

केन्द्रीय पेट्रोसायन अभियांत्रिकी एवं
प्रौद्योगिकी संस्थान (सिपेट)
(पूर्व में केन्द्रीय प्लास्टिक्स इंजीनियरिंग एवं तकनीकी संस्थान)
मुख्यालय, पीडीआई सेल
रसायन एवं पेट्रो रसायन विभाग
रसायन एवं उर्वरक मंत्रालय, भारत सरकार
टीवीके औद्योगिक इस्टेट, गिन्दी, चेन्नई - 600 032.
दूरभाष : 044-29813708 (Direct) / 044-22254780 (Extn.-502)
ई-मेल : pdiho@cipet.gov.in



राजदीन
जमूत महोत्सव

**CENTRAL INSTITUTE OF PETROCHEMICALS
ENGINEERING & TECHNOLOGY**
(Formerly Central Institute of Plastics Engineering & Technology)
Head Office, PDI Cell
Department of Chemicals & Petrochemicals
Ministry of Chemicals & Fertilizers, Govt. of India
TVK Industrial Estate, Guindy, Chennai - 600 032.
Phone : 044-29813708 (Direct) / 044-22254780 (Extn.-502)
Email : pdiho@cipet.gov.in

CIPET/QF/7741

Name of Inspecting Official: T Nagarajan, Sreeraj K S
Code No. : 819,1447

W.O. Centre:Kochi
Camp. at : M/s. A N D Valves and Castings India Pvt Ltd

INSPECTION REPORT

1.	Report No : IB00422230503077	Date: 08.03.2023
2.	Name of the indenter / Consignee with detailed address	The Executive Engineer, Kerala Water Authority, Office of The Executive Engineer, P. H Division, Irinjalakuda. Pin-680121
3.	Indenter Order No. & Date and Extension (if any)	D6-2354/2022 Dt.06.01.2023
4.	Details of the Consignee	The Executive Engineer, Kerala Water Authority, Office of The Executive Engineer, P. H Division, Irinjalakuda. Pin-680121 Nature of work : JJM -2021-22 – Meloor Grama Panchayath (Phase II) – Providing FHTCs to Rural Households by Augmentation of Existing Water supply schemes.
5.	Name of the Supplier / Contractor	Sri Parambi Constructions , XII/515, Koratty Kizhakkummy, Thrissur.
6.	Supplier Order No. & Date (if any)	---, Dt. 23.12.2022
7.	Name and address of the Manufacturer / Inspection site	M/s.A N D Valves and Castings India Private Limited, 12 th Km, Palakad Main road, Madukkarai, Combatore-641105
8.	Manufacturer / Supplier Inspection Call Letter No. & Date	AND/ME/012/22-23 dated 24.02.2023
9.	PDI Cell Assignment No. & Date	CIPET/HO/2022237782 dated : 02.03.2023
10.	Date of inspection	Initiated on: 06.03.2023 Completed on: 08.03.2023
11.	Any other information	Manufacturer BIS License No. CML- 6500061705 Brand name : Mercury

DETAILS OF THE STORES

Sl. No.	Description of the items	Quantity as per supplier order in meters	Quantity inspected earlier (Cumulative)in meters	Quantity offered for inspection in meters	Quantity Accepted in meter	Quantity Rejected in meter	Quantity Balance In meter
HDPE Pipes as per IS 4984: 2016 with IS Certification Mark							
1	110mm dia PE 100 PN8 HDPE PIPES SDR 17	36877	Nil	15677 (104 nos X 150 meter + 1 X 77 meter)	15677 (104 nos X 150 meter + 1 X 77 meter)	Nil	21200
2	110mm dia PE 100 PN10 HDPE PIPES SDR 13.6	706	Nil	706 (4 nos X 150 meter + 1 X 106 meter)	706 (4 nos X 150 meter + 1 X 106 meter)	Nil	Nil
3	125mm dia PE 100 PN10 HDPE PIPES SDR 13.6	359	Nil	359 (29 nos X 12 meter + 1 X 11 meter)	359 (29 nos X 12 meter + 1 X 11 meter)	Nil	Nil
4	180mm dia PE 100 PN8 HDPE PIPES SDR 17	2768	Nil	2768 (230 nos X 12 meter + 1 X 8 meter)	2768 (230 nos X 12 meter + 1 X 8 meter)	Nil	Nil

CIPET/PDI/2022-23
MDU&KOC /053/ 819 &1447

1. Certified that the items as detailed above have been inspected and accepted. The accepted items may be dispatched to the consignee. The Inspection Document Nos Ref.No. IB00422230503077/1-4 dated 08.03.2023 are enclosed.
2. This inspection report is valid for 30 days and any Dispute/discrepancies/claims may be brought to the notice of the undersigned within 30 days from the date of issue of this report.

Sreeraj K S
AUTHORIZED SIGNATORY
(Sreeraj K S & 1447)

T Nagarajan
AUTHORIZED SIGNATORY
(T Nagarajan & 819)

पेट्रोसायन अभियांत्रिकी एवं
संस्थान (सिपेट)

राष्ट्रीय प्लास्टिक्स इंजीनियरिंग एवं तकनीकी संस्थान)

एच.पी.डी.आई. सेल

एच.पी.डी. रसायन विभाग

एच.पी.डी. एवं खवरक मंत्रालय, भारत सरकार

राष्ट्रीय औद्योगिक इस्टेट, गिंडी, चेन्नई - 600 032.

दूरभाष : 044-29813708 (Direct) / 044-22254780 (Extn.-502)

ई-मेल : pdiho@cipet.gov.in



CENTRAL INSTITUTE OF PETROCHEMICALS
ENGINEERING & TECHNOLOGY

(Formerly Central Institute of Plastics Engineering & Technology)

Head Office, PDI Cell

Department of Chemicals & Petrochemicals

Ministry of Chemicals & Fertilizers, Govt. of India

TVK Industrial Estate, Guindy, Chennai - 600 032.

Phone : 044-29813708 (Direct) / 044-22254780 (Extn.-502)

Email : pdiho@cipet.gov.in

CIPET/QF/7742

Name of Inspecting Official: T Nagarajan, Sreraj K S
Code No. : 819, 1447

W.O. Centre: Kochi

Camp. at : M/s. A N D Valves and Castings India Pvt Ltd

INSPECTION DOCUMENTS

Inspection Document NO.: IB0042230503077/1

Dated: 08.03.2023

Issued to : M/s. The Executive Engineer, Kerala Water Authority, Office of The Executive Engineer, P. H Division, Irinjalakuda. Pin-680121

Manufacturer / Supplier Inspection Call Letter No. & Date: AND/ME/012/22-23 dated 24.02.2023

Test report as per IS 4984:2016 (Latest Amendment)

PART - A: PARTICULARS OF STORES

a) Description of the items	: HDPE Pipe
b) Grade/Variety/Type/Size/Class etc.	: 110mm PE 100 PN8 SDR 17
c) Declared Value, if any	: Nil
d) Quantity	: 15677 (104 nos X 150 meter+1 X 77 meter)
e) Item omitted from the original scope of work if any	: Nil
f) Any Other Information : Batch Numbers	: 20221231001A, 20221215001A, 20221215001B, 20221208001B, 20221202001B, 20230201001A, 20230201001B, 20230218001B, 20230218001A, 20230219001B, 20230220001B, 20230220001A, 20230221001A, 20230221001B, 20230222001A, 20230222001B

PART B: SUPPLEMENTARY INFORMATION

a) Reference to sampling procedure : As per IS:4984 -2016 with latest amendment (Random Sampling)

PART C: RESULTS OF WITNESSED TESTS & REVIEW OF DOCUMENTS

Sl. No.	Clause No.	Tests Witnessed	Unit	Specified Requirements	Observed Results
1	6.2	Colour of pipe	---	Black	Black
2	6.2.1	Dimension of Blue Stripes			
		Width	mm	Min. 3.0	3.38
		Depth	mm	Max. 0.2	0.18
3	7.1	Visual Appearance	---	The Internal & External surfaces shall be smooth, clean and free from grooving and other defects. Ends shall be clearly cut and shall be square with the axis of the pipe	Satisfactory
		Out of Squareness	mm	Max. 3.0	1.82
		Length of straight pipe	Mtrs	--	Not Applicable
4	7.4	Dimensions of Pipe			
		Outside Diameter			
	Table-3	Minimum	mm	110.0	110.10
		Maximum	mm	110.7	110.47
	Table-4	Minimum	mm	6.5	6.55
		Maximum	mm	7.3	7.02
7.4.1.2	Ovality	mm	Max. 2.2	1.40	
5	8	Performance Requirement			
	Table-5	Hydraulic Characteristic (IPCR) Acceptance Test 48 hrs at 80°C @ 5.7 MPa Induced Stress	---	The sample shall show no signs of localized swelling, leakage or weeping and shall not burst during the Test Duration	No Sign of Failure Observed during test duration.
		8.2	Longitudinal Reversion Test	%	Max ± 3 %
	8.3	Carbon Black Content	%	2.5 ± 0.5	2.50
	8.4	Carbon Black Dispersion	---	Satisfactory	Satisfactory
	8.4	Melt Flow Rate (190°C/5kgf)	g/10min	0.20 to 1.10	0.260
	8.5	Oxidation Induction Time	minutes	≥ 20.0	21.98
8.7	Base Density at 27°C	kg/m ³	930 to 960	951.3	
8.9	Elongation at Break	%	≥ 350	590	
6	10	Marking on Pipe	---	MERCURY HDPE PIPE PE100 PN8 SDR17 DN110 IS 4984 2016 CML 6500061705	Marking are as per Standard

Review of Documents (if any)

Sl. No.	Clause No.	Tests Parameters/ Documents	Certificate/ Report No. & Date	Report Issued by	Review/ Remarks
1	5.2, 6.1.1 Table 2	Raw material property Grade: Sabc P8008AD	Batch no. 25012912 dt 22.09.2022	Sabc	Reviewed & Confirmed
2	8.1.1 Annex E	Internal Pressure Creep Rupture Test of Pipe (at 27°C for 100 h)	Report No: PTL/GEN/04117, Dated : 03.08.2022	M/s Pioneer Testing Laboratory, New Delhi	Reviewed & Confirmed
3	Do	Internal Pressure Creep Rupture Test of Pipe (at 80°C for 165 h)			
4	Do	Internal Pressure Creep Rupture Test of Pipe (at 80°C for 1000 h)			
5	8.6	Overall Migration			
6	8.1.2	Internal Pressure Creep Rupture Test of Joint Pipe (at 80°C for 48 h)			
7	8.10	Slow Crack Growth Rate Test			
8	8.5	Oxidation Induction Time	Sample submitted for Test report Date: 08.03.2023	CIPET-Madurai	---

PART - D: REMARKS

- This Inspection document shall not be reproduced except in full without the written approval of the PDI Cell at CIPET Head Office.
- These witness result stated above relate Exclusive to the work order of the object(s) or the lot inspection.
- Lab. Environmental Condition during the witness or Tests: Temperature 27± 2 °C & R.H. 65-5%.
- Calibration Status of equipments/Instruments are verified.

(Handwritten signature)

रासायन अभियांत्रिकी एवं
संस्थान (सिपेट)

राष्ट्रीय प्लास्टिक्स इंजीनियरिंग एवं तकनीकी संस्थान

एच. पी.डी.आई. सेल

एच. पी.डी.आई. विभाग

एच. एवं उर्वरक मंत्रालय, भारत सरकार

ऑफिस ऑफ ऑटोमैटिक इस्टेट, गिंडी, चेन्नई - 600 032.

दूरभाष : 044-29813708 (Direct) / 044-22254780 (Extn.-502)

ई-मेल : pdiho@cipet.gov.in



**CENTRAL INSTITUTE OF PETROCHEMICALS
ENGINEERING & TECHNOLOGY**

(Formerly Central Institute of Plastics Engineering & Technology)

Head Office, PDI Cell

Department of Chemicals & Petrochemicals

Ministry of Chemicals & Fertilizers, Govt. of India

TVK Industrial Estate, Guindy, Chennai - 600 032.

Phone : 044-29813708 (Direct) / 044-22254780 (Extn.-502)

Email : pdiho@cipet.gov.in

CIPET/QF/7742

Name of Inspecting Official: T Nagarajan, Sreraj K S

Code No. : 819,1447

W.O. Centre:Kochi

Camp. at : M/s. A N D Valves and Castings India Pvt Ltd

INSPECTION DOCUMENTS

Inspection Document NO. : IB00422230503077/2

Dated: 08.03.2023

Issued to : M/s. The Executive Engineer, Kerala Water Authority, Office of The Executive Engineer, P. H Division, Irinjalakuda. Pin-680121

Manufacturer / Supplier Inspection Call Letter No. & Date: AND/ME/D12/22-23 dated 24.02.2023

Test report as per IS 4984:2016 (Latest Amendment)

PART - A: PARTICULARS OF STORES

- | | |
|--|---|
| a) Description of the items | : HDPE Pipe |
| b) Grade/Variety/Type/Size/Class etc. | : 110mm PE 100 PN10 SDR 13.6 |
| c) Declared Value, if any | : Nil |
| d) Quantity | : 706 (4 nos X 150 meter + 1 X 106 meter) |
| e) Item omitted from the original scope of work if any | : Nil |
| f) Any Other Information | : Batch Numbers : 20230223001A |

PART B: SUPPLEMENTARY INFORMATION

- a) Reference to sampling procedure : As per IS:4984 -2016 with latest amendment (Random Sampling)

PART C: RESULTS OF WITNESSED TESTS & REVIEW OF DOCUMENTS

Sl. No	Clause No	Tests Witnessed	Unit	Specified Requirements	Observed Results	
1	6.2	Colour of pipe	---	Black	Black	
2	6.2.1	Dimension of Blue Stripes				
		Width	Mm	Min. 3.0	3.75	
		Depth	Mm	Max. 0.2	0.16	
3	7.1	Visual Appearance	---	The Internal & External surfaces shall be smooth, clean and free from grooving and other defects. Ends shall be clearly cut and shall be square with the axis of the pipe	Satisfactory	
		Out of Squareness	Mm	Max. 3.0	1.76	
		7.2	Length of straight pipe	Mtrs	--	Not Applicable
4	7.4	Dimensions of Pipe				
		7.4.1.1	Outside Diameter			
		Table-3	Minimum	Mm	110.0	110.16
		Maximum	Mm	110.7	110.36	
	7.4.1.1	Wall Thickness				
		Table-4	Minimum	Mm	8.1	8.16
			Maximum	Mm	9.1	8.72
7.4.1.2	Ovality	Mm	Max 2.2	1.38		
5	8	Performance Requirement				
5	8.1.1	Hydraulic Characteristic (IPCR)	---	The sample shall show no signs of localized swelling, leakage or weeping and shall not burst during the Test Duration	No Sign of Failure Observed during test duration.	
		Table-5	Acceptance Test 48 hrs at 80°C @ 5.7 MPa Induced Stress			
	8.2	Longitudinal Reversion Test	%	Max ± 3 %	1.12	
	8.3	Carbon Black Content	%	2.5 ± 0.5	2.37	
		Carbon Black Dispersion	---	Satisfactory	Satisfactory	
	8.4	Melt Flow Rate (190°C/5kgf)	g/10min	0.20 to 1.10	0.256	
	8.5	Oxidation Induction Time	Minutes	≥ 20.0	21.98	
8.7	Base Density at 27°C	kg/m ³	830 to 860	850.1		
8.9	Elongation at Break	%	≥ 350	688		
6	10	Marking on Pipe	---	MERCURY HDPE PIPE PE100 PN8 SDR17 DN150 IS 4984 2016 CML 6500081705	Marking are as per Standard	

Review of Documents (if any)

Sl. No.	Clause No.	Tests Parameters/ Documents	Certificate/ Report No. & Date	Report Issued by	Review/ Remarks
1.	5.2, 6.1.1 Table 2	Raw material property Grade: Sabic PE006AD	Batch no. 25012912 dt 22.09.2022	Sabic	Reviewed & Confirmed
2.	8.1.1 Annex E	Internal Pressure Creep Rupture Test of Pipe (at 27°C for 100 h)	Report No. PTL/GEN/04117, Dated : 03.08.2022	M/s Pioneer Testing Laboratory, New Delhi	Reviewed & Confirmed
3.	Do	Internal Pressure Creep Rupture Test of Pipe (at 80°C for 165 h)			
4.	Do	Internal Pressure Creep Rupture Test of Pipe (at 80°C for 1000 h)			
5.	8.6	Overall Migration			
6.	8.1.2	Internal Pressure Creep Rupture Test of Joint Pipe (at 80°C for 48 h)			
7.	8.10	Slow Crack Growth Rate Test	Sample submitted for Test report Date 08.03.2023	CIPET-Madurai	---
8.	8.5	Oxidation Induction Time			

PART - D: REMARKS

- This Inspection document shall not be reproduced except in full without the written approval of the PDI Cell at CIPET Head Office.
- These witness result stated above relate Exclusive to the work order of the object(s) or the lot inspection.
- Lab. Environmental Condition during the witness or Tests: Temperature 27± 2 °C & R.H. 85±5%.
- Calibration Status of equipment's Instruments are verified.

AUTHORIZED SIGNATORY

Handwritten signature and date: 08/03/23

पेट्रोसायन अभियांत्रिकी एवं
की संस्थान (सिपेट)

राष्ट्रीय प्लास्टिक्स इंजीनियरिंग एवं तकनीकी संस्थान

कालय, पीडीआई सेल

न एवं पेट्रो रसायन विभाग

रायन एवं उर्वरक मंत्रालय, भारत सरकार

टीवीके औद्योगिक इस्टेट, गिंडी, चेन्नई - 600 032.

दूरभाष : 044-29813708 (Direct) / 044-22254780 (Extn-502)

ई-मेल : pdiho@cipet.gov.in



75
आजादी का
अमृत महोत्सव

CENTRAL INSTITUTE OF PETROCHEMICALS
ENGINEERING & TECHNOLOGY

(Formerly Central Institute of Plastics Engineering & Technology)

Head Office, PDI Cell

Department of Chemicals & Petrochemicals

Ministry of Chemicals & Fertilizers, Govt. of India

TVK Industrial Estate, Guindy, Chennai - 600 032.

Phone : 044-29813708 (Direct) / 044-22254780 (Extn-502)

Email : pdiho@cipet.gov.in

Name of Inspecting Official: T Nagarajan, Sreeraj K S
Code No. : 819, 1447

CIPET/OF/7742

Camp. at : M/s. A N D Valves and Castings India Pvt Ltd
W.O. Centre: Kochi

INSPECTION DOCUMENTS

Inspection Document NO.: IB00422230503077/3

Dated: 08.03.2023

Issued to : M/s. The Executive Engineer, Kerala Water Authority, Office of The Executive Engineer, P. H Division, Irinjalakuda. Pin-680121

Manufacturer / Supplier Inspection Call Letter No. & Date: AND/ME/012/22-23 dated 24.02.2023

Test report as per IS 4984 2016 (Latest Amendment)

PART - A: PARTICULARS OF STORES

- | | |
|--|--|
| a) Description of the items | : HDPE Pipe |
| b) Grade/Variety/Type/Size/Class etc. | : 125mm PE 100 PN10 SDR 13.6 |
| c) Declared Value, if any | : Nil |
| d) Quantity | : 359 (29 nos X 12 meter + 1 X 11 meter) |
| e) Item omitted from the original scope of work if any | : Nil |
| f) Any Other Information : Batch Numbers | : 20230208002A |

PART B: SUPPLEMENTARY INFORMATION

- a) Reference to sampling procedure : As per IS:4984 -2016 with latest amendment (Random Sampling)

PART C: RESULTS OF WITNESSED TESTS & REVIEW OF DOCUMENTS

Sl. No.	Clause No.	Tests Witnessed	Unit	Specified Requirements	Observed Results
1	8.2	Colour of pipe	----	Black	Black
2	8.2.1	Dimension of Blue Stripes			
		Width	mm	Min 3.0	3.34
		Depth	mm	Max. 0.2	0.18
3	7.1	Visual Appearance	----	The internal & External surfaces shall be smooth, clean and free from grooving and other defects. Ends shall be cleanly cut and shall be square with the axis of the pipe	Satisfactory
		Out of Squareness	mm	Max 3.0	1.70
		Length of straight pipe	Mtrs		
4	7.4	Dimensions of Pipe			Not Applicable
		Outside Diameter			
	7.4.1.1 Table-3	Minimum	mm	125.0	125.15
		Maximum	mm	125.8	125.93
	7.4.1.1 Table-4	Wall Thickness			
		Minimum	mm	9.2	9.24
	7.4.1.2	Maximum	mm	10.3	9.85
Ovality		mm	Max.2.5	1.56	
5	8.1.1 Table-5	Performance Requirement			
		Hydraulic Characteristic (IPCR) Acceptance Test 48 hrs at 80°C @ 5.7 MPa Induced Stress	----	The sample shall show no signs of localized swelling, leakage or weeping and shall not burst during the Test Duration	No Sign of Failure Observed during test duration.
	8.2	Longitudinal Reversion Test	%	Max ± 3 %	1.05
		Carbon Black Content	%	2.5 ± 0.5	2.43
	8.4	Carbon Black Dispersion	----	Satisfactory	Satisfactory
		Melt Flow Rate (190°C/5kgf)	g/10min	0.20 to 1.10	0.254
	8.5	Oxidation Induction Time	minutes	≥ 20.0	31.12
	8.7	Base Density at 27°C	kg/m ³	930 to 960	951.6
8.8	Elongation at Break	%	≥ 350	632	
6	10	Marking on Pipe	----	MERCURY HDPE PIPE PE100 PN8 SDR17 DN160 IS 4984 2016 CML 6500081705	Marking are as per Standard

Review of Documents (if any)

Sl. No.	Clause No.	Tests Parameters/ Documents	Certificate/ Report No. & Date	Report Issued by	Review/ Remarks
1	5.2, 6.1.1 Table 2	Raw material property Grade: Sabc P8006AD	Batch no. 25012912 dt 22.09.2022	Sabc	Reviewed & Confirmed
2	8.1.1 Annex E	Internal Pressure Creep Rupture Test of Pipe (at 27°C for 100 h)	Report No: PTL/GEN/04117, Dated : 03.08.2022	M/s Pioneer Testing Laboratory, New Delhi	Reviewed & Confirmed
3	Do	Internal Pressure Creep Rupture Test of Pipe (at 80°C for 165 h)			
4	Do	Internal Pressure Creep Rupture Test of Pipe (at 80°C for 1000 h)			
5	8.6	Overall Migration			
6	8.1.2	Internal Pressure Creep Rupture Test of Joint Pipe (at 80° C for 48 h)			
7	8.10	Slow Crack Growth Rate Test	Sample submitted for Test report Date 08.03.2023	CIPET-Madurai	----
8	8.5	Oxidation Induction Time			

PART - D: REMARKS

- This Inspection document shall not be reproduced except in full without the written approval of the PDI Cell at CIPET Head Office.
- These witness result stated above relate Exclusive to the work order of the object(s) or the lot inspection.
- Lab. Environmental Condition during the witness or Tests: Temperature 27 ± 2 °C & R.H. 65±5%.
- Calibration Status of equipment/Instruments are verified.

AUTHORIZED SIGNATORY

Handwritten signature and date: 08/03/23

पेट्रोसायन अभियांत्रिकी एवं
की संस्थान (सिपेट)

राष्ट्रीय प्लास्टिक्स इंजीनियरिंग एवं तकनीकी संस्थान

आलय, पीडीआई सेल

पेट्रोलियम एवं पेट्रो रसायन विभाग

राज्य पेट्रोलियम एवं उर्वरक मंत्रालय, भारत सरकार

टीवीके औद्योगिक इस्टेट, गिन्डी, चेन्नई - 600 032.

दूरभाष : 044-29813708 (Direct) / 044-22254780 (Extn.-502)

ई-मेल : pdiho@cipet.gov.in



CENTRAL INSTITUTE OF PETROCHEMICALS
ENGINEERING & TECHNOLOGY

(Formerly Central Institute of Plastics Engineering & Technology)

Head Office, PDI Cell

Department of Chemicals & Petrochemicals

Ministry of Chemicals & Fertilizers, Govt. of India

TVK Industrial Estate, Guindy, Chennai - 600 032.

Phone : 044-29813708 (Direct) / 044-22254780 (Extn.-502)

Email : pdiho@cipet.gov.in

Name of Inspecting Official: T Nagarajan, Sreraj K S
Code No. : 819, 1447

CIPET/QF/7742

W.O. Centre: Kochi

Camp. at : M/s. A N D Valves and Castings India Pvt Ltd

Inspection Document NO.: IB00422230503077/4

INSPECTION DOCUMENTS

Dated: 08.03.2023

Issued to : M/s. The Executive Engineer, Kerala Water Authority, Office of The Executive Engineer, P. H Division, Irinjalakuda. Pin-680121

Manufacturer / Supplier Inspection Call Letter No. & Date: AND/ME/012/22-23 dated 24.02.2023

Test report as per IS 4984:2016 (Latest Amendment)

PART - A: PARTICULARS OF STORES

a) Description of the items	: HDPE Pipe
b) Grade/Variety/Type/Size/Class etc.	: 180mm PE 100 PN8 SDR 17
c) Declared Value, if any	: Nil
d) Quantity	: 2768 (230 nos X 12 meter + 1 X 8 meter)
e) Item omitted from the original scope of work if any	: Nil
f) Any Other Information	: Batch Numbers 20230207002A, 20230207002B

PART B: SUPPLEMENTARY INFORMATION

a) Reference to sampling procedure : As per IS-4984 -2016 with latest amendment (Random Sampling)

PART C: RESULTS OF WITNESSED TESTS & REVIEW OF DOCUMENTS

Sl. No.	Clause No.	Tests Witnessed	Unit	Specified Requirements	Observed Results
1	6.2	Colour of pipe	---	Black	Black
2	6.2.1	Dimension of Blue Stripes	---	---	---
		Width	mm	Min. 3.0	3.16
		Depth	mm	Max. 0.5	0.25
3	7.1	Visual Appearance	---	The internal & External surfaces shall be smooth, clean and free from grooving and other defects. Ends shall be cleanly cut and shall be square with the axis of the pipe	Satisfactory
		Out of Squareness	mm	Max. 4.0	2.14
		Length of straight pipe	Mtrs	---	Not Applicable
4	7.4	Dimensions of Pipe	---	---	---
		Outside Diameter	---	---	---
	7.4.1.1 Table-3	Minimum	mm	180.0	180.09
		Maximum	mm	181.1	180.37
	7.4.1.1 Table-4	Wall Thickness	---	---	---
		Minimum	mm	10.6	10.66
7.4.1.2	Maximum	mm	11.8	11.26	
	Ovality	mm	Max. 3.6	1.54	
5	8	Performance Requirement	---	---	---
	8.1.1 Table-5	Hydraulic Characteristic (IPCR) Acceptance Test 48 hrs at 80°C @ 5.7 MPa Induced Stress	---	The sample shall show no signs of localized swelling, leakage or weeping and shall not burst during the Test Duration	No Sign of Failure Observed during test duration.
		8.2	Longitudinal Reversion Test	%	Max ± 3 %
	8.3	Carbon Black Content	%	2.5 ± 0.5	2.33
		Carbon Black Dispersion	---	Satisfactory	Satisfactory
	8.4	Melt Flow Rate (190°C/5kgf)	g/10min	0.20 to 1.10	0.257
	8.6	Oxidation Induction Time	minutes	≥ 20.0	39.55
	8.7	Base Density at 27°C	kg/m ³	930 to 960	952.2
	8.9	Elongation at Break	%	≥ 350	632
8	10	Marking on Pipe	---	MERCURY HDPE PIPE PE100 PN8 SDR17 DN100 IS 4984 2016 CM/L 6500051705	Marking are as per Standard

Review of Documents (if any)

Sl. No.	Clause No.	Tests Parameters/ Documents	Certificate/ Report No. & Date	Report Issued by	Review/ Remarks
1	5.2, 6.1.1 Table 2	Raw material property Grade: Sabic P6006AD	Batch no. 25012912 dt 22.09.2022	Sabic	Reviewed & Confirmed
2	8.1.1 Annex E	Internal Pressure Creep Rupture Test of Pipe (at 27°C for 100 h)	Report No. PTL/GEN/04117, Dated : 03.06.2022	M/s Pioneer Testing Laboratory, New Delhi	Reviewed & Confirmed
3	Do	Internal Pressure Creep Rupture Test of Pipe (at 80°C for 165 h)			
4	Do	Internal Pressure Creep Rupture Test of Pipe (at 80°C for 1000 h)			
5	8.8	Overall Migration			
6	8.1.2	Internal Pressure Creep Rupture Test of Joint Pipe (at 80°C for 48 h)			
7	8.10	Slow Crack Growth Rate Test	Sample submitted for Test report Date 08.03.2023	CIPET- Madurai	---
8	8.5	Oxidation Induction Time			

PART - D: REMARKS

- This Inspection document shall not be reproduced except in full without the written approval of the PDI Cell at CIPET Head Office.
- These witness result stated above relate Exclusive to the work order of the object(s) or the lot inspection.
- Lab. Environmental Condition during the witness or Tests: Temperature 27 ± 2 °C & R.H. 65±5%.
- Calibration Status of equipment's/instruments are verified.

Handwritten signature/initials