



Client: Habika Contracting Project	Office: Tehran	IVR No.: BC-26-7895
Project: - Habika Contracting Project	Other References (If any): -	Report date: 10/10/2026
Note of Inspection Letter No.: -	Supplier/Vendor: HANYCO	Order Status: ☒ Complete ☐ Incomplete
Inspection Date: 2026/09/28- 2026/10/04&05	Inspection Place: HAMOUN NYZEH COMPANY, 14Km, ARDESTAN road, KASHAN, Iran.	
Inspection duration: 3 DAYS		

1) Material inspected

ROW	Item Description	QTY	Total Amount (USD)
1	Ductile Iron Tyton Pipe DN900 C20	334	2004
2	Ductile Iron Tyton Pipe DN900 C25	334	2004
3	Ductile Iron Tyton Pipe DN900 C30	334	2004
4	Tyton gaskets DN 900	1002	-----

2) Scope of inspection

The inspection covered ductile iron Tyton pipes DN900 in three classes: C20, C25, and C30. The scope included all items specified in ITP-HABIKA/025 and ISO 2531, namely: approval of documentation and purchased material, pipe/fitting dimensions and appearance, wall thickness, length, internal and external diameter, straightness, ovality, socket depth, pipe/fitting casting, hydrostatic testing, internal coating and lining, external zinc coating, marking, accessories (gaskets), documentation control, release approval, and shipping preparation.

3) Applicable documents

Row	Document Name	Document Number
1	COMMERCIAL INVOICE	PI-05-103-010
2	ITP-HABIKA/025	
3	Standards	ISO 2531
4		ISO 4179
5		ISO 4633
6		ISO 8179

4) Instruments used

The following measuring and testing instruments were used during inspection:

- Calipers
- Ultrasonic thickness gauge
- Coating thickness gauge
- Hardness tester

- Equipment for hydrostatic testing
- Equipment for visual and dimensional inspection

Note: Calibration certificates for all measuring instruments are attached. The laboratory's ISO/IEC 17025 certificate is also attached.

5) Description of inspection

The inspection was carried out in the following order:

5.1 Approval of Documentation & Purchased Material

The supplier's quality plan and QMS were reviewed and found in accordance with contract requirements. The purchased material was inspected upon receipt. Material Test Certificates (MTC) were provided according to EN 10204 3.1 and were compliant. Raw material properties were within specified ranges.

5.2 Visual and Dimensional Inspection

Visual and dimensional inspection was performed separately for each class. The external and internal socket appearance was truly circular, with uniform thickness and free from defects. Length was measured in the range of 6,000 to 6,010 mm, within the tolerance of +70 / -30 mm. Internal diameter was measured in the range of 899.5 to 900.8 mm, within the tolerance of +10 / -0.9 mm. External diameter was measured in the range of 940.5 to 945.0 mm, within the specified range of 945 mm (+1 / - 4.8 mm). Straightness deviation was in the range of 2 to 4 mm, well within the maximum permissible deviation of 7.5 mm. Ovality for DN900 was in the range of 1.0% to 1.6%, within the permissible limit of 2%. Socket depth was in accordance with manufacturer's drawings. No discrepancies were observed.

5.2.1 Wall Thickness Measurement

Wall thickness of the cast iron was measured for each class individually in accordance with ITP-HABIKA/025 and ISO 2531. For DN900 C20, the measured wall thickness ranged from 6.8 to 7.2 mm, above the minimum required 6.7 mm. For DN900 C25, the measured value ranged from 8.5 to 9.0 mm, above the minimum required 8.4 mm. For DN900 C30, the measured value ranged from 10.1 to 10.6 mm, above the minimum required 10 mm. All measured values were within the acceptance range, and no discrepancies were observed.

5.3 Pipe/Fitting Casting

The chemical composition before casting was verified against the manufacturer's laboratory test certificate. Carbon ranged from 3.3% to 3.6%, within the limit of 3.2-3.8%. Silicon ranged from 2.0% to 2.4%, within the limit of 1.8-2.60%. Manganese ranged from 0.35% to 0.45%, within the maximum limit of 0.50%. Magnesium ranged from 0.04% to 0.06%, within the limit of 0.03-0.070%. Sulfur ranged from 0.015% to 0.02%, within the maximum limit of 0.025%. The microstructural test was performed, and the nodularity was found acceptable. Hardness was tested per ISO 2531 and EN 6506-1, with measured values ranging from 190 to 210 HB, within the maximum limit of 230 HB. Tensile testing was performed per ISO 2531 and EN 6892-1, with tensile strength (Rm) ranging from 440 to 465 MPa, above the minimum of 420 MPa, and elongation (A) ranging from 13% to 16%, above the minimum of 10%. The microstructural matrix base was verified to confirm the mechanical properties. All results were within the acceptance criteria.

5.4 Hydrostatic Pressure Testing

Hydrostatic testing was performed per ISO 2531. Each class was tested at its own specified working pressure. The test duration was a minimum of 15 seconds, including 10 seconds at the test pressure. There was no decrease in pressure, no visible leakage, no sweating, and no other sign of failure. The test reports are attached.

5.5 Internal Coating and Lining

Before proportioning, the S.C.W. weight was measured in accordance with ISO 4179 Section 3.4. The S/C ratio was measured in the range of 2.8 to 3.2, not exceeding the maximum limit of 3.5 by mass. Dry lining thickness was measured per ISO 4179. For DN900, the nominal thickness is 6 mm and local minimum is 5 mm. Measured values ranged from 6.2 to 11.0 mm, with some values exceeding 10 mm due to the permissible ovality of the pipe (2% for DN900). However, the flow rate of the pipe remained within the permissible range of ISO 4179:2023. Maximum crack width was in the range of 0.4 to 0.7 mm, within the limit of 0.8 mm. The mortar lining was free from voids, ridges, or corrugations, with a smooth surface and no disbonding. All results were acceptable.

5.6 External Zinc Coating

The external zinc coating was evaluated per ISO 8179. The zinc content was confirmed to be min 99.99%. The surface was homogeneous and visually acceptable. The mass of zinc coating was measured in the range of 140 to 170 g/m², equivalent to approximately 19.6 to 23.8 µm, exceeding the minimum requirement of 130 g/m² (approx. 18.2 µm) applied on the bare metal of the external surface. No discrepancies were observed.

5.7 Paint Coating and Thickness Measurement

The paint coating and its thickness were measured. Paint thickness ranged from 80 to 170 µm, above the minimum required 70 µm. The appearance was uniform and free from defects. Results were within the acceptance range.

5.8 Marking Verification

Marking of the pipes was performed in accordance with the customer's request, and no discrepancies were observed.

5.9 Packaging Verification

The packaging method was verified and found to be in accordance with the customer's request.

5.10 Accessories for Pipes (NBR/EPDM Gaskets)

NBR/EPDM gaskets for the pipes were inspected per ISO 4633 and the technical drawings for T-type and STD type gaskets. The gaskets were confirmed to be NBR/EPDM in accordance with EN 4633, supplied with lubricant, and conforming to the order. Hardness, quantity, packaging, and marking were checked. Visual inspection and dimensional controls were performed. All results were within the acceptance criteria.



6) Non-Conformances

No non-rectifiable non-conformity was identified during the inspection.

Minor visual defects observed during the inspection were rectified at the inspection site in the presence of the inspector.

Consequently, no non-conformity remained outstanding, and no NON-CONFORMITY REPORT

7) Further Operation

The release/shipment of the inspected DN900 pipes (C20, C25, C30) is subject to the Employer's review and decision upon receipt of this report. The inspector has only recorded the observations and findings and does not, by this report, approve or reject the items. Any further action shall be taken per the Employer's instruction.

8) Conclusion

All inspected items for the three classes — C20, C25, and C30 — were within their specified acceptance criteria. No non-conformities were recorded. The DN900 ductile iron pipes in classes C20, C25, and C30 comply with ITP-HABIK/025 and ISO 2531.

Final Result

☒ Satisfactory with comment

Comment: The inspection findings are satisfactory; however, the release/shipment of the inspected items is subject to the Employer's review and decision upon receipt of this report.

☐ Unsatisfactory

☐ Satisfactory with comment

9) Attachments:

- Minutes of Meeting
- Test Reports
- ITP
- Porches order (Performa)
- Calibration certificates

10) Pictures (The number of the attached photos should be more than 12 pictures. Caption is also required per each picture)



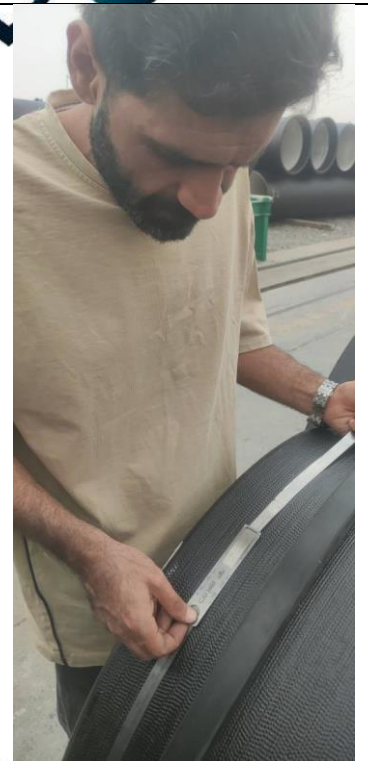
1. DT



2. DT



3. DT



4.DT



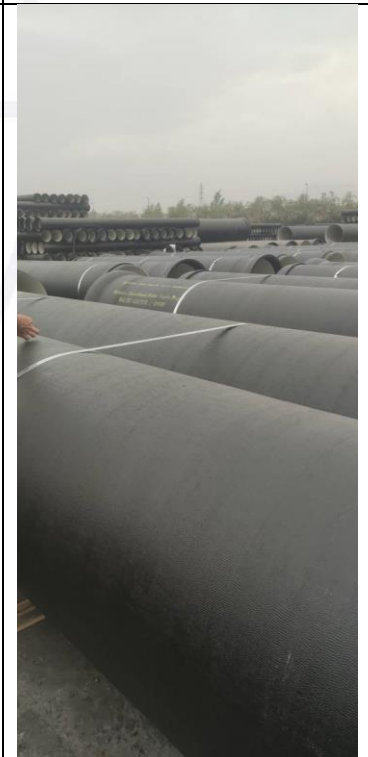
5. hardness



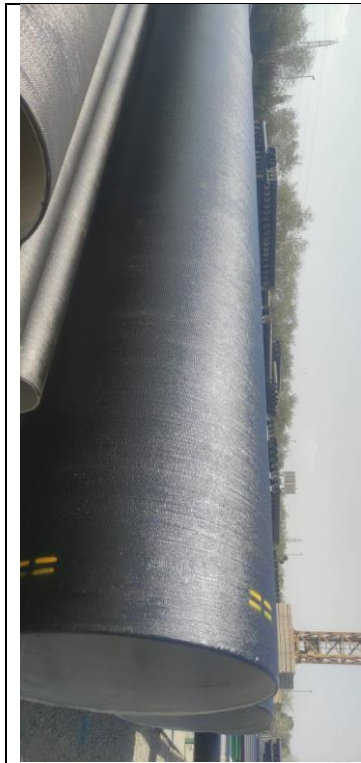
6. hardness



7. hardness



8.VT



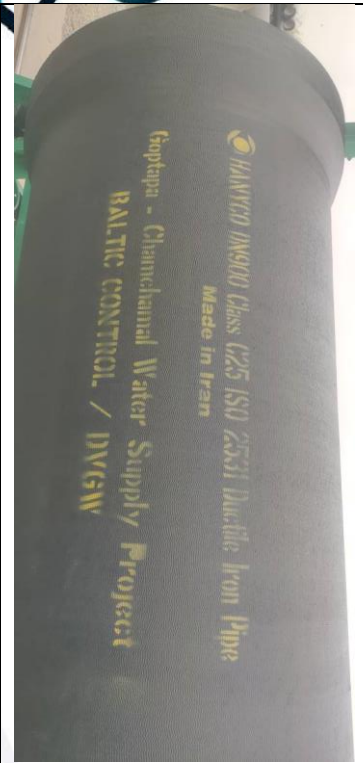
9.VT



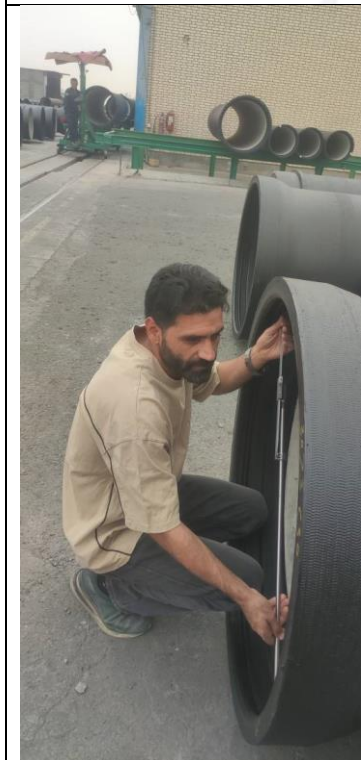
10. hardness



11. tensile



12.marking



13. DT



14. tensile



15: hardness



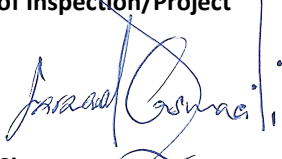
16. tensile



			
17. thickness	18. thickness	19. metallography	20. thickness

11.Attendants



Inspector: M.SALMANIYAN NIYASAR Stamp and Signature: 	Supervisor of Inspection/Project Manager:  Stamp and Signature: 	Inspection Manager: Stamp and Signature:  
--	---	---