

LEAKAGE TEST ON SLIDE / SLUICE GATE DUE TO  
ACCELERATED WEAR ON ACCOUNT OF 25,000 CYCLE OPERATION

Facility : JASH ENGINEERING LTD.,  
31, Sector - C, Industrial Area, Sanwer Road, Indore 452001, INDIA

Purpose : To verify the increase in leakage rate of slide / sluice gate due to accelerated wear of sealing arrangement over 25,000 continuous operation cycles.

Testing arrangement : Gate mounted vertically on a test bench and operated continuously from fully close to fully open & again fully close position using pneumatic actuation at a rate of approx 280 operation cycles / hour. During this operation, water mixed with silica sand was continuously agitated and pumped on to the gate internal area as well as on to the sealing arrangement.

Gate size : 600 x 600mm (24 x 24 inch)

Applicable standard : AWWA C:561- 04

Sealing arrangement : Stainless Steel fabricated Shutter / Slide in contact with UHMWPE seat mounted on frame.

No. of operation cycle : 25,000 Cycles

Leakage rate at beginning of test : 12 milliliters at 6 meters Unseating head

Leakage rate at end of test : 28 milliliters at 6 meters Unseating head

Wear Rate on UHMWPE seat : Average wear of 0.102 mm after 25,000 cycles.

Observation : The leakage rate observed at the start of test is less than 0.5% of leakage permissible as per AWWA C561-04 and that observed at the end of 25,000 accelerated operation cycles is less than 1% of leakage permissible as per AWWA C561-04. The accelerated average wear of sealing arrangement at 0.102 mm is hence not significant over 25,000 cycles and the sealing arrangement signifies excellent wear resistance & leakage control characteristic.

*Rohit Rathi*

For : M/s Bureau Veritas (India) Pvt. Ltd.,

Name of Issuance : Rohit Rathi



Performing Centre : Indore

Date of Issuance : 27/08/2011


☐ Interim  
☒ Final

## INSPECTION REPORT N° JASH/ SS Gate/001

BV Job nr: IND.I.42.10.0099

**PROJECT:** Leakage and Wear Test on 25,000 Cycle**Ref:****BV Client:** M/s Jash Engineering Ltd , Indore**P/o nr:** Acceptance of Proposal  
(client to BV)**Manufacturer:** M/s Jash Engineering Ltd , Indore**P/o nr:-- NA---**  
(client to Manufacturer)**Inspection requested by:** M/s Jash Engineering Ltd , Indore

SUPPLY / SUBJECT OF INSPECTION	ITEM / TAG Nr	QTY
GATE Size 600 X 600 Material of Construction – Stainless Steel – 304 Sealing Material - UHMWPE	- INTERNALTEST	1 NO

**DOCUMENTS OF REFERENCE :** See continuation sheet for additional documents: ☐ Yes ☐ No

Title	Reference n°	Rev.	Approved by	Date
SPECIFICATION	AWWA C561-04	-	-	-

**INSPECTIONS :****Inspection place & Date or Period:**M/s Jash Engineering Ltd , Indore  
Date – 04/08/2011, 18/08/2011,  
27/08/2011,**Stage of inspection :**

- ☐ Before manufacturing  
☐ During manufacturing  
☐ Final  
☐ Packing

**Type of inspection:**

- ☐ Pre-inspection meeting  
☐ Document and QC record review  
☐ Visual examination, checks  
☒ Witnessing tests  
☐ Manufacturing progress status  
☐ Vendor assessment  
☐ Final inspection  
☐ Packing

(for details see continuation sheet)

**Stamping:**
☐ No    ☐    ☐
**Results of inspection :** ☒ Satisfactory    ☐ Unsatisfactory**Non Conformities Reports (NCR):**☐ NCR's issued during reported period :☐ List of outstanding NCR's :**Main Conclusions & Remarks:** (for details see continuation sheet)  
Leakage Rate were noted within limits as per AWWA C561-04 ,  
after completion of 25000 operation Cycle in Water Mixed with Silica  
Sand .**Next visit scheduled:** Not Required.


☐ Interim  
☒ Final

## INSPECTION REPORT N° JASH/ SS Gate/001

(continued)

BV Job nr: IND.I.42.10.0099

### Description of the inspections carried out:

- **Introduction** Attendees Mr Mitesh Baragi and Rohit Rathi from Bureau Veritas India Pvt Ltd , Indore and Mr Umesh & Mr Mathur from M/s Jash Engineering Ltd ,
- **BV scope of work** – To witness effect on Wear on sealing material and Leakage rate in Gate under simulated site conditions after 25000 Operation Cycle
- **Applicable Documents & Status of Approval** – As per test procedure of M/s Jash Engineering Ltd .
- **Manufacturing Progress Status** (Quantities) - NA
- **Details of inspection activities carried out with respect to scope of work**
  1. Dimensions of Seal / Gates were witnessed prior to assembly and test.
  2. Verified the test Setup for Simulation of the site condition and Cycle Control.
  3. Witnessed the Leakage test Prior to Continuous operation Test Cycle of 25000 Operations .- 12 ml per minute noted at 6M Water Head Pressure , in unseating condition.
  4. Witnessed the Leakage of Gate after completion of the test cycle on the test bench as 28 ml per Minute.
  5. Witnessed the wear of the sealing materials after completion of the test at average found to be 0.1 mm .
- **Results of Inspection** : Results of leakage after completion of the test cycle were found within the stipulated permissible leakage as per AWWA C 561 -04, Clause 5.2.2 as 2.97 lpm. Test instruments used for the measurements were found duly calibrated , records of the same were verified and found in Order. Client Report date 27/08/2011 were endorsed.

ANNEXES ☐ Yes (Total number of pages: ....) ☐ No

Inspected by:

Name: Rohit Rathi , Mitesh Bairagi

Date of issue: 27/08/2011

Inspection centre: BV Indore

Checked by:

Name: Rohit Rathi Signature

Distribution: ☐ M/s Jash Engineering Ltd , Indore☐ BV INDORE☐