



CERTIFICATE OF ACCEPTANCE

This is to certify that Supplier Technical Assessment Record (STAR) level 2 has been awarded to:

Company: Larsen & Toubro Limited
Manufacturing Location: Coimbatore, India
Brand: L&T
Technical Qualification Result: TAMAP

Based on the Shell Global Solutions Technical Qualification carried out in February – 2013 in accordance with testing procedure SPE 77/300 dated December 2012 has been accepted by Shell Global solutions International B.V. based on successful Type Acceptance Testing (TAT) result of:

Product Designation	Pressure Class	Size	Emission class	MESC No	TAT Date
Swing Check	600	DN 80	B	77.10.33.110.1	25 th Feb to 8 th Mar 2013
Disc Globe	600	DN 80	B	77.30.33.710.1	25 th Feb to 8 th Mar 2013
Wedge Gate	600	DN 80	B	77.20.41.410.1	25 th Feb to 8 th Mar 2013

The 2-STAR rating in the Shell Global Solutions Technically Accepted Manufacturers And Products (TAMAP) database is applicable to the MESC Sub-sub Groups, listed in Technical Specification MESC SPE 77/300B in accordance with tested valves description on page 2. For an overview of manufacturers models & types qualified by this testing see page 2.

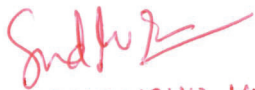
Restrictions & Conditions
1. 77.10.33.110.1; Qualified temperature range : - 50°C to +400°C; FE class: B; Qualified Size range: DN 50, DN 80, DN 100 & DN 150; Qualified Pressure class: 150, 300 & 600 2. 77.30.33.710.1; Qualified temperature range: - 50°C to +400°C; FE class: B; Qualified Size range: DN 50, DN 80, DN 100 & DN 150; Qualified Pressure class: 150, 300 & 600 3. 77.20.41.410.1; Qualified temperature range: - 50°C to +400°C; FE class: B; Qualified Size range: DN 50, DN 80, DN 100 & DN 150; Qualified Pressure class: 150, 300 & 600

Shell GSI Report No: SR.13.10631	Original acceptance: 2013 - 06 - 06
Shell GSI contract no: 139358	Current Certificate: none
Acceptance Certificate no: 2013 - 06 - 06/01	Certificate Expiry: 2018 - 06 - 06
Issued By: Shell Technology Center Bangalore, Shell India Markets Private Limited	

Signature / Stamp:

Date:

06/06/2013


 SUDHANSHU KUMAR (PTIN-PTE/PMMI)
 MECHANICAL ENGINEER
 PROJECTS & TECHNOLOGY
 SHELL TECHNOLOGY CENTER BANGALORE

Test Valves:

Test valve SR.13.10631/07 with Shell MESC - 77.10.33.110.1

TEC: CH-SW-MG-UD-TE-BB-TR-BS1868-ST

Manufacturer drawing No.: LT-TAT-04 with revision 0 from 22-11-2012

DN80 (3") Pressure class 600; Flanged, bolted cover, swing type Check valve with internally assembled hinge pin; Design to BS 1868, Sour service, NACE MR-01-75 (version 2002)

Body material: ASTM A 352 Grade LCC; Seat ring material: ASTM A182 Grade F316 + Stellite-6

Disc material: ASTM A351 Grade CF8M + Stellite-6; Hinge material: ASTM A352 Grade LCC

Fugitive Emissions (FE) Tightness class: Class B

Tested Fugitive Emissions (FE) Tightness class: B

Temperature range: -50 °C to +340 °C

Test temperature range: -50 °C to +400 °C

Size Range Qualification (internal bore): DN50, DN80, DN100 & DN150

Pressure class qualification: 150, 300 & 600

Test valve SR.13.10631/09 with Shell MESC - 77.30.33.710.1

TEC: GL-DI-MG-BD-TE-BB-XX-BS1873-ST

Manufacturer drawing No.: LT-TAT-03 with revision 0 from 22-11-2012

DN80 (3") Pressure class 600; Flanged, bolted bonnet, disc type Globe valve, full bore, straight pattern

Design to BS 1873, Sour service, NACE MR-01-75 (version 2002)

Body material: ASTM A 352 Grade LCC, Body Seat: Integral weld overlay with Stellite-6

Disc material: ASTM A182 Grade F316 + Stellite-6; Stem material: ASTM A 182 Grade F316

Packing material: Graphite

Fugitive Emissions (FE) Tightness class: Class B

Temperature range: -50 °C to +340 °C

Test temperature range: -50 °C to +400 °C

Size Range Qualification (internal bore): DN50, DN80, DN100 & DN150

Pressure class qualification: 150, 300 and 600

Test valve SR.13.10631/10 with Shell MESC - 77.20.41.410.1

TEC: GA-FW-MG-BD-TE-BB-XX-110434-ST

Manufacturer drawing No.: LT-TAT-01 with revision 0 from 22-11-2012

DN80 (3") Pressure class 600; Flanged, bolted bonnet, wedge type Gate valve, full bore

Design to ISO 10434, Sour service, NACE MR-01-75 (version 2002)

Body material: ASTM A352 Grade LCC, Body Seat ring material: ASTM A182 Grade F316 + Stellite-6

Disc material: ASTM A351 Grade CF8M + Stellite-6; Stem material: ASTM A 182 Grade F316

Packing material: Graphite

Fugitive Emissions (FE) Tightness class: Class B

Temperature range: -50 °C to +340 °C

Test temperature range: -50 °C to +400 °C

Size Range Qualification (internal bore): DN50, DN80, DN100 & DN150

Pressure class qualification: 150, 300 and 600

The following manufacturer brand name / model types will be listed in TAMAP: L&T