





Date: July 27, 2016

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Applicant / Manufacturer

Address of manufacturer Address of test location

Date(s) of test Kind of test

Description of Test valve

Valve component material & Type

- Body - Bonnet

- Stem

Stem type

Packing type

 Packing size - Connection of body and bonnet

**Design Standard** 

Applicable drawing

Test standard

Test conditions

- Test Medium Test Pressure

- Test Temperature

- Number of Mechanical Cycle

- Number of Thermal Cycles Packing Adjustment during the

testing

: ICL CO., LTD.

: #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea

: #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea

: July 13, 2016 ~ July 14, 2016

: Fugitive Emission Test According to API624

: Cast Steel Gate Valve 150# 4" BB RF OS&Y H/O

: ASTM A216-WCB

: ASTM A216-WCB

: ASTM A479-410

: Rising Type

: Graphite (Pillar #6617+6710)

: Ø38.4 x Ø25.4 (6EA)

: Bolted Bonnet

: API600

: ICL-API624-01

: API Standard 624 First Edition, Feb., 2014

: Methane

: 11.7 Bar

: Ambient Temperature / Elevated Temperature(260°C)

: 310 Cycles

: 3

: None

Extension of Qualification : As per Para 1.0 of API 624

This is to certify that the Fugitive Emission Test was performed by the manufacturer under our witness as above, and the results were satisfied within acceptance criteria of leakage through the test not exceed 100 ppmv.

Note: The details of the test condition and data are as per manufacturer's Test Report No. API624-ICL2016-001 which were verified and endorsed by us.

#### **Intertek Korea Industry Service Ltd.**

H.K.Jeong/ General Manager





Date: July 27, 2016

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Applicant / Manufacturer

Address of manufacturer Address of test location

Date(s) of test Kind of test

Description of Test valve

Valve component material & Type

 Body - Bonnet - Stem

- Stem type Packing type

- Packing size

- Connection of body and bonnet

**Design Standard** Applicable drawing

Test standard

Test conditions

 Test Medium **Test Pressure** 

- Test Temperature

- Number of Mechanical Cycle - Number of Thermal Cycles

- Packing Adjustment during the

testing

: #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea : #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea

: July 14, 2016 ~ July 15, 2016

: Fugitive Emission Test According to API624 : Cast Steel Gate Valve 600# 4" BB RF OS&Y H/O

: ASTM A216-WCB : ASTM A216-WCB : ASTM A479-410 : Rising Type

: ICL CO., LTD.

: Graphite (Pillar #6617+6710)

: Ø44.6 x Ø28.6 (6EA)

: Bolted Bonnet

· API600

: ICL-API624-04

: API Standard 624 First Edition, Feb., 2014

: Methane : 41.4 Bar

: Ambient Temperature / Elevated Temperature(260°C)

: 310 Cycles

: 3

: None

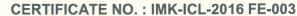
**Extension of Qualification** : As per Para 1.0 of API 624

This is to certify that the Fugitive Emission Test was performed by the manufacturer under our witness as above, and the results were satisfied within acceptance criteria of leakage through the test not exceed 100 ppmv.

Note: The details of the test condition and data are as per manufacturer's Test Report No. API624-ICL2016-002 which were verified and endorsed by us.

#### **Intertek Korea Industry Service Ltd.**

H.K.Jeong/ General Manager







Date: July 27, 2016

Applicant / Manufacturer

Address of manufacturer Address of test location

Date(s) of test Kind of test

Description of Test valve

Valve component material & Type

BodyBonnet

- Stem

- Stem type

Packing type

- Packing size

- Connection of body and bonnet

Design Standard
Applicable drawing

Test standard

Test conditions

Test MediumTest Pressure

- Test Temperature

- Number of Mechanical Cycle

- Number of Thermal Cycles

 Packing Adjustment during the testing

Extension of Qualification

: ICL CO., LTD.

: #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea

: #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea

: July 15, 2016 ~ July 16, 2016

: Fugitive Emission Test According to API624

: Cast Steel Gate Valve 1500# 4" BB BW OS&Y H/O

: ASTM A216-WCB

: ASTM A216-WCB

: ASTM A479-410

: Rising Type

: Graphite (Pillar #6617+6710)

: Ø50.9 x Ø34.9 (10EA)

: Bolted Bonnet

: API600

: ICL-API624-06

: API Standard 624 First Edition, Feb., 2014

: Methane

: 41.4 Bar

: Ambient Temperature / Elevated Temperature(260°C)

: 310 Cycles

: 3

: None

: As per Para 1.0 of API 624

This is to certify that the Fugitive Emission Test was performed by the manufacturer under our witness as above, and the results were satisfied within acceptance criteria of leakage through the test not exceed 100 ppmv.

Note: The details of the test condition and data are as per manufacturer's Test Report No. API624-ICL2016-003 which were verified and endorsed by us.

#### **Intertek Korea Industry Service Ltd.**

H.K.Jeong/ General Manager







Date: July 27, 2016

Applicant / Manufacturer

Address of manufacturer Address of test location

Date(s) of test Kind of test

Description of Test valve

Valve component material & Type

BodyBonnetStemStem typePacking type

Packing typePacking size

- Connection of body and bonnet

Design Standard
Applicable drawing
Test standard

Test conditions

Test MediumTest Pressure

Test Temperature

Number of Mechanical CycleNumber of Thermal Cycles

Packing Adjustment during the

testing

**Extension of Qualification** 

: ICL CO., LTD.

: #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea : #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea

: July 16, 2016 ~ July 17, 2016

: Fugitive Emission Test According to API624

: Cast Steel Gate Valve 150# 12" BB RF OS&Y G/O

: ASTM A216-WCB : ASTM A216-WCB : ASTM A479-410 : Rising Type

: Graphite (Pillar #6617+6710)

: Ø57.1 x Ø38.1 (6EA)

: Bolted Bonnet

: API600

: ICL-API624-02

: API Standard 624 First Edition, Feb., 2014

: Methane : 11.7 Bar

: Ambient Temperature / Elevated Temperature(260°C)

: 310 Cycles

: 3

: None

: As per Para 1.0 of API 624

This is to certify that the Fugitive Emission Test was performed by the manufacturer under our witness as above, and the results were satisfied within acceptance criteria of leakage through the test not exceed 100 ppmv.

Note: The details of the test condition and data are as per manufacturer's Test Report No. API624-ICL2016-004 which were verified and endorsed by us.

#### **Intertek Korea Industry Service Ltd.**

H.K.Jeong/ General Manager







Date: July 27, 2016

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Applicant / Manufacturer Address of manufacturer Address of test location

Date(s) of test Kind of test

Description of Test valve

Valve component material & Type

- Body - Bonnet - Stem - Stem type - Packing type - Packing size

- Connection of body and bonnet

**Design Standard** Applicable drawing Test standard Test conditions

> - Test Medium **Test Pressure**

- Test Temperature

- Number of Mechanical Cycle - Number of Thermal Cycles

- Packing Adjustment during the testing

: ICL CO., LTD.

: #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea : #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea

: July 17, 2016 ~ July 18, 2016

: Fugitive Emission Test According to API624

: Cast Steel Gate Valve 600# 12" BB RF OS&Y G/O

: ASTM A216-WCB : ASTM A216-WCB : ASTM A479-410 : Rising Type

: Graphite (Pillar #6617+6710)

: Ø78.0 x Ø52.0 (6EA)

: Bolted Bonnet

· API600

: ICL-API624-05

: API Standard 624 First Edition, Feb., 2014

: Methane : 41.4 Bar

: Ambient Temperature / Elevated Temperature(260°C)

: 310 Cycles

: 3

: None

: As per Para 1.0 of API 624 **Extension of Qualification** 

This is to certify that the Fugitive Emission Test was performed by the manufacturer under our witness as above, and the results were satisfied within acceptance criteria of leakage through the test not exceed 100 ppmv.

Note: The details of the test condition and data are as per manufacturer's Test Report No. API624-ICL2016-005 which were verified and endorsed by us.

## **Intertek Korea Industry Service Ltd.**

H.K.Jeong/ General Manager







Date: July 27, 2016

Applicant / Manufacturer

Address of manufacturer Address of test location

Date(s) of test Kind of test

Description of Test valve

Valve component material & Type

BodyBonnetStemStem type

Packing typePacking size

- Connection of body and bonnet

Design Standard

Applicable drawing Test standard

Test conditions

Test MediumTest Pressure

- Test Temperature

Number of Mechanical CycleNumber of Thermal Cycles

 Packing Adjustment during the testing

Extension of Qualification

: ICL CO., LTD.

: #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea : #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea

: July 18, 2016 ~ July 20, 2016

: Fugitive Emission Test According to API624

: Cast Steel Gate Valve 600# 20" BB RF OS&Y G/O

: ASTM A216-WCB : ASTM A216-WCB : ASTM A479-410 : Rising Type

: Graphite (Pillar #6617+6710)

: Ø96.0 x Ø70.0 (6EA)

: Bolted Bonnet

: API600

: ICL-API624-05

: API Standard 624 First Edition, Feb., 2014

: Methane : 41.4 Bar

: Ambient Temperature / Elevated Temperature(260°C)

: 310 Cycles

: 3

: None

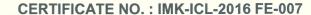
: As per Para 1.0 of API 624

This is to certify that the Fugitive Emission Test was performed by the manufacturer under our witness as above, and the results were satisfied within acceptance criteria of leakage through the test not exceed 100 ppmv.

Note: The details of the test condition and data are as per manufacturer's Test Report No. API624-ICL2016-006 which were verified and endorsed by us.

### **Intertek Korea Industry Service Ltd.**

H.K.Jeong/ General Manager







Date: July 27, 2016

Applicant / Manufacturer

Address of manufacturer
Address of test location

Date(s) of test Kind of test

Description of Test valve

Valve component material & Type

BodyBonnetStemStem typePacking type

Packing typePacking size

- Connection of body and bonnet

Design Standard
Applicable drawing

Test standard

Test conditions

Test MediumTest Pressure

Test Temperature

Number of Mechanical CycleNumber of Thermal Cycles

Packing Adjustment during the testing

Extension of Qualification

: ICL CO., LTD.

: #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea : #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea

: July 20, 2016 ~ July 22, 2016

: Fugitive Emission Test According to API624

: Cast Steel Gate Valve 150# 20" BB RF OS&Y G/O

: ASTM A216-WCB : ASTM A216-WCB : ASTM A479-410

: Rising Type

: Graphite (Pillar #6617+6710)

: Ø78.0 x Ø52.0 (6EA)

: Bolted Bonnet

: API600

: ICL-API624-03

: API Standard 624 First Edition, Feb., 2014

: Methane : 11.7 Bar

: Ambient Temperature / Elevated Temperature(260°C)

: 310 Cycles

: 3

: None

: As per Para 1.0 of API 624

This is to certify that the Fugitive Emission Test was performed by the manufacturer under our witness as above, and the results were satisfied within acceptance criteria of leakage through the test not exceed 100 ppmv.

Note: The details of the test condition and data are as per manufacturer's Test Report No. API624-ICL2016-007 which were verified and endorsed by us.

### **Intertek Korea Industry Service Ltd.**

H.K.Jeong/ General Manager



Date: July 27, 2016

Applicant / Manufacturer

Address of manufacturer Address of test location

Date(s) of test Kind of test

Description of Test valve

Valve component material & Type

BodyBonnetStemStem typePacking typePacking size

- Connection of body and bonnet

Design Standard
Applicable drawing
Test standard
Test conditions

Test MediumTest Pressure

- Test Temperature

Number of Mechanical CycleNumber of Thermal Cycles

 Packing Adjustment during the testing

Extension of Qualification

: ICL CO., LTD.

: #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea : #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea

: July 22, 2016 ~ July 23, 2016

: Fugitive Emission Test According to API624

: Cast Steel Gate Valve 1500# 12" BB RF OS&Y G/O

: ASTM A216-WCB : ASTM A216-WCB : ASTM A479-410

: Rising Type : Graphite (Pillar #6617+6710)

: Ø96.0 x Ø70.0 (8EA)

: Bolted Bonnet

: API600

: ICL-API624-07

: API Standard 624 First Edition, Feb., 2014

: Methane : 41.4 Bar

: Ambient Temperature / Elevated Temperature(260°C)

: 310 Cycles

: 3

: None

: As per Para 1.0 of API 624

This is to certify that the Fugitive Emission Test was performed by the manufacturer under our witness as above, and the results were satisfied within acceptance criteria of leakage through the test not exceed 100 ppmv.

Note: The details of the test condition and data are as per manufacturer's Test Report No. API624-ICL2016-008 which were verified and endorsed by us.

## **Intertek Korea Industry Service Ltd.**

H.K.Jeong/ General Manager







Date: July 27, 2016

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Applicant / Manufacturer

Address of manufacturer Address of test location

Date(s) of test Kind of test

Description of Test valve

Valve component material & Type

Body

- Bonnet

- Stem

- Stem type

Packing type

- Packing size

- Connection of body and bonnet

**Design Standard** 

Applicable drawing

Test standard

Test conditions

- Test Medium

Test Pressure

- Test Temperature

- Number of Mechanical Cycle

- Number of Thermal Cycles

Packing Adjustment during the

Extension of Qualification

: ICL CO., LTD.

: #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea

: #55, Gomo-ro 364beon-gil, Jillye-myeon, Gimhae-si, Korea

: July 24, 2016 ~ July 25, 2016

: Fugitive Emission Test According to API624

: Cast Steel Globe Valve 150# 12" BB RF OS&Y G/O

: ASTM A216-WCB

: ASTM A216-WCB

: ASTM A479-410

: Rising Type

: Graphite (Pillar #6617+6710)

: Ø67.0 x Ø48.0 (6EA)

: Bolted Bonnet

: API623

: ICL-API624-08

: API Standard 624 First Edition, Feb., 2014

: Methane

: 11.7 Bar

: Ambient Temperature / Elevated Temperature(260°C)

: 310 Cycles

: 3

: None

: As per Para 1.0 of API 624

This is to certify that the Fugitive Emission Test was performed by the manufacturer under our witness as above, and the results were satisfied within acceptance criteria of leakage through the test not exceed 100 ppmv.

Note: The details of the test condition and data are as per manufacturer's Test Report No. API624-ICL2016-009 which were verified and endorsed by us.

### **Intertek Korea Industry Service Ltd.**

H.K.Jeong/ General Manager