

Garden-Five Works B-604, # 52, Choongmin-Ro, Songpa-Gu, Seoul, South Korea 138-961 Tel: 82-2-418-4209 www.api-korea.com e-mail: patech@netsgo.com

Fire-safe Test Certificate for Design Validation

Certificate No. FTS-2015-DKL-BV-150-2-A105-1

Applicant / Manufacturer

: DK-LOK Corporation.

Kind of test

: Fire-safe design validation test for type-approval

Date: Oct. 07, 2015

Test item

: DBB Ball Valve 2"-Class 150 Flanged, RF 1 set

Body & Flange Connector: A105

Ball & Seat Retainer: A276-type 316

Ball Seat : Peek, Retainer Seal : Graphite O-Ring / Back-up Ring : Viton / RTFE

Stem: A276-type 316, Stem Bearing: Peek

Flange Conn. Stud Bolt/Nut : A193-B7/A194-2H Drawing No: 150-50A-RF-A105 Rev.0/2015.09.08

Design Std / Test Std

: ASME B16.34 / API 607:6th:2010

Test Date

: Sept. 22, 2015 (Report # TCHPV-15-10-109)

Test Place

: Technical Center for High Performance Valves,

Dong-A University in Busan, Korea

This is to certify that the fire test has been performed by the manufacturer under our witness as above, and the results are satisfied with the requirements of API 607 for the above product, so we hereby confirm the qualification of Steel valves of Class 150 through Class 300 rating with 2" and below, 2 ½", 3", 4" size per API 607 Clause 7.3 & 7.4.

Note

This certificate reflects only our witnessing findings at the time and place of test and does not refer to any other matters.

Reviewed by Surveyor

Pacific Technical Service Co., Ltd.

☑ Approved by 2015.10.

Sun. H. Xoo

S. H. Koo / Manager, Industrial Service Dept.

The issue of this certificate shall not relieve the Supplier or Manufacturer from any responsibility or such guarantees as may be arranged, nor no interpreted so as in any way to imply acceptance of such products. Neither Pacific Technical Service Co., Ltd. be held responsible in any way whatever the technical accuracy and contents of the purchaser's order.



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Fire-safe Test Certificate for Design Validation

Certificate No. FTS-2015-DKL-BV-600-2-A105-2

Applicant / Manufacturer

: DK-LOK Corporation.

Kind of test

: Fire-safe design validation test for type-approval

Date: Oct. 07, 2015

Test item

: DBB Ball Valve 2"-Class 600 Flanged, RF 1 set

Body & Flange Connector: A105

Ball & Seat Retainer: A276-type 316

Ball Seat : Peek, Retainer Seal : Graphite

O-Ring / Back-up Ring : Viton / RTFE

Stem: A276-type 316, Stem Bearing: Peek

Flange Conn. Stud Bolt/Nut: A193-B7/A194-2H Drawing No: 600-50A-RF-A105 Rev.0/2015.09.08

Design Std / Test Std

: ASME B16.34 / API 607:6th:2010

Test Date

: Sept. 23, 2015 (Report # TCHPV-15-10-110)

Test Place

: Technical Center for High Performance Valves,

Dong-A University in Busan, Korea

This is to certify that the fire test has been performed by the manufacturer under our witness as above, and the results are satisfied with the requirements of API 607 for the above product, so we hereby confirm the qualification of Steel valves of Class 600 through Class 900 rating with 2" and below, 2 ½", 3", 4" size per API 607 Clause 7.3 & 7.4.

Note

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Pacific Technical Service Co., Ltd.

☑ Reviewed by

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Fire-safe Test Certificate for Design Validation

Certificate No. FTS-2015-DKL-BV-1500-2-A105-1

Applicant / Manufacturer

: DK-LOK Corporation.

Kind of test

: Fire-safe design validation test for type-approval

Test item

: DBB Ball Valve 2"-Class 1500 Flanged, RTJ 1 set

Date: Oct. 07, 2015

Body & Flange Connector: A105

Ball & Seat Retainer: A276-type 316

Ball Seat: Peek, Retainer Seal: Graphite

O-Ring / Back-up Ring: Viton / RTFE

Stem: A276-type 316, Stem Bearing: Peek

Flange Conn. Stud Bolt/Nut : A193-B7/A194-2H Drawing No: 1500-50A-RJ-A105 Rev.0/2015.09.08

: ASME B16.34 / API 607:6th:2010

Test Date

Design Std / Test Std

: Sept. 24, 2015 (Report # TCHPV-15-10-111)

Test Place

: Technical Center for High Performance Valves,

Dong-A University in Busan, Korea

This is to certify that the fire test has been performed by the manufacturer under our witness as above, and the results are satisfied with the requirements of API 607 for the above product, so we hereby confirm the qualification of Steel valves of Class 1500 through Class 2500 rating with 2" and below, 2 ½", 3", 4" size per API 607 Clause 7.3 & 7.4.

Note

This certificate reflects only our witnessing findings at the time and place of test and does not refer to any other matters.

✓ Witnessed by API

✓ Reviewed by Surveyor

Pacific Technical Service Co., Ltd.

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Fire-safe Test Certificate for Design Validation

Certificate No. FTS-2015-DKL-BV-150-2-F316-1

Applicant / Manufacturer : DK-LOK Corporation

Kind of test : Fire-safe design validation test for type-approval

Test item : DBB Ball Valve 2"-Class 150 Flanged, RF 1 set

Body & Flange Connector: A182-F316
Ball & Seat Retainer: A276-type 316
Ball Seat: Peek, Retainer Seal: Graphite

O-Ring / Back-up Ring : Viton / RTFE

Stem: A276-type 316, Stem Bearing: Peek

Flange Conn. Stud Bolt/Nut : A193-B8M/A194-8M Drawing No: 150-50A-RF-F316 Rev.0/2015.09.08

Date: Nov. 06, 2015

Design Std / Test Std : ANSI B16.34 / API 607:6th:2010

Test Date : Oct. 27, 2015 (Report # TCHPV-15-11-112)

Test Place : Technical Center for High Performance Valves,

Dong-A University in Busan, Korea

This is to certify that the fire test has been performed by the manufacturer under our witness as above, and the results are satisfied with the requirements of API 607 for the above product, so we hereby confirm the qualification of Stainless Steel valves of Class 150 through Class 300 rating with 2" and below, 2 ½", 3", 4" size per API 607 Clause 7.3 & 7.4.

Note

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✓ Witnessed by API

✓ Reviewed by Surveyor

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Fire-safe Test Certificate for Design Validation

Certificate No. FTS-2015-DKL-BV-600-2-F316-2 Date: Nov. 06, 2015

Applicant / Manufacturer : DK-LOK Corporation

Kind of test : Fire-safe design validation test for type-approval

Test item : DBB Ball Valve 2"-Class 600 Flanged, RF 1 set

Body & Flange Connector: A182-F316
Ball & Seat Retainer: A276-type 316
Ball Seat: Peek, Retainer Seal: Graphite
O-Ring / Back-up Ring: Viton / RTFE

Stem: A276-type 316, Stem Bearing: Peek

Flange Conn. Stud Bolt/Nut : A193-B8M/A194-8M Drawing No: 600-50A-RF-F316 Rev.0/2015.09.08

Design Std / Test Std : ANSI B16.34 / API 607:6th:2010

Test Date : Oct. 28, 2015 (Report # TCHPV-15-11-113)
Test Place : Technical Center for High Performance Valves,

Dong-A University in Busan, Korea

This is to certify that the fire test has been performed by the manufacturer under our witness as above, and the results are satisfied with the requirements of API 607 for the above product, so we hereby confirm the qualification of Stainless Steel valves of Class 600 through Class 900 rating with 2" and below, 2 ½", 3", 4" size per API 607 Clause 7.3 & 7.4.

Note

This certificate reflects only our witnessing findings at the time and place of test and does not refer to any other matters.

✓ Witnessed by API✓ Reviewed by Surveyor

Pacific Technical Service Co., Ltd.

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Fire-safe Test Certificate for Design Validation

Certificate No. FTS-2015-DKL-BV-1500-2-F316-3

Applicant / Manufacturer

: DK-LOK Corporation

Kind of test : Fire-safe design validation test for type-approval

Test item : DBB Ball Valve 2"-Class 1500 Flanged, RTJ 1 set

> Body & Flange Connector: A182-F316 Ball & Seat Retainer: A276-type 316 Ball Seat: Peek, Retainer Seal: Graphite

O-Ring / Back-up Ring: Viton / RTFE

Stem: A276-type 316, Stem Bearing: Peek

Flange Conn. Stud Bolt/Nut: A193-B8M/A194-8M Drawing No: 1500-50A-RJ-F316 Rev.0/2015.09.08

Date: Nov. 06, 2015

Design Std / Test Std : ANSI B16.34 / API 607:6th:2010

Test Date : Oct. 29, 2015 (Report # TCHPV-15-11-114)

: Technical Center for High Performance Valves, **Test Place**

Dong-A University in Busan, Korea

This is to certify that the fire test has been performed by the manufacturer under our witness as above, and the results are satisfied with the requirements of API 607 for the above product, so we hereby confirm the qualification of Stainless Steel valves of Class 1500 through Class 2500 rating with 2" and below, 2 ½", 3", 4" size per API 607 Clause 7.3 & 7.4.

Note

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✓ Witnessed by A ☑ Reviewed by Surveyo Pacific Technical Service Co., Ltd.

Bun H. Xoo

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