant's final verdict.

Signed for and on behalf of

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TWD 2055568

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SGS

Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01076A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :



Fig. 1 : Received samples

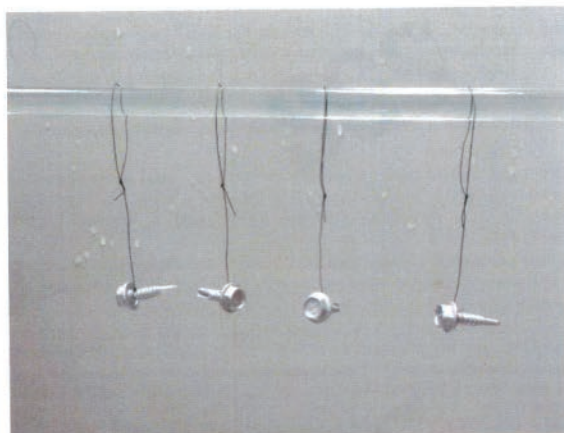


Fig. 2 : Method of Supporting specimens

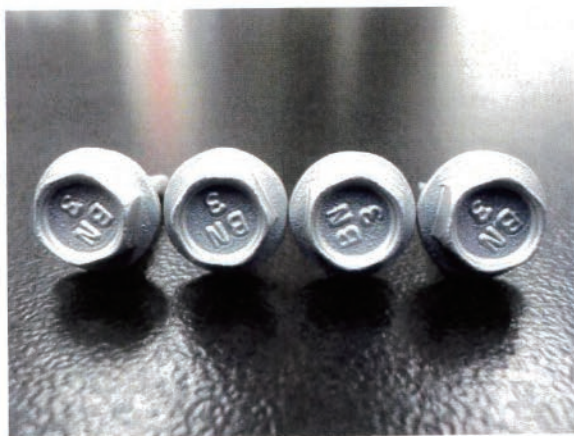


Fig. 3 : Before test

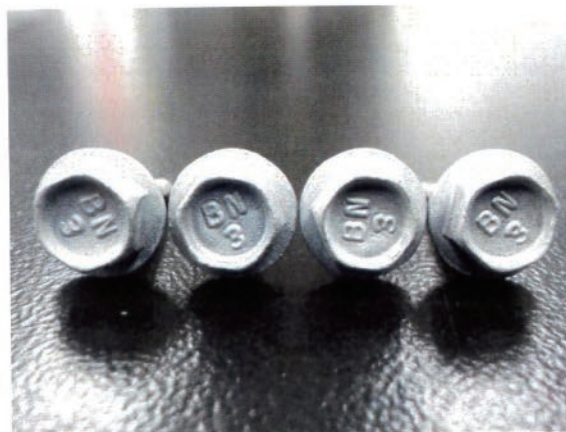


Fig. 3 : After test

* The Test Report DK-22-01058 and DK-22-01071 and DK-22-01072 and DK-22-01073 and DK-22-01074 and DK-22-01075 and DK-22-01076 and DK-22-01077 and DK-22-01078 and DK-22-01079 are from the same application. The Test Report No. DK-22-01058 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01076. Issued date : Jan.9,2023.

----- oOo -----

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Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01078A-1

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHCF1220C3(12-14x20)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 1, 2022~Dec. 13, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Salt Spray Test

Test Method : AS 2331.3.1 (2001)

Quantity : 4

Test Duration : 1000 Hours (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Condition :

Test Equipment	ERICHSEN MODEL 606/400
Test Temperature (°C)	35 ± 2
NaCl solution (%)	5 ± 1
The pH of the Salt Solution	6.8 ~ 6.9
Atomization and Quantity of Fog (ml/hr/80cm ²)	1.3 ~ 1.7
The Specific Gravity of the Salt Solution	1.031 ~ 1.033
Method of Supporting Specimens	As show in Fig. 2

Remark: Test location is the same as the laboratory address.

----- 1 -----

The required specification(s) offered in this test report is/are for reference only.

The conformity judgment is at the Applicant's final verdict.

Signed for and on behalf of

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TWD 6997546

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Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01078A-1

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :



Fig. 1 : Received samples

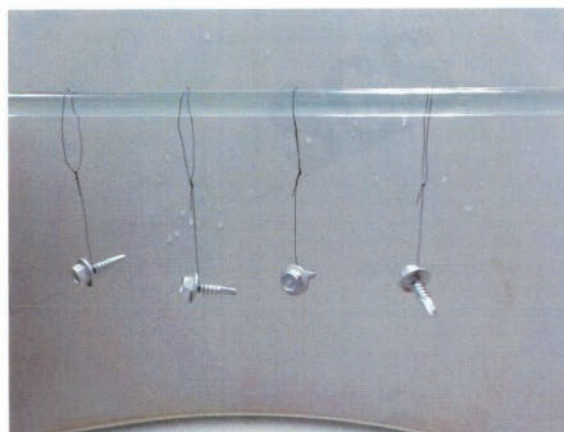


Fig. 2 : Method of Supporting specimens

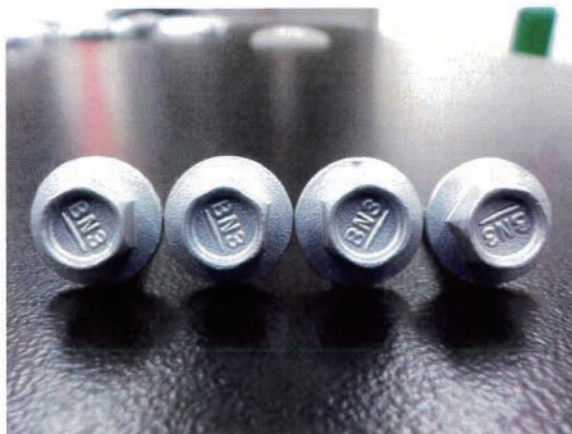


Fig. 3 : Before test

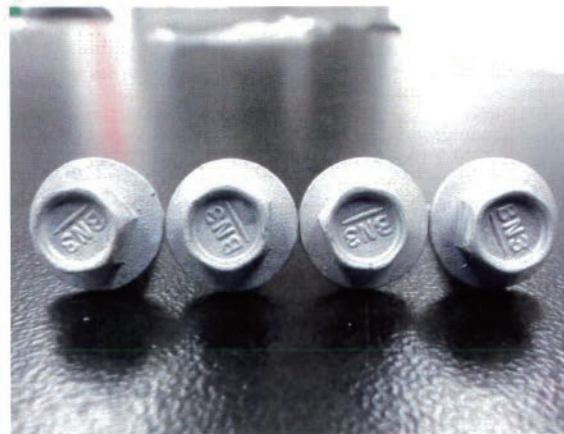


Fig. 3 : After test

* The Test Report DK-22-01058 and DK-22-01071 and DK-22-01072 and DK-22-01073 and DK-22-01074 and DK-22-01075 and DK-22-01076 and DK-22-01077 and DK-22-01078 and DK-22-01079 are from the same application. The Test Report No. DK-22-01058 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01078. Issued date : Jan.9,2023.

*Remark: This Test Report cancels and supersedes the Test Report No. DK-22-01078A.
Revised date : Feb.23,2023,Revised Date of Report.

----- oOo -----

The required specification(s) offered in this test report is/are for reference only.

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Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01073A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHC1225C3N(12-14x25)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 1, 2022~Dec. 13, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Salt Spray Test

Test Method : AS 2331.3.1 (2001)

Quantity : 4

Test Duration : 1000 Hours (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Condition :

Test Equipment	ERICHSEN MODEL 606/400
Test Temperature (°C)	35 ± 2
NaCl solution (%)	5 ± 1
The pH of the Salt Solution	6.8 ~ 6.9
Atomization and Quantity of Fog (ml/hr/80cm ²)	1.3 ~ 1.7
The Specific Gravity of the Salt Solution	1.031 ~ 1.033
Method of Supporting Specimens	As show in Fig. 2

Remark: Test location is the same as the laboratory address.

----- 1 -----

Signed for and on behalf of

SGS Taiwan Ltd.

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The conformity judgment is at the Applicant's final verdict.

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TWD 2055556

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Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01073A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :



Fig. 1 : Received samples

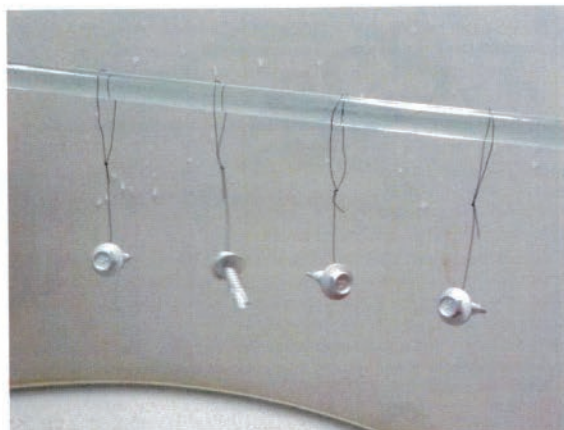


Fig. 2 : Method of Supporting specimens

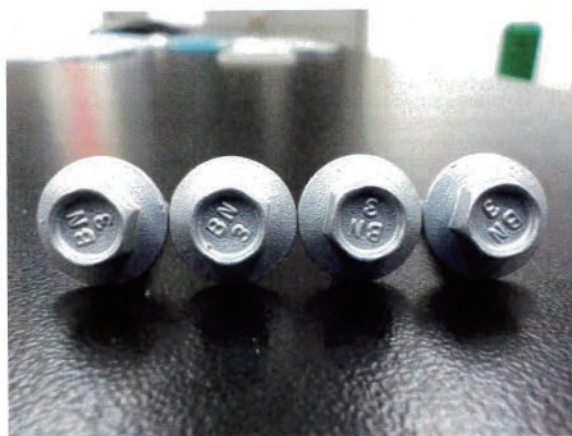


Fig. 3 : Before test

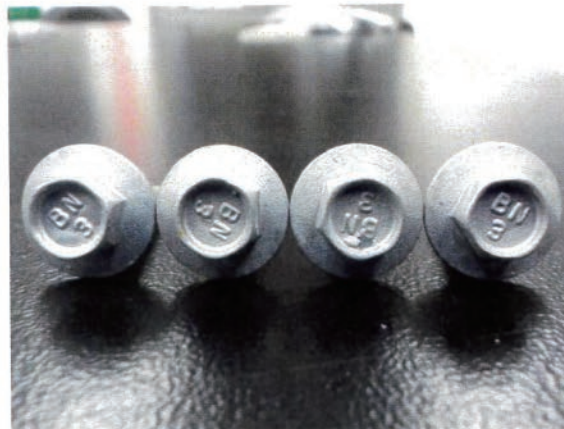


Fig. 3 : After test

* The Test Report DK-22-01058 and DK-22-01071 and DK-22-01072 and DK-22-01073 and DK-22-01074 and DK-22-01075 and DK-22-01076 and DK-22-01077 and DK-22-01078 and DK-22-01079 are from the same application. The Test Report No. DK-22-01058 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01073. Issued date : Jan.9,2023.

----- oOo -----

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TWD 2055557

Guo-Yu Chen 7001



Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01074A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHC1255C3N(12-14x55)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 1, 2022~Dec. 13, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

=====

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Salt Spray Test

Test Method : AS 2331.3.1 (2001)

Quantity : 4

Test Duration : 1000 Hours (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Condition :

Test Equipment	ERICHSEN MODEL 606/400
Test Temperature (°C)	35 ± 2
NaCl solution (%)	5 ± 1
The pH of the Salt Solution	6.8 ~ 6.9
Atomization and Quantity of Fog (ml/hr/80cm ²)	1.3 ~ 1.7
The Specific Gravity of the Salt Solution	1.031 ~ 1.033
Method of Supporting Specimens	As show in Fig. 2

Remark: Test location is the same as the laboratory address.

----- 1 -----

The required specification(s) offered in this test report is/are for reference only.

The conformity judgment is at the Applicant's final verdict.

Signed for and on behalf of

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Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01074A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :



Fig. 1 : Received samples

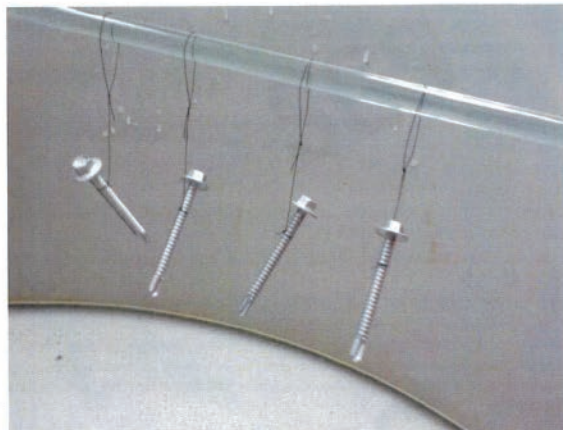


Fig. 2 : Method of Supporting specimens

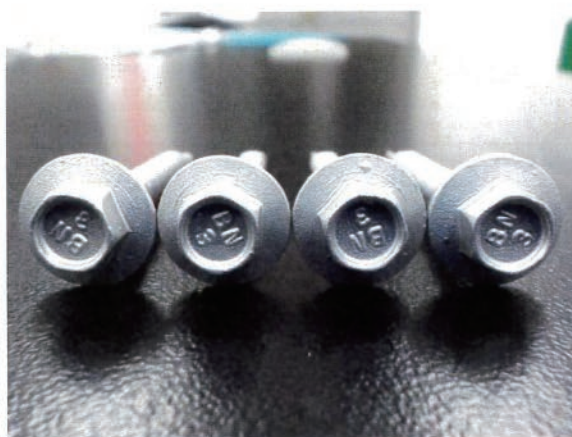


Fig. 3 : Before test

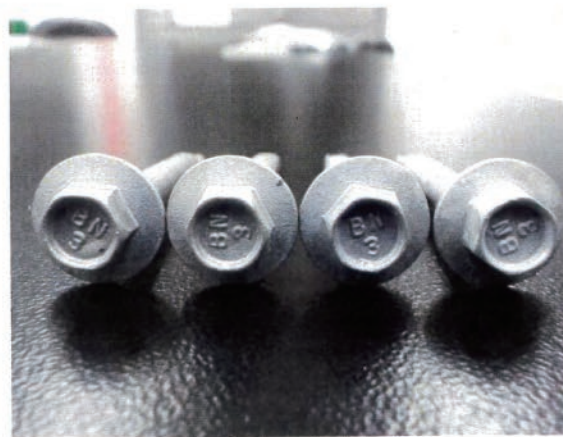


Fig. 3 : After test

* The Test Report DK-22-01058 and DK-22-01071 and DK-22-01072 and DK-22-01073 and DK-22-01074 and DK-22-01075 and DK-22-01076 and DK-22-01077 and DK-22-01078 and DK-22-01079 are from the same application. The Test Report No. DK-22-01058 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01074. Issued date : Jan.9,2023.

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TWD 2055561

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Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01058A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHCG1250C3N(12-14x50)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 26, 2022
 Date of Testing Nov. 1, 2022~Dec. 13, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

=====

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Salt Spray Test

Test Method : AS 2331.3.1 (2001)

Quantity : 4

Test Duration : 1000 Hours (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Condition :

Test Equipment	ERICHSEN MODEL 606/400
Test Temperature (°C)	35 ± 2
NaCl solution (%)	5 ± 1
The pH of the Salt Solution	6.8 ~ 6.9
Atomization and Quantity of Fog (ml/hr/80cm ²)	1.3 ~ 1.7
The Specific Gravity of the Salt Solution	1.031 ~ 1.033
Method of Supporting Specimens	As show in Fig. 2

Remark: Test location is the same as the laboratory address.

----- 1 -----

The required specification(s) offered in this test report is/are for reference only.

The conformity judgment is at the Applicant's final verdict.

Signed for and on behalf of

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7001



Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01058A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :

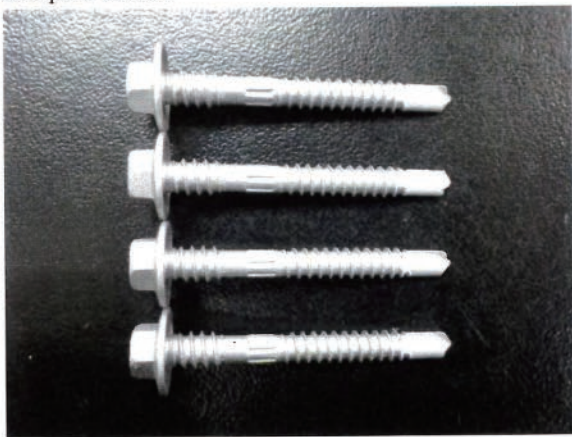


Fig. 1 : Received samples

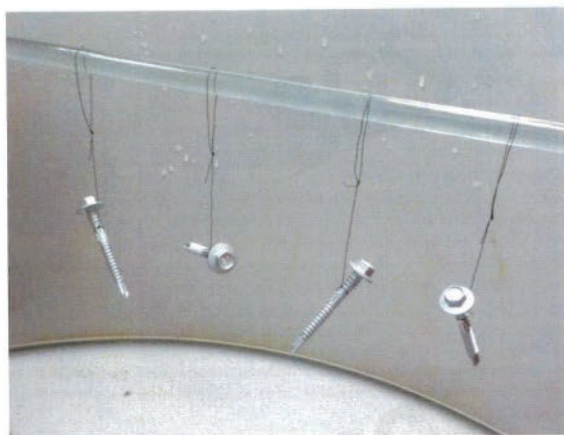


Fig. 2 : Method of Supporting specimens

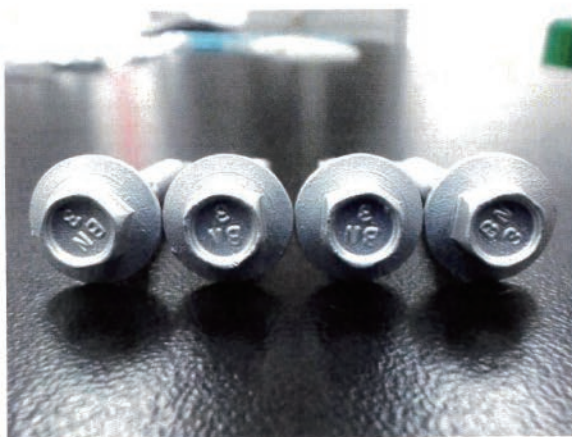


Fig. 3 : Before test



Fig. 3 : After test

* The Test Report DK-22-01058 and DK-22-01071 and DK-22-01072 and DK-22-01073 and DK-22-01074 and DK-22-01075 and DK-22-01076 and DK-22-01077 and DK-22-01078 and DK-22-01079 are from the same application. The Test Report No. DK-22-01058 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01058. Issued date : Jan.9,2023.

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Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01071A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHCG1255C3N(12-14x55)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 1, 2022~Dec. 13, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Salt Spray Test

Test Method : AS 2331.3.1 (2001)

Quantity : 4

Test Duration : 1000 Hours (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Condition :

Test Equipment	ERICHSEN MODEL 606/400
Test Temperature (°C)	35 ± 2
NaCl solution (%)	5 ± 1
The pH of the Salt Solution	6.8 ~ 6.9
Atomization and Quantity of Fog (ml/hr/80cm ²)	1.3 ~ 1.7
The Specific Gravity of the Salt Solution	1.031 ~ 1.033
Method of Supporting Specimens	As show in Fig. 2

Remark: Test location is the same as the laboratory address.

----- 1 -----

Signed for and on behalf of

SGS Taiwan Ltd.

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7001



Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01071A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :



Fig. 1 : Received samples

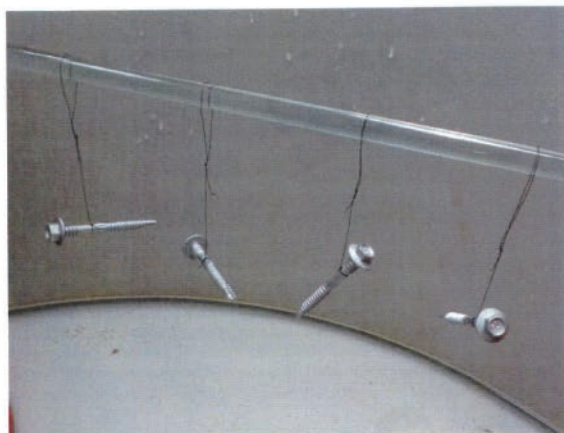


Fig. 2 : Method of Supporting specimens

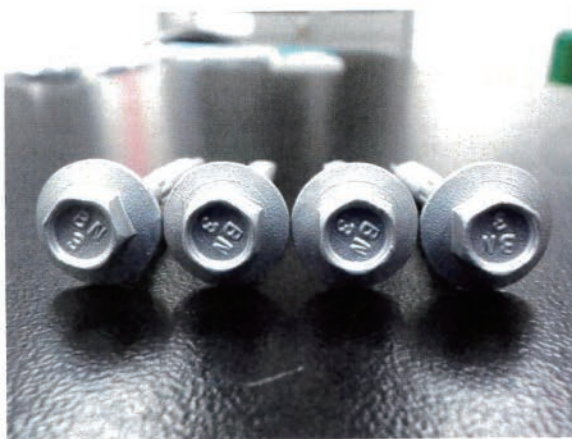


Fig. 3 : Before test

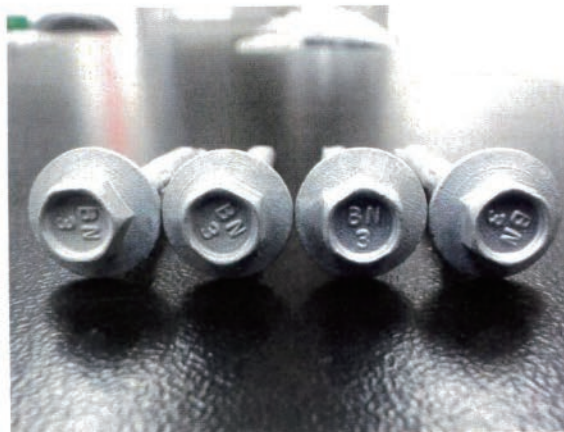


Fig. 3 : After test

* The Test Report DK-22-01058 and DK-22-01071 and DK-22-01072 and DK-22-01073 and DK-22-01074 and DK-22-01075 and DK-22-01076 and DK-22-01077 and DK-22-01078 and DK-22-01079 are from the same application. The Test Report No. DK-22-01058 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01071. Issued date : Jan.9,2023.

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Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01072A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHCG1275C3N(12-14x75)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 1, 2022~Dec. 13, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Salt Spray Test

Test Method : AS 2331.3.1 (2001)

Quantity : 4

Test Duration : 1000 Hours (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Condition :

Test Equipment	ERICHSEN MODEL 606/400
Test Temperature (°C)	35 ± 2
NaCl solution (%)	5 ± 1
The pH of the Salt Solution	6.8 ~ 6.9
Atomization and Quantity of Fog (ml/hr/80cm ²)	1.3 ~ 1.7
The Specific Gravity of the Salt Solution	1.031 ~ 1.033
Method of Supporting Specimens	As show in Fig. 2

Remark: Test location is the same as the laboratory address.

----- 1 -----

The required specification(s) offered in this test report is/are for reference only.

The conformity judgment is at the Applicant's final verdict.

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Test Report



Report No : DK-22-01072A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :



Fig. 1 : Received samples

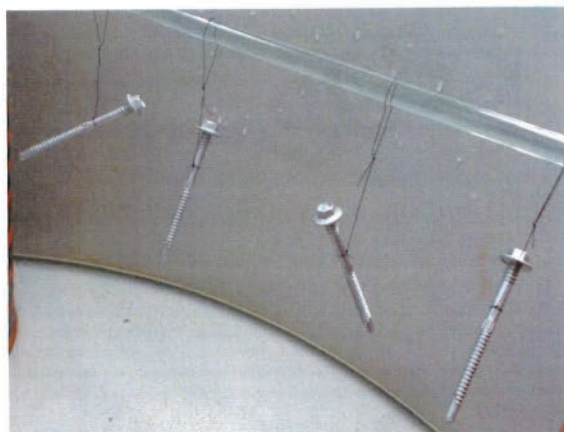


Fig. 2 : Method of Supporting specimens



Fig. 3 : Before test

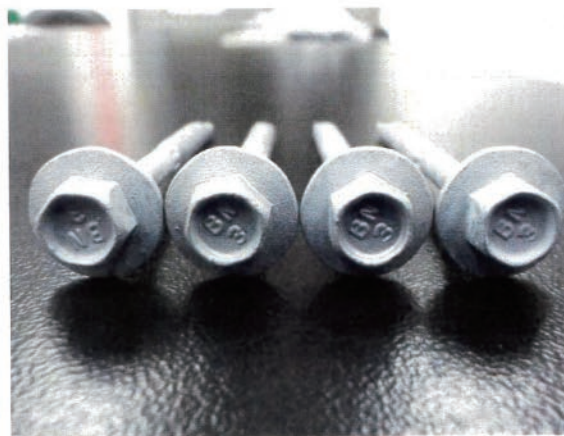


Fig. 3 : After test

* The Test Report DK-22-01058 and DK-22-01071 and DK-22-01072 and DK-22-01073 and DK-22-01074 and DK-22-01075 and DK-22-01076 and DK-22-01077 and DK-22-01078 and DK-22-01079 are from the same application. The Test Report No. DK-22-01058 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01072. Issued date : Jan.9,2023.

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Gust-Yu Chen
7001



Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01077A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDH5F1238C3N(12-24x38)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 1, 2022~Dec. 13, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Salt Spray Test

Test Method : AS 2331.3.1 (2001)

Quantity : 4

Test Duration : 1000 Hours (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Condition :

Test Equipment	ERICHSEN MODEL 606/400
Test Temperature (°C)	35 ± 2
NaCl solution (%)	5 ± 1
The pH of the Salt Solution	6.8 ~ 6.9
Atomization and Quantity of Fog (ml/hr/80cm ²)	1.3 ~ 1.7
The Specific Gravity of the Salt Solution	1.031 ~ 1.033
Method of Supporting Specimens	As show in Fig. 2

Remark: Test location is the same as the laboratory address.

----- 1 -----

The required specification(s) offered in this test report is/are for reference only.

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Signed for and on behalf of

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Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01077A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :



Fig. 1 : Received samples

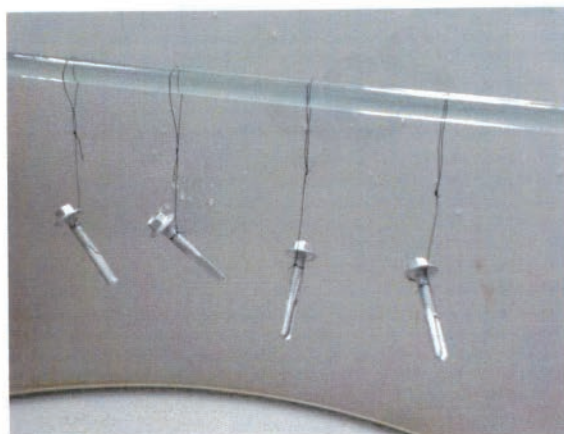


Fig. 2 : Method of Supporting specimens

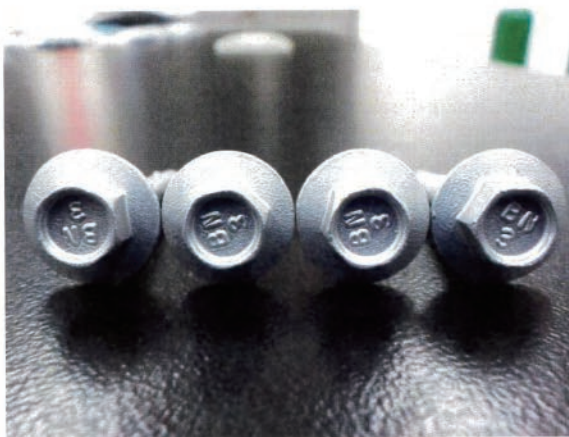


Fig. 3 : Before test

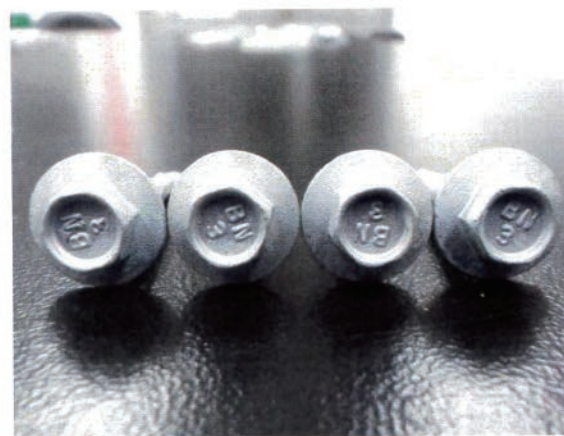


Fig. 3 : After test

* The Test Report DK-22-01058 and DK-22-01071 and DK-22-01072 and DK-22-01073 and DK-22-01074 and DK-22-01075 and DK-22-01076 and DK-22-01077 and DK-22-01078 and DK-22-01079 are from the same application. The Test Report No. DK-22-01058 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01077. Issued date : Jan.9,2023.

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Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01075A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHC1520C3N(15-15x20)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 1, 2022~Dec. 13, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Salt Spray Test

Test Method : AS 2331.3.1 (2001)

Quantity : 4

Test Duration : 1000 Hours (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Condition :

Test Equipment	ERICHSEN MODEL 606/400
Test Temperature (°C)	35 ± 2
NaCl solution (%)	5 ± 1
The pH of the Salt Solution	6.8 ~ 6.9
Atomization and Quantity of Fog (ml/hr/80cm ²)	1.3 ~ 1.7
The Specific Gravity of the Salt Solution	1.031 ~ 1.033
Method of Supporting Specimens	As show in Fig. 2

Remark: Test location is the same as the laboratory address.

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The required specification(s) offered in this test report is/are for reference only.

The conformity judgment is at the Applicant's final verdict.

Signed for and on behalf of

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Guang-Yu Chen 7001



Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01075A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :



Fig. 1 : Received samples



Fig. 2 : Method of Supporting specimens

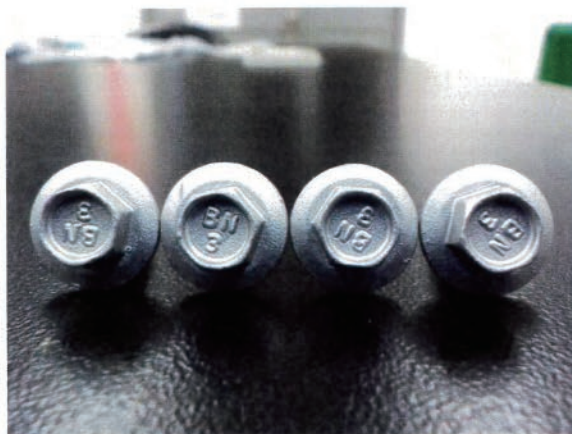


Fig. 3 : Before test

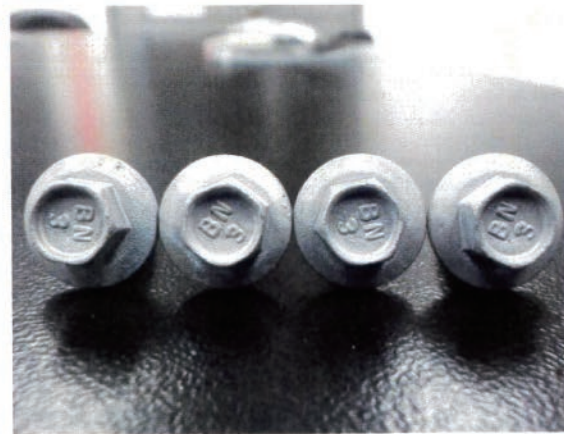


Fig. 3 : After test

* The Test Report DK-22-01058 and DK-22-01071 and DK-22-01072 and DK-22-01073 and DK-22-01074 and DK-22-01075 and DK-22-01076 and DK-22-01077 and DK-22-01078 and DK-22-01079 are from the same application. The Test Report No. DK-22-01058 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01075. Issued date : Jan.9,2023.

----- oOo -----

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TWD 2055583

1001
Guan-Yu Chen



Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01079A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type T17HCG1250C3N(12-11x50)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 1, 2022~Dec. 13, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Salt Spray Test

Test Method : AS 2331.3.1 (2001)

Quantity : 4

Test Duration : 1000 Hours (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Condition :

Test Equipment	ERICHSEN MODEL 606/400
Test Temperature (°C)	35 ± 2
NaCl solution (%)	5 ± 1
The pH of the Salt Solution	6.8 ~ 6.9
Atomization and Quantity of Fog (ml/hr/80cm ²)	1.3 ~ 1.7
The Specific Gravity of the Salt Solution	1.031 ~ 1.033
Method of Supporting Specimens	As show in Fig. 2

Remark: Test location is the same as the laboratory address.

----- 1 -----

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TWD 2055580

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Guan-Yu Chen
7001



Material and Engineering Laboratory-Douliu

Test Report



Report No : DK-22-01079A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :



Fig. 1 : Received samples

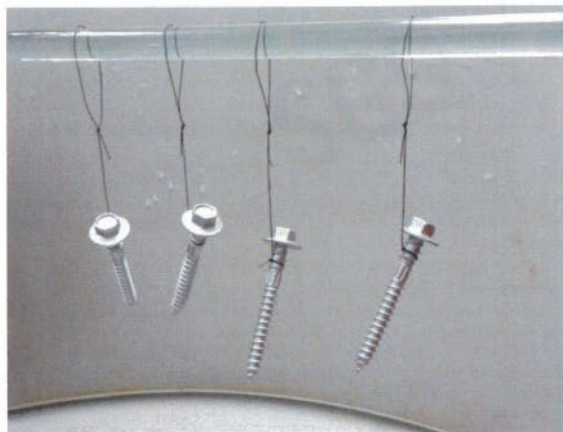


Fig. 2 : Method of Supporting specimens

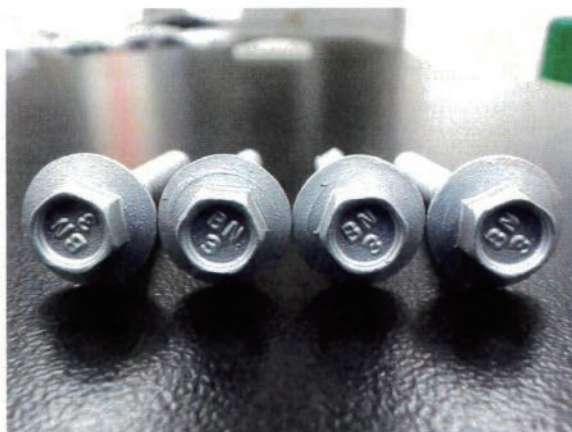


Fig. 3 : Before test

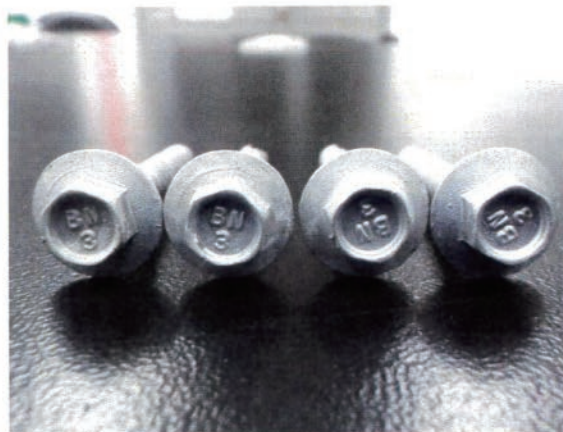


Fig. 3 : After test

* The Test Report DK-22-01058 and DK-22-01071 and DK-22-01072 and DK-22-01073 and DK-22-01074 and DK-22-01075 and DK-22-01076 and DK-22-01077 and DK-22-01078 and DK-22-01079 are from the same application. The Test Report No. DK-22-01058 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01079. Issued date : Jan.9,2023.

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Galan-Yu-Chen
7001



Material and Engineering Laboratory-Douliu

Testing Laboratory
0601

Test Report



Report No : DK-22-01085A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHC1019C3N(10-16x19)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 7, 2022~Nov. 22, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Sulfur Dioxide Corrosion Test (Kesternich Test)

Test Method : DIN 50018 (2013) - AHT 2.0 S

Quantity : 4

Test Duration : 15 cycles (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Conditions :

Test Equipment		ERICHSEN 519/SA	
SO ₂ Concentration		2.0 L (0.67%) / Cycle	
Method of Supporting specimens		As show in Fig. 2	
Test Cycle	1st test phase	Test Time	8 Hours
		Test Temp.	40°C±3°C
		Test Humidity	Approximately 100%
	2nd test phase	Test Times	16 Hours
		Test Temp.	18°C~28°C
		Test Humidity	75% max.

----- 1 -----

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TWD 3604488

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Material and Engineering Laboratory-Douliu



Testing Laboratory
0601

Test Report



Report No : DK-22-01085A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :

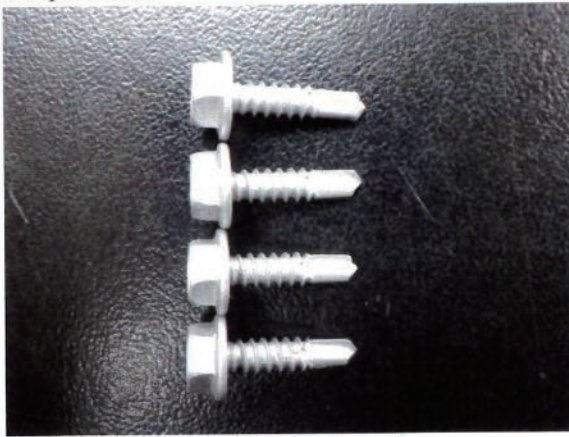


Fig. 1 : Received samples

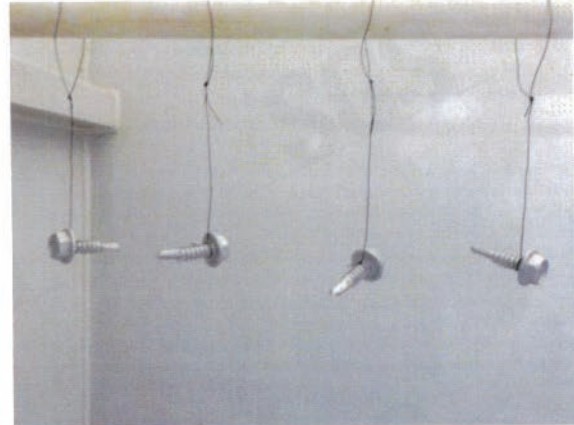


Fig. 2 : Method of Supporting specimens



Fig. 3 : Before test



Fig. 4 : After test

Remark: 1. Sulfur Dioxide Corrosion Test (Kesternich Test) test is accredited by TAF.

2. Test location is the same as the laboratory address.

*The Test Report DK-22-01059 and DK-22-01080 and DK-22-01081 and DK-22-01082 and DK-22-01083 and DK-22-01084 and DK-22-01085 and DK-22-01086 and DK-22-01087 and DK-22-01088 are from the same application. The Test Report No. DK-22-01059 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01085. Issued date : Jan.9,2023.

----- oOo -----

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Material and Engineering Laboratory-Douliu

Testing Laboratory
0601

Test Report



Report No : DK-22-01087A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHCF1220C3(12-14x20)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 7, 2022~Nov. 22, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Sulfur Dioxide Corrosion Test (Kesternich Test)

Test Method : DIN 50018 (2013) - AHT 2.0 S

Quantity : 4

Test Duration : 15 cycles (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples


(As show in Fig. 4)

Test Conditions :

Test Equipment		ERICHSEN 519/SA	
SO ₂ Concentration		2.0 L (0.67%) / Cycle	
Method of Supporting specimens		As show in Fig. 2	
Test Cycle	1st test phase	Test Time	8 Hours
		Test Temp.	40°C±3°C
		Test Humidity	Approximately 100%
	2nd test phase	Test Times	16 Hours
		Test Temp.	18°C~28°C
		Test Humidity	75% max.

----- 1 -----

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Material and Engineering Laboratory-Douliu



Testing Laboratory
0601

Test Report



Report No : DK-22-01087A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :

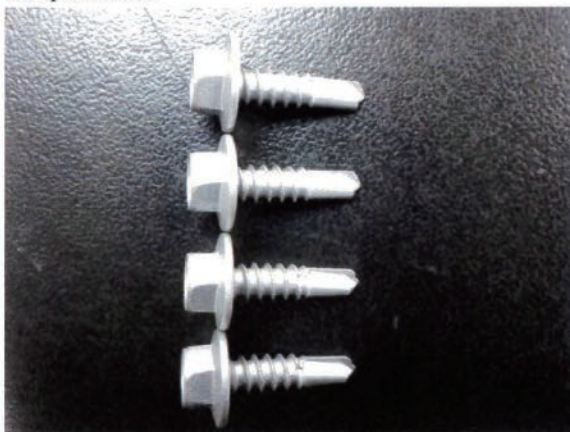


Fig. 1 : Received samples

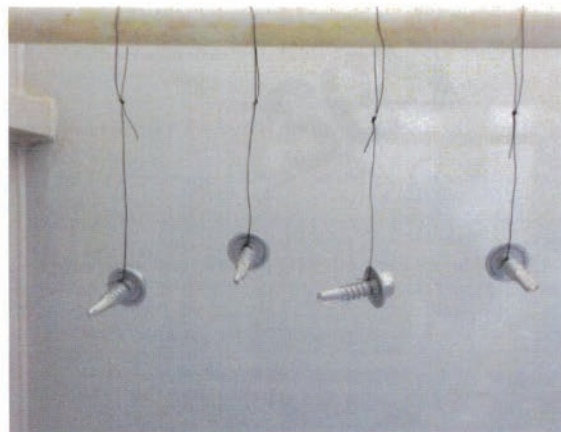


Fig. 2 : Method of Supporting specimens



Fig. 3 : Before test

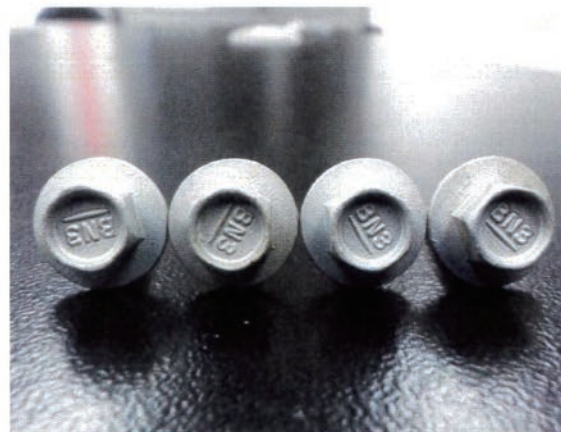


Fig. 4 : After test

Remark: 1. Sulfur Dioxide Corrosion Test (Kesternich Test) test is accredited by TAF.

2. Test location is the same as the laboratory address.

*The Test Report DK-22-01059 and DK-22-01080 and DK-22-01081 and DK-22-01082 and DK-22-01083 and DK-22-01084 and DK-22-01085 and DK-22-01086 and DK-22-01087 and DK-22-01088 are from the same application. The Test Report No. DK-22-01059 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01087. Issued date : Jan.9,2023.

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7003



Material and Engineering Laboratory-Douliu

Testing Laboratory
0601

Test Report



Report No : DK-22-01082A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHC1225C3N(12-14x25)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 7, 2022~ Nov. 22, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Sulfur Dioxide Corrosion Test (Kesternich Test)

Test Method : DIN 50018 (2013) - AHT 2.0 S

Quantity : 4

Test Duration : 15 cycles (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Conditions :

Test Equipment		ERICHSEN 519/SA	
SO ₂ Concentration		2.0 L (0.67%) / Cycle	
Method of Supporting specimens		As show in Fig. 2	
Test Cycle	1st test phase	Test Time	8 Hours
		Test Temp.	40°C±3°C
		Test Humidity	Approximately 100%
	2nd test phase	Test Times	16 Hours
		Test Temp.	18°C~28°C
		Test Humidity	75% max.

----- 1 -----

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Material and Engineering Laboratory-Douliu



Testing Laboratory
0601

Test Report



Report No : DK-22-01082A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :

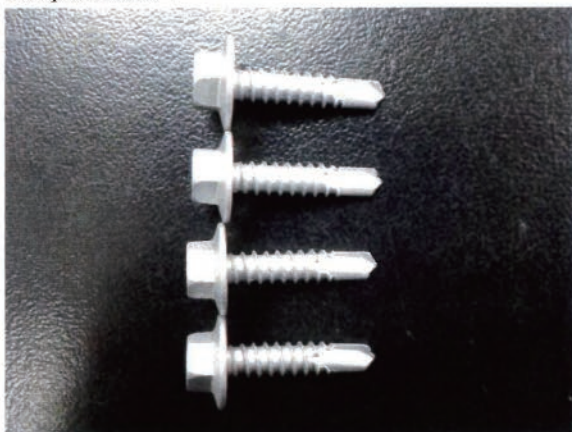


Fig. 1 : Received samples

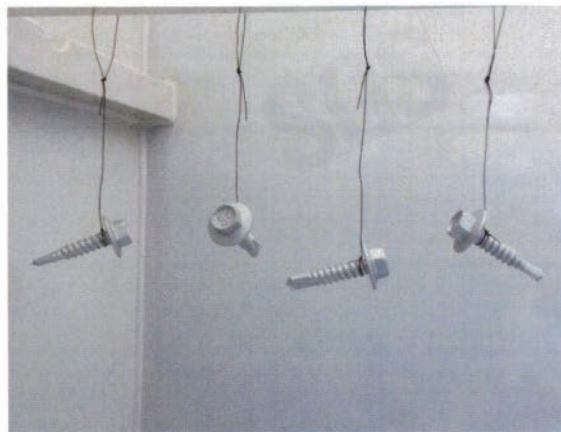


Fig. 2 : Method of Supporting specimens

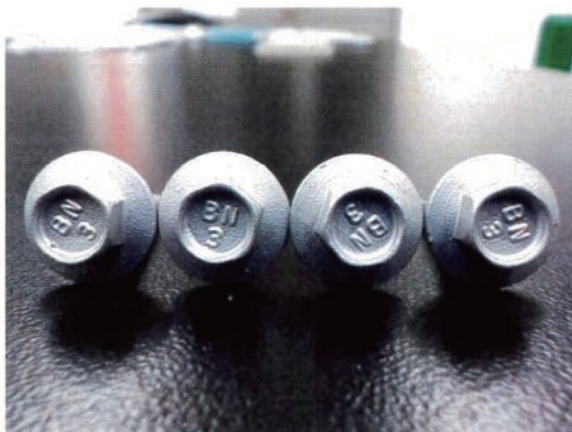


Fig. 3 : Before test

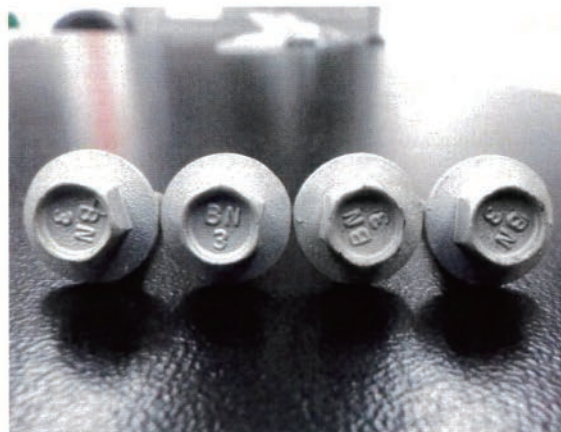


Fig. 4 : After test

Remark: 1. Sulfur Dioxide Corrosion Test (Kesternich Test) test is accredited by TAF.

2. Test location is the same as the laboratory address.

*The Test Report DK-22-01059 and DK-22-01080 and DK-22-01081 and DK-22-01082 and DK-22-01083 and DK-22-01084 and DK-22-01085 and DK-22-01086 and DK-22-01087 and DK-22-01088 are from the same application. The Test Report No. DK-22-01059 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01082. Issued date : Jan.9,2023.

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Material and Engineering Laboratory-Douliu

Testing Laboratory
0601

Test Report



Report No : DK-22-01083A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHC1255C3N(12-14x55)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 7, 2022~Nov. 22, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Sulfur Dioxide Corrosion Test (Kesternich Test)

Test Method : DIN 50018 (2013) - AHT 2.0 S

Quantity : 4

Test Duration : 15 cycles (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Conditions :

Test Equipment		ERICHSEN 519/SA	
SO ₂ Concentration		2.0 L (0.67%) / Cycle	
Method of Supporting specimens		As show in Fig. 2	
Test Cycle	1st test phase	Test Time	8 Hours
		Test Temp.	40°C±3°C
		Test Humidity	Approximately 100%
	2nd test phase	Test Times	16 Hours
		Test Temp.	18°C~28°C
		Test Humidity	75% max.

----- 1 -----

The required specification(s) offered in this test report is/are for reference only.

The conformity judgment is at the Applicant's final verdict.

Signed for and on behalf of

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0.0001-17002



Material and Engineering Laboratory-Douliu



Testing Laboratory
0601

Test Report



Report No : DK-22-01083A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :



Fig. 1 : Received samples

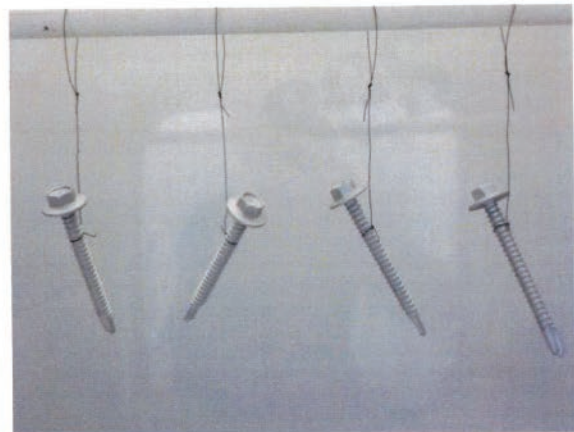


Fig. 2 : Method of Supporting specimens

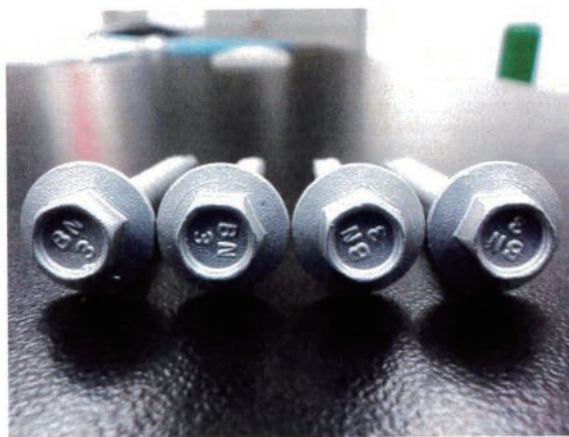


Fig. 3 : Before test

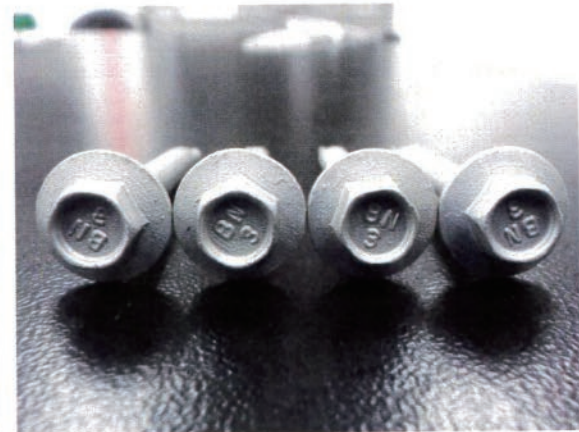


Fig. 4 : After test

Remark: 1. Sulfur Dioxide Corrosion Test (Kesternich Test) test is accredited by TAF.

2. Test location is the same as the laboratory address.

*The Test Report DK-22-01059 and DK-22-01080 and DK-22-01081 and DK-22-01082 and DK-22-01083 and DK-22-01084 and DK-22-01085 and DK-22-01086 and DK-22-01087 and DK-22-01088 are from the same application. The Test Report No. DK-22-01059 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01083. Issued date : Jan.9,2023.

----- oOo -----

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00111-YUN-7005



Material and Engineering Laboratory-Douliu

Testing Laboratory
0601

Test Report



Report No : DK-22-01059A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHCG1250C3N(12-14x50)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 26, 2022
 Date of Testing Nov. 7, 2022~Nov. 22, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

=====

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Sulfur Dioxide Corrosion Test (Kesternich Test)

Test Method : DIN 50018 (2013) - AHT 2.0 S

Quantity : 4

Test Duration : 15 cycles (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Conditions :

Test Equipment		ERICHSEN 519/SA	
SO ₂ Concentration		2.0 L (0.67%) / Cycle	
Method of Supporting specimens		As show in Fig. 2	
Test Cycle	1st test phase	Test Time	8 Hours
		Test Temp.	40°C±3°C
		Test Humidity	Approximately 100%
	2nd test phase	Test Times	16 Hours
		Test Temp.	18°C~28°C
		Test Humidity	75% max.

----- 1 -----

The required specification(s) offered in this test report is/are for reference only.
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Material and Engineering Laboratory-Douliu



Testing Laboratory
0601

Test Report



Report No : DK-22-01059A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :



Fig. 1 : Received samples

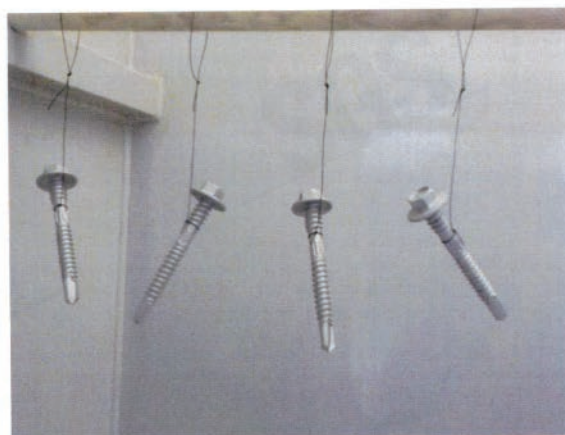


Fig. 2 : Method of Supporting specimens

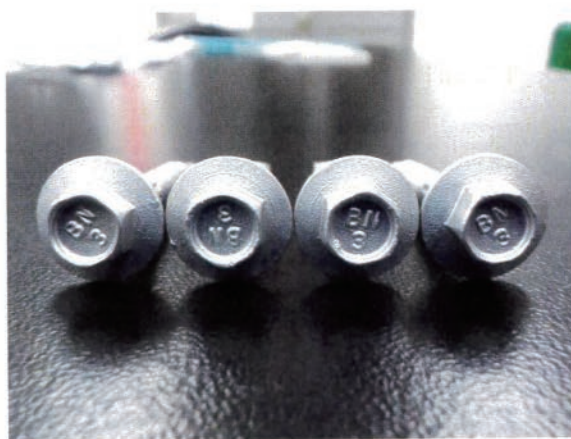


Fig. 3 : Before test

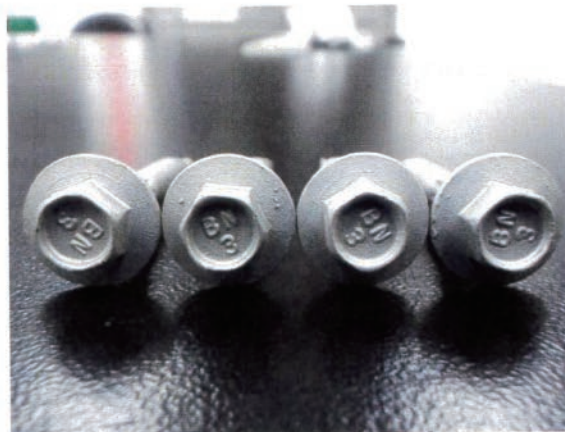


Fig. 4 : After test

Remark: 1. Sulfur Dioxide Corrosion Test (Kesternich Test) test is accredited by TAF.

2. Test location is the same as the laboratory address.

*The Test Report DK-22-01059 and DK-22-01080 and DK-22-01081 and DK-22-01082 and DK-22-01083 and DK-22-01084 and DK-22-01085 and DK-22-01086 and DK-22-01087 and DK-22-01088 are from the same application. The Test Report No. DK-22-01059. Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01059. Issued date : Jan.9,2023.

----- oOo -----

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Material and Engineering Laboratory-Douliu

Testing Laboratory
0601

Test Report



Report No : DK-22-01080A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHCG1255C3N(12-14x55)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 7, 2022~Nov. 22, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Sulfur Dioxide Corrosion Test (Kesternich Test)

Test Method : DIN 50018 (2013) - AHT 2.0 S

Quantity : 4

Test Duration : 15 cycles (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Conditions :

Test Equipment		ERICHSEN 519/SA	
SO ₂ Concentration		2.0 L (0.67%) / Cycle	
Method of Supporting specimens		As show in Fig. 2	
Test Cycle	1st test phase	Test Time	8 Hours
		Test Temp.	40°C±3°C
		Test Humidity	Approximately 100%
	2nd test phase	Test Times	16 Hours
		Test Temp.	18°C~28°C
		Test Humidity	75% max.

----- 1 -----

The required specification(s) offered in this test report is/are for reference only.
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Material and Engineering Laboratory-Douliu



Testing Laboratory
0601

Test Report



Report No : DK-22-01080A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :



Fig. 1 : Received samples

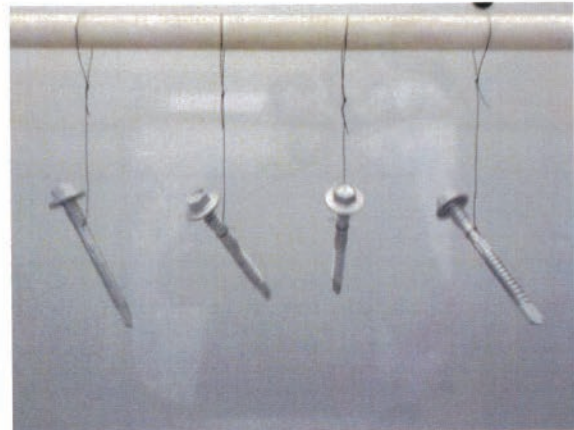


Fig. 2 : Method of Supporting specimens

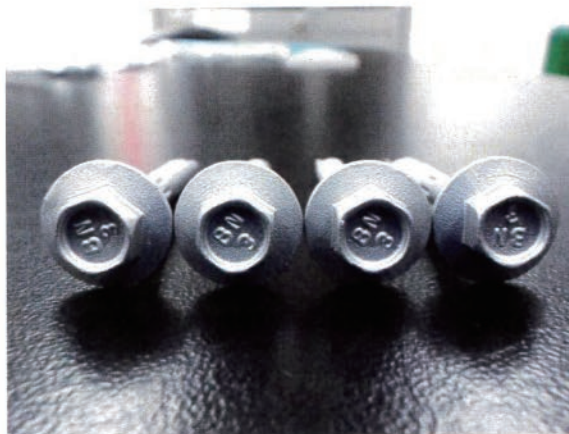


Fig. 3 : Before test

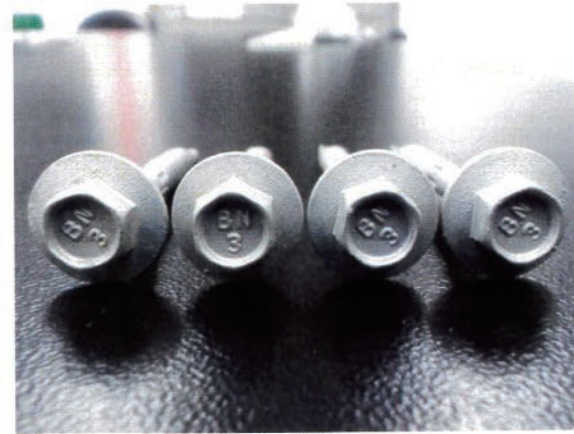


Fig. 4 : After test

Remark: 1. Sulfur Dioxide Corrosion Test (Kesternich Test) test is accredited by TAF.

2. Test location is the same as the laboratory address.

*The Test Report DK-22-01059 and DK-22-01080 and DK-22-01081 and DK-22-01082 and DK-22-01083 and DK-22-01084 and DK-22-01085 and DK-22-01086 and DK-22-01087 and DK-22-01088 are from the same application. The Test Report No. DK-22-01059 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01080. Issued date : Jan.9,2023.

----- oOo -----

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Material and Engineering Laboratory-Douliu

Testing Laboratory
0601

Test Report



Report No : DK-22-01081A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHCG1275C3N(12-14x75)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 7, 2022~ Nov. 22, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Sulfur Dioxide Corrosion Test (Kesternich Test)

Test Method : DIN 50018 (2013) - AHT 2.0 S

Quantity : 4

Test Duration : 15 cycles (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Conditions :

Test Equipment		ERICHSEN 519/SA	
SO ₂ Concentration		2.0 L (0.67%) / Cycle	
Method of Supporting specimens		As show in Fig. 2	
Test Cycle	1st test phase	Test Time	8 Hours
		Test Temp.	40°C±3°C
		Test Humidity	Approximately 100%
	2nd test phase	Test Times	16 Hours
		Test Temp.	18°C~28°C
		Test Humidity	75% max.

----- 1 -----

The required specification(s) offered in this test report is/are for reference only.
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Material and Engineering Laboratory-Douliu



Testing Laboratory
0601

Test Report



Report No : DK-22-01081A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :



Fig. 1 : Received samples

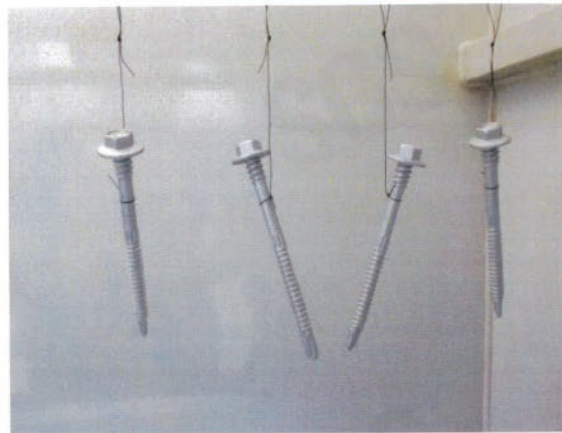


Fig. 2 : Method of Supporting specimens

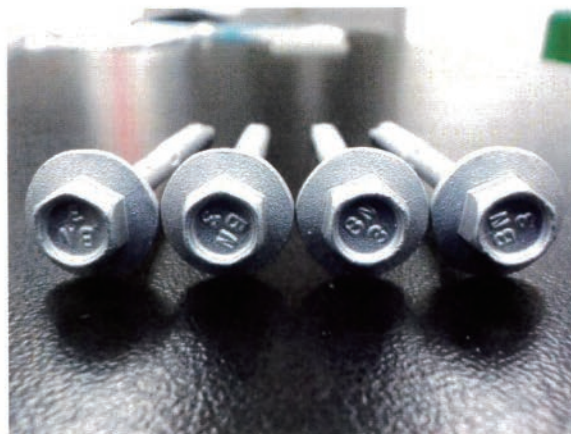


Fig. 3 : Before test

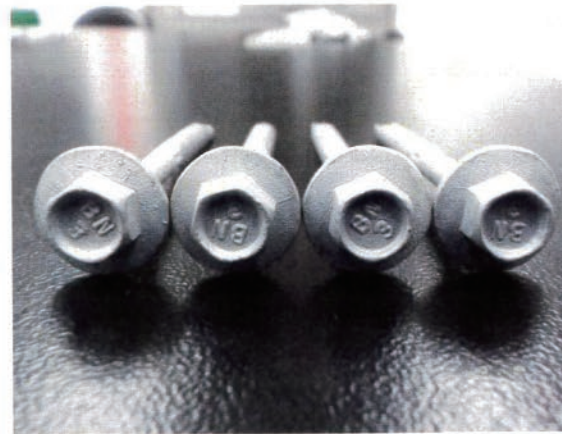


Fig. 4 : After test

Remark: 1. Sulfur Dioxide Corrosion Test (Kesternich Test) test is accredited by TAF.

2. Test location is the same as the laboratory address.

*The Test Report DK-22-01059 and DK-22-01080 and DK-22-01081 and DK-22-01082 and DK-22-01083 and DK-22-01084 and DK-22-01085 and DK-22-01086 and DK-22-01087 and DK-22-01088 are from the same application. The Test Report No. DK-22-01059 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01081. Issued date : Jan.9,2023.

----- oOo -----

The required specification(s) offered in this test report is/are for reference only.

The conformity judgment is at the Applicant's final verdict.

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Material and Engineering Laboratory-Douliu

Testing Laboratory
0601

Test Report



Report No : DK-22-01086A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDH5F1238C3N(12-24x38)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 7, 2022~Nov. 22, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Sulfur Dioxide Corrosion Test (Kesternich Test)

Test Method : DIN 50018 (2013) - AHT 2.0 S

Quantity : 4

Test Duration : 15 cycles (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples


(As show in Fig. 4)

Test Conditions :

Test Equipment			ERICHSEN 519/SA
SO ₂ Concentration			2.0 L (0.67%) / Cycle
Method of Supporting specimens			As show in Fig. 2
Test Cycle	1st test phase	Test Time	8 Hours
		Test Temp.	40°C±3°C
		Test Humidity	Approximately 100%
	2nd test phase	Test Times	16 Hours
		Test Temp.	18°C~28°C
		Test Humidity	75% max.

----- 1 -----

The required specification(s) offered in this test report is/are for reference only.
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Material and Engineering Laboratory-Douliu



Testing Laboratory
0601

Test Report



Report No : DK-22-01086A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :



Fig. 1 : Received samples

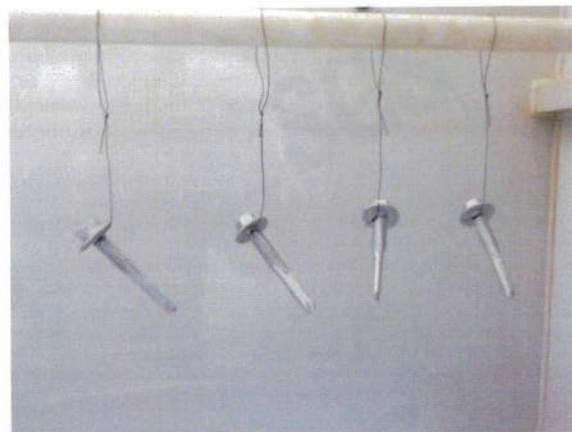


Fig. 2 : Method of Supporting specimens



Fig. 3 : Before test

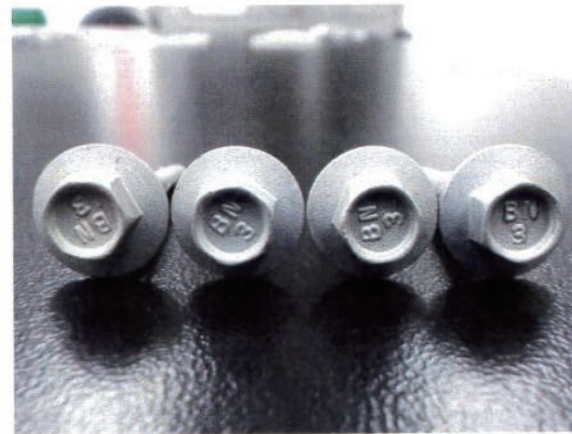


Fig. 4 : After test

Remark: 1. Sulfur Dioxide Corrosion Test (Kesternich Test) test is accredited by TAF.

2. Test location is the same as the laboratory address.

*The Test Report DK-22-01059 and DK-22-01080 and DK-22-01081 and DK-22-01082 and DK-22-01083 and DK-22-01084 and DK-22-01085 and DK-22-01086 and DK-22-01087 and DK-22-01088 are from the same application. The Test Report No. DK-22-01059 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01086. Issued date : Jan.9,2023.

----- oOo -----

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Material and Engineering Laboratory-Douliu

Testing Laboratory
0601

Test Report



Report No : DK-22-01084A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type SDHC1520C3N(15-15x20)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 7, 2022~Nov. 22, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Sulfur Dioxide Corrosion Test (Kesternich Test)

Test Method : DIN 50018 (2013) - AHT 2.0 S

Quantity : 4

Test Duration : 15 cycles (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Conditions :

Test Equipment		ERICHSEN 519/SA	
SO ₂ Concentration		2.0 L (0.67%) / Cycle	
Method of Supporting specimens		As show in Fig. 2	
Test Cycle	1st test phase	Test Time	8 Hours
		Test Temp.	40°C±3°C
		Test Humidity	Approximately 100%
	2nd test phase	Test Times	16 Hours
		Test Temp.	18°C~28°C
		Test Humidity	75% max.

----- 1 -----

The required specification(s) offered in this test report is/are for reference only.
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Material and Engineering Laboratory-Douliu



Testing Laboratory
0601

Test Report



Report No : DK-22-01084A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :

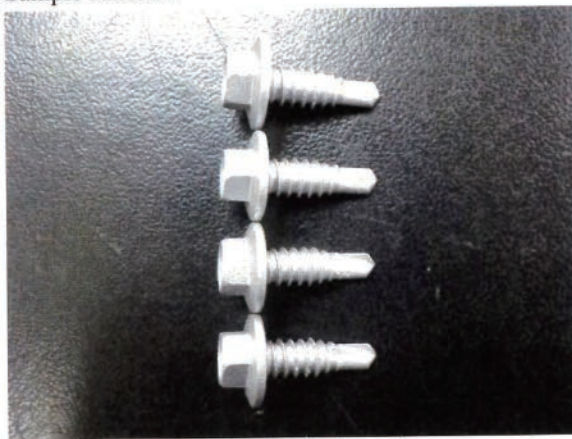


Fig. 1 : Received samples

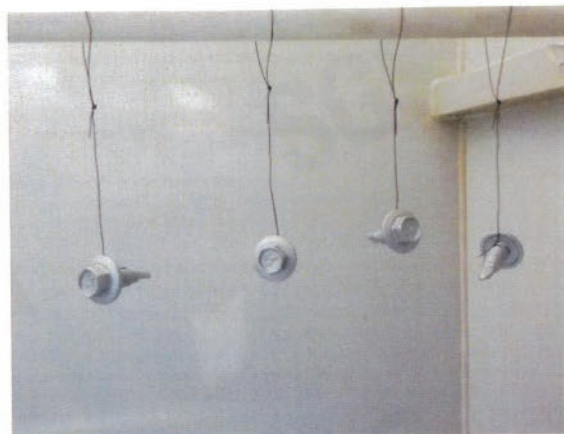


Fig. 2 : Method of Supporting specimens

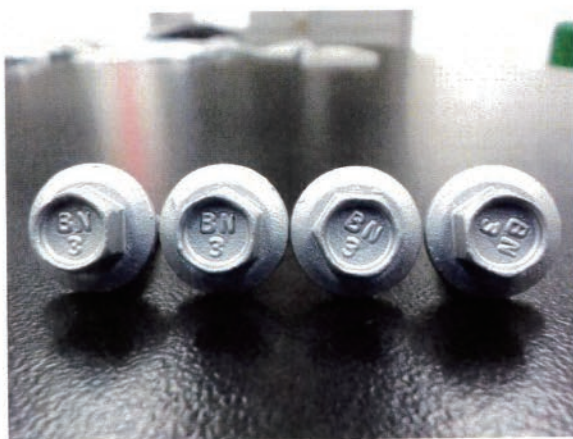


Fig. 3 : Before test

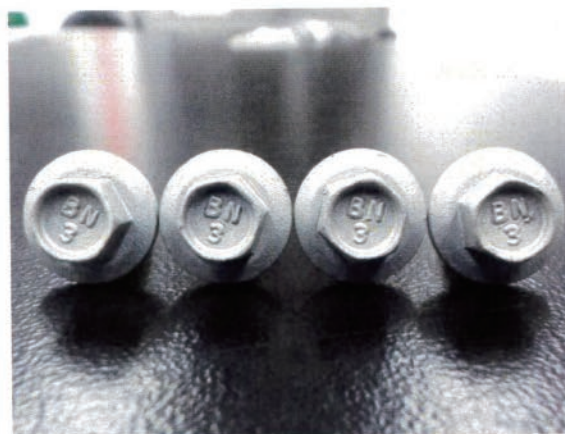


Fig. 4 : After test

Remark: 1. Sulfur Dioxide Corrosion Test (Kesternich Test) test is accredited by TAF.

2. Test location is the same as the laboratory address.

*The Test Report DK-22-01059 and DK-22-01080 and DK-22-01081 and DK-22-01082 and DK-22-01083 and DK-22-01084 and DK-22-01085 and DK-22-01086 and DK-22-01087 and DK-22-01088 are from the same application. The Test Report No. DK-22-01059 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01084. Issued date : Jan.9,2023.

----- oOo -----

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Material and Engineering Laboratory-Douliu

Testing Laboratory
0601

Test Report



Report No : DK-22-01088A

Page No : 1 OF 2

Date of Report : Jan. 9, 2023

BROADEN WORLDWIDE CO., LTD.

No. 47-37, Jiahua Rd., Gangshan Dist, Kaohsiung City 820104, Taiwan (R.O.C)

Product Name Self drilling Screw
 Product Type T17HCG1250C3N(12-11x50)
 Product Submitted By BROADEN WORLDWIDE CO., LTD.
 Date of Sample Received Oct. 28, 2022
 Date of Testing Nov. 7, 2022~Nov. 22, 2022
 Remark The information mentioned in the above section and the following report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : Sulfur Dioxide Corrosion Test (Kesternich Test)

Test Method : DIN 50018 (2013) - AHT 2.0 S

Quantity : 4

Test Duration : 15 cycles (according to client's requirements)

Test Result :

Visual Observation

No red rust was found on the head of all samples

(As show in Fig. 4)

Test Conditions :

Test Equipment		ERICHSEN 519/SA	
SO ₂ Concentration		2.0 L (0.67%) / Cycle	
Method of Supporting specimens		As show in Fig. 2	
Test Cycle	1st test phase	Test Time	8 Hours
		Test Temp.	40°C±3°C
		Test Humidity	Approximately 100%
	2nd test phase	Test Times	16 Hours
		Test Temp.	18°C~28°C
		Test Humidity	75% max.

----- 1 -----

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Material and Engineering Laboratory-Douliu



Testing Laboratory
0601

Test Report



Report No : DK-22-01088A

Page No : 2 OF 2

Date of Report : Jan. 9, 2023

Sample Photos :



Fig. 1 : Received samples

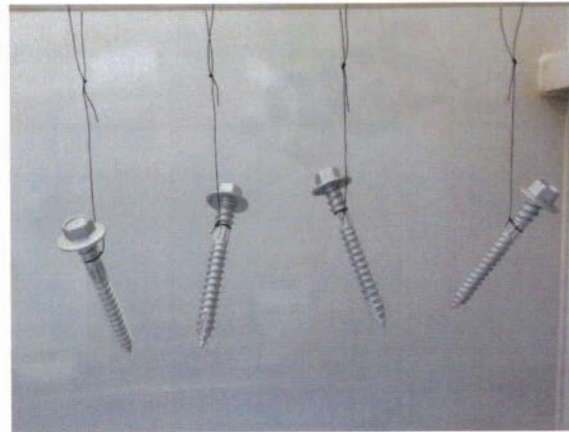


Fig. 2 : Method of Supporting specimens



Fig. 3 : Before test

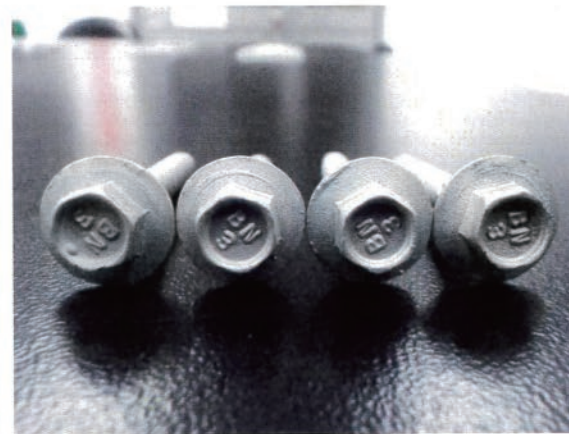


Fig. 4 : After test

Remark: 1. Sulfur Dioxide Corrosion Test (Kesternich Test) test is accredited by TAF.

2. Test location is the same as the laboratory address.

*The Test Report DK-22-01059 and DK-22-01080 and DK-22-01081 and DK-22-01082 and DK-22-01083 and DK-22-01084 and DK-22-01085 and DK-22-01086 and DK-22-01087 and DK-22-01088 are from the same application. The Test Report No. DK-22-01059 . Received date: Oct.26,2022.

* Remark: This Test Report is an additional original report of DK-22-01088. Issued date : Jan.9,2023.

----- oOo -----

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Material & Engineering Laboratory-Douliu

Test Report



Report No : DV-22-00654

Page No : 1 OF 7

Date of Report : Mar. 25, 2023

Project Name Self drilling Screw
 Owner BROADEN WORLDWIDE CO., LTD.
 Applicant BROADEN WORLDWIDE CO., LTD.
 Supplier BROADEN WORLDWIDE CO., LTD.
 Sample Name BN3-SDHC1225C3N(12-14×25mm), BN3-SDHCG1255C3N(12-14×55mm)
 BN3-SDHCG1265C3N(12-14×65mm), BN3-SDHCG1275C3N(12-14×75mm)
 Sample Submitted By BROADEN WORLDWIDE CO., LTD.(Kidd Chen)
 Date of Sample Received Dec. 12, 2022
 Date of Testing Dec. 13, 2022~Mar. 24, 2023
 Remark The information mentioned in the above section and the following
 report content marks # are provided by Client.
 (Exclude Product Name, Product Submitted By, Date of Sample Received
 and Date of Testing)

TEST RESULTS :

Test Item(s)		Test Method	Test Result(s)
UV Exposure Test (2000 h)			
Sample 12-14×25 mm	Sample. 1	ASTM G154-16	No effect
	Sample. 2		No effect
	Sample. 3		No effect
	Sample. 4		No effect
	Sample. 5		No effect
Sample 12-14×55 mm	Sample. 1		No effect
	Sample. 2		No effect
	Sample. 3		No effect
	Sample. 4		No effect
	Sample. 5		No effect

----- 1 -----

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Material & Engineering Laboratory-Douliu

Test Report



Report No : DV-22-00654

Page No : 2 OF 7

Date of Report : Mar. 25, 2023

TEST RESULTS :

Test Item(s)		Test Method	Test Result(s)
UV Exposure Test (2000 h)		ASTM G154-16	
Sample 12-14×65 mm	Sample. 1		No effect
	Sample. 2		No effect
	Sample. 3		No effect
	Sample. 4		No effect
	Sample. 5		No effect
Sample 12-14×75 mm	Sample. 1		No effect
	Sample. 2		No effect
	Sample. 3		No effect
	Sample. 4		No effect
	Sample. 5		No effect

Test Item(s)		Test Method	Test Result(s)
Humidity Test [(38±2)°C, (95±5)RH, 1000 h]		ASTM D2247-15(2020)	
Sample 12-14×25 mm	Sample. 1		No effect
	Sample. 2		No effect
	Sample. 3		No effect
	Sample. 4		No effect
	Sample. 5		No effect
Sample 12-14×55 mm	Sample. 1		No effect
	Sample. 2		No effect
	Sample. 3		No effect
	Sample. 4		No effect
	Sample. 5		No effect

----- 2 -----

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Material & Engineering Laboratory-Douliu

Test Report



Report No : DV-22-00654

Page No : 3 OF 7

Date of Report : Mar. 25, 2023

TEST RESULTS :

Test Item(s)		Test Method	Test Result(s)
Humidity Test [(38±2)°C, (95±5)RH, 1000 h]			
Sample 12-14×65 mm	Sample. 1	ASTM D2247-15(2020)	No effect
	Sample. 2		No effect
	Sample. 3		No effect
	Sample. 4		No effect
	Sample. 5		No effect
Sample 12-14×75 mm	Sample. 1		No effect
	Sample. 2		No effect
	Sample. 3		No effect
	Sample. 4		No effect
	Sample. 5		No effect

Remark : 1. # UV Exposure Test according to ASTM G154-16 for 2000 h and the conditions information is provided by Client as below:

(1)Lamp: UVA-340. (2)Typical Irradiance: 0.89 W/m²/nm.

(3)Approximate Wavelength: 340 nm. (4)Test Machine: Q-LAB QUV.

(5) Exposure Cycle: 4h UV at 60 °C BPT ; 4h Condensation at 50°C BPT.

2. # Humidity Test information is provided by Client as below: (38±2)°C, (95±5)RH, 1000 h.

3. Description of the item : Self drilling Screw.

4. Humidity Test is subcontracted to SGS Material and Engineering Laboratory -Tciahung.

5. Test location of No. 9, 14th Rd., Taichung Industrial Park, Taichung City 407271, Taiwan.

Test location of other items: the same as the laboratory address.

----- 3 -----

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Material & Engineering Laboratory-Douliu

Test Report

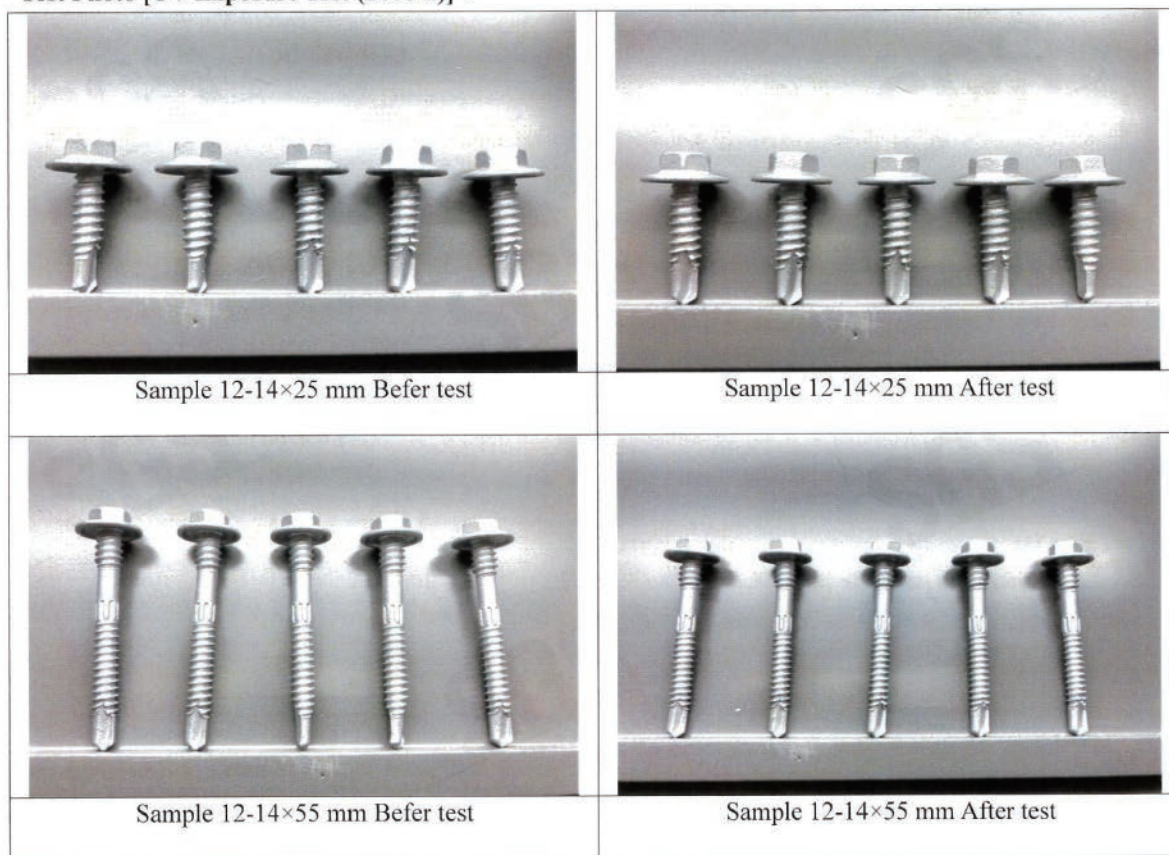


Report No : DV-22-00654

Page No : 4 OF 7

Date of Report : Mar. 25, 2023

Test Photo [UV Exposure Test (2000 h)] :



----- 4 -----

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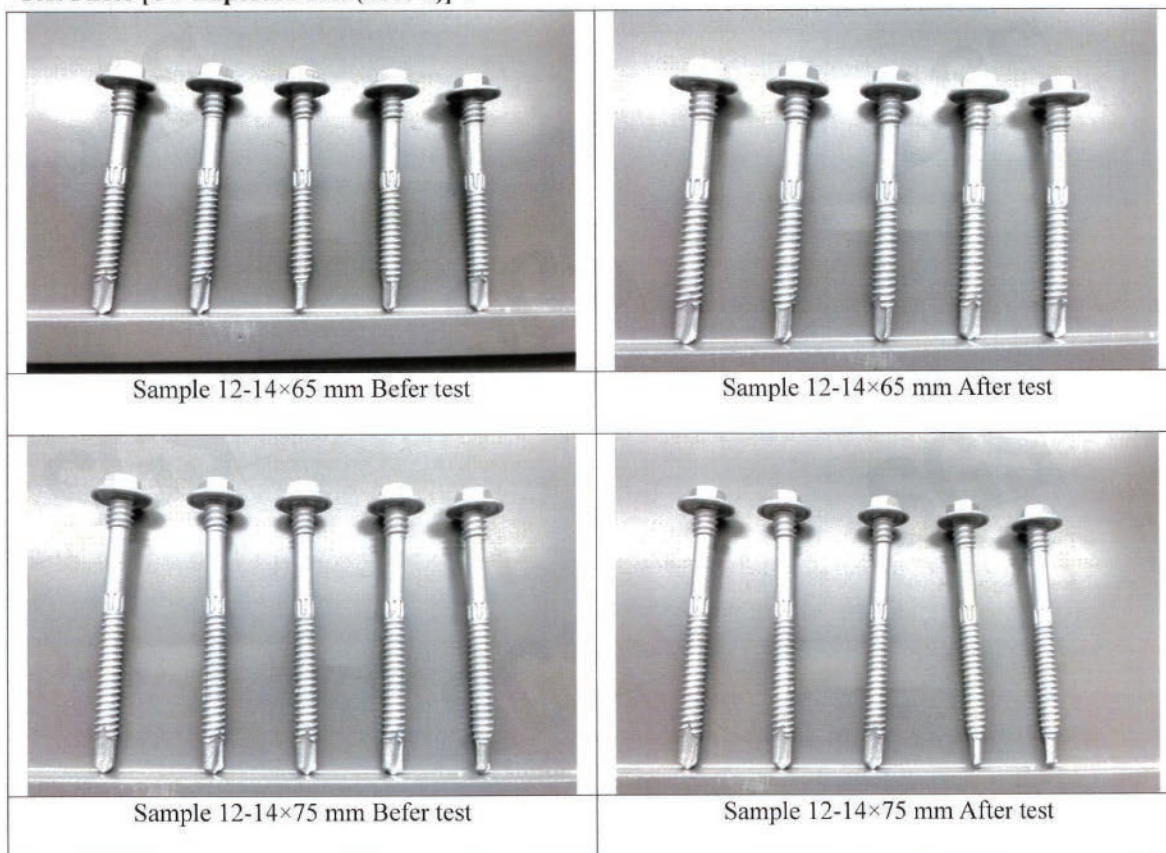
Material & Engineering Laboratory-Douliu

Test Report



Report No : DV-22-00654
Page No : 5 OF 7
Date of Report : Mar. 25, 2023

Test Photo [UV Exposure Test (2000 h)] :



----- 5 -----

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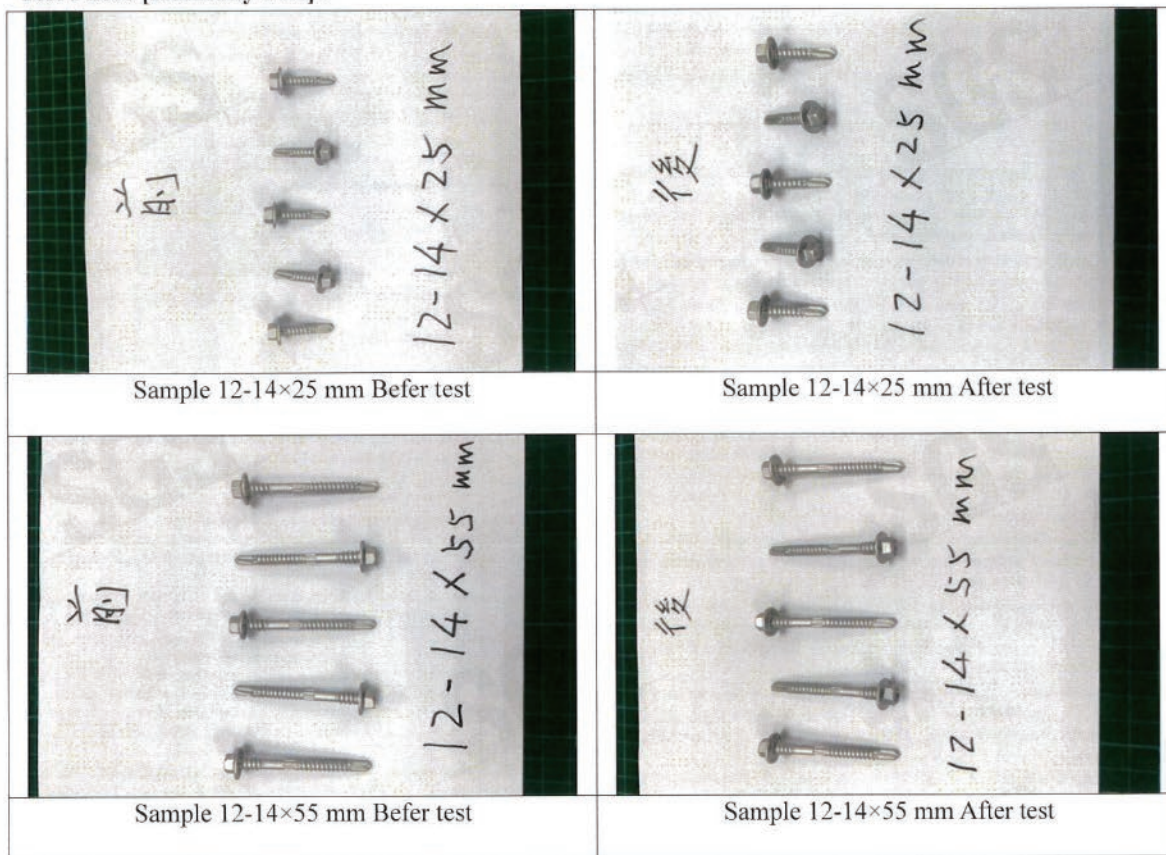
Material & Engineering Laboratory-Douliu

Test Report



Report No : DV-22-00654
Page No : 6 OF 7
Date of Report : Mar. 25, 2023

Test Photo [Humidity Test] :



----- 6 -----

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TWD 6999680

Guhan-Yu Chen
7001



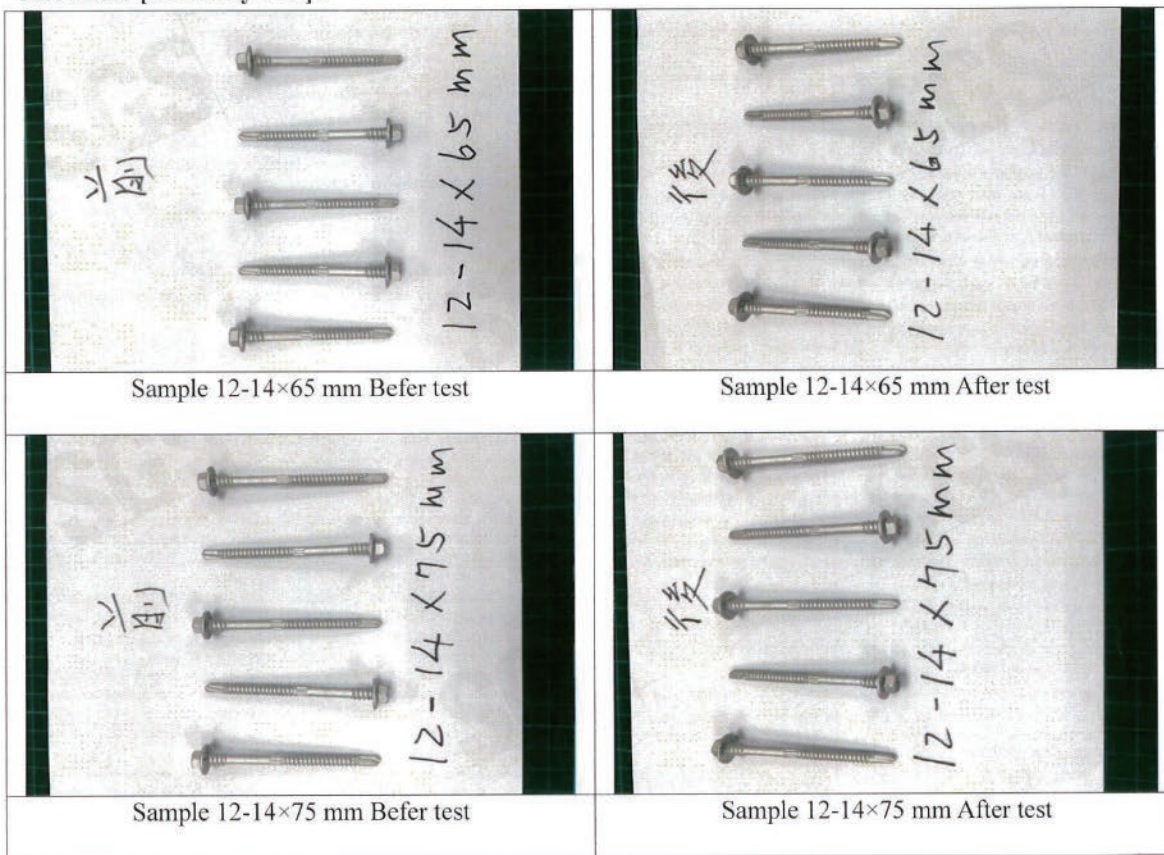
Material & Engineering Laboratory-Douliu

Test Report



Report No : DV-22-00654
Page No : 7 OF 7
Date of Report : Mar. 25, 2023

Test Photo [Humidity Test] :



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Guo-Yu Chen
7001

Report date: Dec. 05, 2022 tested by SGS and Nov. 04, 2022 tested by PIDC

Product range: ECO-BDN GREEN EPDM WASHER

Technical Specification:

	Fastener Gauge: #10		
	Outside Diameter (mm)	Inside Diameter (mm)	Thickness (mm)
	9.6	4.9	2.6
	Fastener Gauge: #12		
	Outside Diameter (mm)	Inside Diameter (mm)	Thickness (mm)
	11.1	6.7	2.6
	Fastener Gauge: #14		
	Outside Diameter (mm)	Inside Diameter (mm)	Thickness (mm)
	11.1	7.5	2.6

 **Eco-BDN
Green Washer**



BDN FASTENERS, guarantee that the goods from the above "Product range" complies with the Australia & International Standards details below.

ASTM Method	Test Description	Specification	Result
D2240	Shore 'A' Hardness	80 +/- 5	82
D412	Tensile Strength (Mpa)	4.0 min	7.79
	Elongation (%)	150 min	410
D624	Tear Strength (kN/m)	20 min	33
D395	Compression set (%)	-	27
D573	Heat Resistance 70hrs @100°C	-	-
	Tensile Strength Change (%)	+/-10	+11
	Elongation Change (%)	+/-25	-22
	Hardness Change (Type A/1 sec)	+/-25	+4
D1171	Resistance to Ozone (100hrs@40°C)	-	100ppm No cracks
D2137	Low Temperature Brittleness (3min@-50°C)	-	Non-brittle
D257	Surface Resistivity (Ω)	-	Non-conductive
	Volume Resistivity(Ω-cm)	-	Non-conductive



Material and Engineering Laboratory-Kaohsiung

Test Report



Report No. : KV-22-08611
Page No. : 1 OF 8
Date of Report : Dec. 05, 2022

BROADEN WORLDWIDE CO., LTD.

Product Name ECO-BDN GREEN EPDM WASHER
Product Submitted By BROADEN WORLDWIDE CO., LTD.
Date of Sample Received Oct. 25, 2022
Date of Testing Oct. 25, 2022~Dec. 05, 2022
Remark The information mentioned in the above section and the following report content marks # are provided by Client. (Exclude Product Name, Product Submitted By, Date of Sample Received and Date of Testing)

The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request :

1. Tensile strength and Elongation
2. Hardness
3. Heat Aging
 - 3.1 Tensile Strength and Elongation Change
 - 3.2 Hardness change
4. Compression set
5. Brittleness Temperature
6. Tear Strength
7. Ozone Resistance

Test Method : Please see attached pages

Test Result : Please see attached pages

----- 1 -----

Signed for and on behalf of
SGS Taiwan Ltd.

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Material and Engineering Laboratory-Kaohsiung

Test Report



Report No. : KV-22-08611
Page No. : 2 OF 8
Date of Report : Dec. 05,2022

1.Tensile strength and Elongation

Test Equipment :

Name	Brand	Model
Universal Testing Machine	INSTRON	5566A

Lab Environmental Conditions :

Ambient Temperature : $(23 \pm 2) ^\circ\text{C}$

Relative humidity : $(50 \pm 5) \%$

Test Method :

ASTM D412-16 Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension.

Test Condition :

Specimens Condition : Condition 48 h at $23 \pm 2 ^\circ\text{C}$ and $50 \pm 5 \%$ relative humidity.

Type of test piece was used : Die C

Gauge length : 25 mm.

Testing rate : 500 mm/min.

Test Result :

Test Item	Test Result
Tensile strength (MPa)	7.79
Elongation (%)	410

----- 2 -----

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Test Report



Report No. : KV-22-08611

Page No. : 3 OF 8

Date of Report : Dec. 05, 2022

2.Hardness

Test Equipment :

Name	Brand	Model
Hardness tester	TECLOCK	Type A GS-709N

Lab Environmental Conditions :

Ambient Temperature : $(23 \pm 2) ^\circ\text{C}$

Relative humidity : $(50 \pm 5) \%$

Test Method :

ASTM D2240-15^{E1} Standard Test Methods for Rubber Property - Durometer Hardness.

Test Condition :

Specimens Condition : Condition 48 h at $23 \pm 2 ^\circ\text{C}$ and $50 \pm 5 \%$ relative humidity.

Indenter Type : Type A

Reading Time : 1 sec.

Test Result :

Test Item	Test Result
Hardness (Type A/1 sec)	82

----- 3 -----

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Test Report



Report No. : KV-22-08611

Page No. : 4 OF 8

Date of Report : Dec. 05, 2022

3.Heat Aging

Test Equipment :

Name	Brand	Model
Universal Testing Machine	INSTRON	5566A
Aging Tester	RISEN	SAT-60
Hardness tester	TECLOCK	Type A GS-709N

Lab Environmental Conditions :

Ambient Temperature : (23 ± 2) °C

Relative humidity : (50 ± 5) %

Test Method :

ASTM D573-04 Standard Test Method for Rubber—Deterioration in an Air Oven

Test Condition :

Test time : 70 h

Test temperature : 100 °C

Test Result :

Test Item	Test Result
Tensile strength Change (%)	+ 11
Elongation Change (%)	- 22
Hardness Change(Type A/1 sec)	+ 4

----- 4 -----

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Test Report



Report No. : KV-22-08611
Page No. : 5 OF 8
Date of Report : Dec. 05, 2022

4. Compression set

Test Equipment :

Name	Brand	Model
Aging Tester	RISEN	SAT-60
Micrometer	Mitutoyo	ID-S1012M

Lab Environmental Conditions :

Ambient Temperature : $(23 \pm 2) ^\circ\text{C}$
Relative humidity : $(50 \pm 10) \%$

Test Method :

ASTM D395-18 Standard Test Methods for Rubber Property Compression Set¹ (Method B)

Test Condition :

Test temperature : $70 ^\circ\text{C}$
Test time : 22 h
Compression ratio : 25 %
Spacer thickness : 9.51 mm

Test Result :

Test Item	Test Result
Compression set (%)	27

----- 5 -----

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Test Report



Report No. : KV-22-08611
Page No. : 6 OF 8
Date of Report : Dec. 05,2022

5. Brittleness Temperature

Test Equipment :

Name	Brand	Model
Brittleness Temperature Tester	GOTECH	GT-7061-D

Test Method :

ASTM D2137-11 Standard Test Methods for Rubber Property—Brittleness Point of Flexible Polymers and Coated Fabrics¹

Test Condition :

Test time : 3 min.
Test temperature : - 50 °C
Specimen shape : Type A
Conductive material : 95 % Alcohol

Test Result :

Test Item	Test Result
Brittleness Temperature	Test number : 10 Failure number : 0

----- 6 -----

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Test Report



Report No. : KV-22-08611
Page No. : 7 OF 8
Date of Report : Dec. 05, 2022

6. Tear Strength

Test Equipment :

Name	Brand	Model
Universal Testing Machine	INSTRON	5566A

Lab Environmental Conditions :

Ambient Temperature : $(23 \pm 2) ^\circ\text{C}$

Relative humidity : $(50 \pm 5) \%$

Test Method :

ASTM D624-00 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers¹

Test Condition :

Specimens Condition : Condition 48 h at $23 \pm 2 ^\circ\text{C}$ and $50 \pm 5 \%$ relative humidity.

Type of test piece was used : Die C

Testing rate : 500 mm/min.

Test Result :

Test Item	Test Result
Tear strength (kN/m)	33.0

----- 7 -----

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Material and Engineering Laboratory-Kaohsiung

Test Report



Report No. : KV-22-08611
Page No. : 8 OF 8
Date of Report : Dec. 05,2022

7.Ozone Resistance

Test Equipment :

Name	Brand	Model
Ozone Chamber	U-CAN	UA-2074

Lab Environmental Conditions :

Ambient Temperature : (23 ± 2) °C

Relative humidity : (50 ± 5) %

Test Method :

Ref.ASTM D1171-18 Standard Test Method for Rubber Deterioration - Surface Ozone
Cracking Outdoors (Triangular Specimens)¹

Test Condition :

Ozone Concentration : 100 pphm

Test Temperature : 40 °C

Test Time : 100 h

Strain of Elongation : 20 %

Test Result :

Test Item	Test Result
Ozone Resistance	No cracks on the surface of the specimen

Remark : Test location is the same as the laboratory address.

----- oOo -----

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財團法人 塑膠工業技術發展中心
Plastics Industry Development Center

Polymer Materials Analysis Laboratory Analysis/Test Report

Date Received: 2022/10/26

Assignment No: 111A011-J112229

Date Issued: 2022/11/09

Applicant : Broaden Worldwide Co., Ltd.

Address : No. 47-37, Jiahua Rd., Gangshan Dist.,
Kaohsiung City 820104, Taiwan (R.O.C)

Articles : Eco-BDN®Green EPDM Washer

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2. The contents of this report is for reference only, not for advertising, general public or any other commercial purposes.
3. The article(s)、name of the article(s) to be tested and Sampler(s) is supplied by the applicant ; PIDC is responsible for carrying out necessary analyzing procedures only.
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5. “*” Means the method has been certified by ISO/IEC 17025.

Authorized by

Ou Yen-Ting
Ou Yen-Ting
Group Leader





財團法人 塑膠工業技術發展中心
Plastics Industry Development Center

Polymer Materials Analysis Laboratory Analysis/Test Report

Application No : 111A011-J112229
Date Tested : 2022/11/04

Item(s)/ Method(s)	Result(s)	Note
--------------------	-----------	------

1. Surface Resistivity
Ref. ASTM D257

Surface Resistivity (Ω)	
#1	2.97×10^6
#2	5.97×10^6
#3	2.04×10^6
Mean	3.66×10^6
SD	2.1×10^6

2. Volume Resistivity
Ref. ASTM D257

Volume Resistivity ($\Omega\text{-cm}$)	
#1	1.85×10^7
#2	1.40×10^8
#3	1.21×10^8
Mean	9.32×10^7
SD	6.5×10^7

REMARK :

1. Surface Resistivity

- 1.1 Sample Preparation Method: Cutting molding
- 1.2 Conditioning of Sample: $23^\circ\text{C} \pm 2^\circ\text{C}$, 50 % \pm 5 % Relative Humidity, over 40 h
- 1.3 Conditioning of Experimental: $23^\circ\text{C} \pm 2^\circ\text{C}$, 50 % \pm 5 % Relative Humidity
- 1.4 Sample Mean Thickness: 3.11 mm
- 1.5 Take the result to three significant figures.

2. Volume Resistivity

- 2.1 Sample preparation method: Cutting molding
- 2.2 Conditioning of sample: $23^\circ\text{C} \pm 2^\circ\text{C}$, 50 % \pm 5 % relative humidity, over 40 h
- 2.3 Conditioning of experimental: $23^\circ\text{C} \pm 2^\circ\text{C}$, 50 % \pm 5 % relative humidity
- 2.4 Sample mean thickness: 3.11 mm
- 2.5 Test voltage: 10 V
- 2.6 Test time: 60 sec
- 2.7 Take the result to three significant figures.



財團法人 塑膠工業技術發展中心
Plastics Industry Development Center

Polymer Materials Analysis Laboratory Analysis/Test Report

Application No : 111A011-J112229

Date Tested : 2022/11/04

Attached photo 1: Sample



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TEST CERTIFICATES

3RD PARTY LABORATORIES

BDN FASTENERS® HEADQUARTER (TAIWAN)

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