



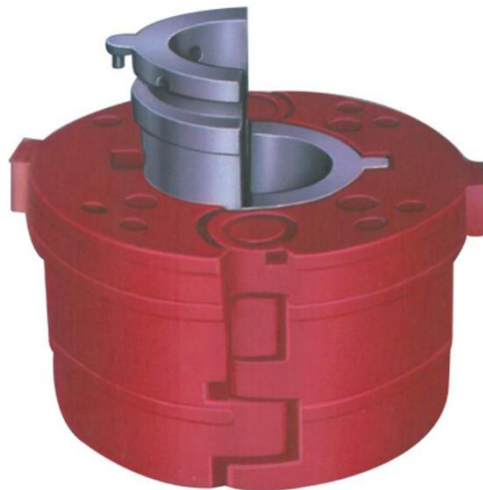
## INSERT BUSHING CAT IV FULL INSPECTION CERTIFICATE

<b>Customer:</b>	Daqing Drilling Company	<b>Date Of Service:</b>	09. April .2025
<b>Type Of Inspection:</b>	<b>CAT IV INSPECTION</b>	<b>Report No:</b>	QC-B-04-25-0166-11
<b>Rig &amp; Location:</b>	DQ Rig 037	<b>Specification:</b>	<b>API RP 7L</b>



### PROCEDURE

**The Rig was equipped Insert Bushing with the Following specifications:**

<b>S/No:</b>	<b>11334</b>
<b>Inspection Frequency:</b>	<b>6 Months</b>
<b>Equipment Name</b>	<b>Insert Bushing 9 5/8" - 10 3/4"</b>
<b>Specification:</b>	<b>API RP 7L CAT IV</b>



**-The products have been examined and found to conform to the relevant Quality standards and delivery are thus permitted**

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### PROCEDURE

**Insert Bushing Inspection Procedure based on API Standards (CAT IV – Full Inspection**

#### INSERT BUSHING INSPECTION PROCEDURE (CAT IV – FULL INSPECTION)

##### Per API Standard & OEM Specifications

##### 1. Disassembly & Preparation

- Remove both halves of the drilling bowls from the insert bushing using an approved lifting chain sling.
- Clean all components to remove debris, grease, or abrasive materials.

##### 2. Visual Inspection



- Inspect inner/outer surfaces of the bowl for:
  - Burrs, cracks, or panned-over edges.
  - Wear, galling, or deformation in load-bearing areas.
- Verify the taper condition; ensure no gouges or irregularities.

##### 3. Dimensional Check

- Measure taper length using a straight edge (per OEM specs).
- Check taper angle and throat diameter against OEM tolerances.
- Confirm slip height in the bushing; ensure slips are not riding too low.

##### 4. Non-Destructive Testing (NDT)

- Perform Magnetic Particle Inspection (MPI) on:

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- Recess areas.
- Load-bearing surfaces.
- Document any indications of cracks or defects.

### 5. Reassembly

- Lubricate the back of the drilling bowls before reassembly.
- Reinstall bowls into the insert bushing using the proper lifting sling.
- Ensure proper alignment and seating of components.

### 6. Reporting

- Prepare a detailed inspection report including:
  - Dimensional measurements.
  - MPI results.
  - Observations (e.g., wear, corrosion).
  - Compliance with OEM/API standards.



### Notes:

**Critical Areas:** Focus on taper integrity, slip engagement, and load-bearing surfaces.

**Rejection Criteria:** Discard components with cracks, excessive wear, or out-of-spec dimensions.

**Safety:** Always use certified lifting equipment and follow OEM torque/assembly guidelines.

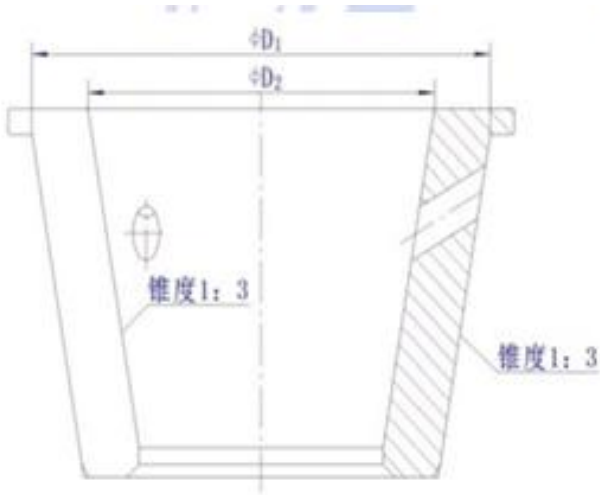
Let me know if you need additional details or formatting adjustments!

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序号	代号	描述	理论值 mm	允许磨损极限值 mm	
1	D1	套管补芯 上部外径	CB6127	φ 660.4	φ 656.5
			CB6126	φ 660.4	φ 656.5
		上部内径	CB6114	φ 482.6	φ 480
			CB6115	φ 482.6	φ 480
2	D2	套管补芯 上部内径	CB6127	φ 552.45	φ 556.6
			CB6126	φ 482.6	φ 486.3
		上部内径	CB6114	φ 412.75	φ 415.2
			CB6115	φ 365.13	φ 368.6
3		锥度 1: 3	3	2.82 ≤ 锥度 ≤ 3.18	

Measures	OEM Specification	Actual Value	Result
Casing core repair upper outer diameter D1	φ 480	515 mm	<b>Passed</b>
Casing core filling upper inner diameter D2	φ 415.2	412 mm	<b>Passed</b>
Taper 1:3	2.82 ≤ taper ≤ 3.18	3 mm	<b>Passed</b>

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### PROCEDURE

Visual and MPI were carried out on the Available Critical Areas of the INSERT BUSHING and were Found Satisfactory for Further Use.

CAT IV Inspection Was Carried out on the Insert Bowl and found **Acceptable** at The Time of Inspection.



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