केन्द्रीय पेट्रोरसायन अभियांत्रिकी एवं प्रौद्योगिकी संस्थान (सिपेट)

(पूर्व में केन्द्रीय प्लास्टिक्स इंजीनियरिंग एवं तकनीकी संस्थान) मुख्यालय, पीडीआई सेल

रसायन एवं पेट्रो रक्तपन विभाग

रसायन एवं उवरक ने जालया, भारत सरकार

टीवीके जोडो के इस्टेट, गिंडी, चेन्नई - 600 032.

= 044-29613708 (Direct) / 044-22254780 (Extn.-

नेन : paina@cipet.gov.in

CIPET/QF/7742

10.

11.

Date of inspection

Any other information





CENTRAL INSTITUTE OF PETROCHEMICALS **ENGINEERING & TECHNOLOGY(CIPET)** (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.

Completed on: 08.11.2023

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

Email: pdiho@cipet.gov.in

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·3U2	1			2802001

Name Cloide	e of Inspecting Official: M Balasubramanian No. : 267		W.O.Centre:Kochi Camp. at : M/s. A N D Valves and Castings India Pvt Ltd
		IN	SPECTION REPORT
1.	Report No. IB00423240502493	-	Date: 08.11.2023
2.	Name of the Indenter / Consignee with detailed address	Ð	The Executive Engineer, KERALA WATER AUTHORITY, P.H.DIVISION, Irinjalakuda, Kerala.
3.	Indenter Order No & Date and Extension (if any)	1	KWA/PHC/TSR/D5/4877/2022 dt.11.01.2023
4.	Details of the Consignee	;	The Executive Engineer, KERALA WATER AUTHORITY, P.H.DIVISION, Irinjalakuda, Kerala. Nature of work: Jal Jeevan MissionParappukkara Grama Panchayath-Phase II pipe line extension and FHTCs at various places of Parappukkara Grama Panchayath.
5.	Name of the Supplier / Contractor	*	Sri. M.V Viswanathan, N.Kalamassery, Kochi-683104,
6.	Supplier Order No. & Date (if any)	130	
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, Coimbatore-641105
8.	Manufacturer / Supplier Inspection Call Letter No. & Date	1	AND/010/CIPET/23-24 dated 04.11.2023
9.	PDI Cell Assignment No. & Date	1.5	CIPET/HO/ 2023245847 dated : 06.11.2023

SI. 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 49	84: 2016 with I	S Certification Mark				
1	90mm dia PE 100 PN8 HDPE PIPES SDR 17	42549	Nii	10000 (50 nos X 200 meter)	10000 (50 nos X 200 meter)	Nil	Nil
2	110mm dia PE 100 PN8 HDPE PIPES SDR 17	5234	Nil	5324 (34 nos X 150 meter + 1 no x 134 meter)	5324 (34 nos X 150 meter + 1 no x 134 meter)	Nil	Nil
3	160mm dia PE 100 PN8 HDPE PIPES SDR 17	7411	Nil	7411 (823 nos X 9 meter + 1 no X 3 meter)	7411 (823 nos X 9 meter + 1 no X 3 meter)	Nil	Nil

Initiated on: 06.11.2023

Brand name: Mercury

Manufacturer BIS License No. CM/L- 6500061705



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. IB00423240502493/1-3 dated 08/11/2023 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.

> AUTHORIZED SIGNATORY (M Balasubramanian & 267)

CC: 1- M /s A N D Valves and Castings India Pvt Ltd 2,Sri MV.Viswanathan -Contractor 3. SE, KWA 4, CIPET – Kochi

द्रीय पेट्रोरसायन अभियांत्रिकी एवं ाद्योगिकी संस्थान (सिपेट)

(पर्व में केन्द्रीय प्लास्टिङ्स इंजीनियरिंग एवं तकनीकी संस्थान)

मुख्यालय, पीडीआई सेल रसायन एवं पेट्रो स्लायन विभाग

रसायन रव उद्देश ने जातय, भारत सरकार

टीवीके जोडोनिक इस्टेट, गिंडी, चेन्नई - 600 032.

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

इ-नेत : pdiho@cipet.gov.in



CENTRAL INSTITUTE OF PETROCHEMICALS **ENGINEERING & TECHNOLOGY(CIPET)**

(Formarly 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

Dated: 08.11.2023

CIPET/QF/7742

Name of Inspecting Official: M Balasubramanian

Code No. : 627

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

Inscection Document NO: IB00423240502493/1 Issued to M/s. The Executive Engineer, KERALA WATER AUTHORITY PHD' SION Impalaruda Kerala.

Manufacturer / Supplier Inspection Call Letter No. & Date: AND/010/CPET/23-24 (age: D4 11 2023)

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

PART - A: PARTICULRS OF STORES Description of the items

Grade Variety/Type/Size/Class etc.

Declared Value, if any

Quantity 0

hem omitted from the original scope of work if any

Any Other Information

: Batch Numbers

90mm PE100 PN 8 SDR 17

10000(50 nos X 200 meter)

20231001001A,20231001001B

PART B: SUPPLEMENTARY INFORMATION

Reference to sampling procedure

As per 35-4554 -2015 with latest amendment (Random Sampling)

PART C: RESULTS OF WITNESSED TESTS & REVIEW OF DOCUMENTS

SI No	Clause No.	Tests Witnessed	Unit	Specified Requirements	Observed Results
1	6.2	Colour of pipe		Black	Black
		Dimension of Blue Stripes		viu.	Diack
2	5.2.1	Width	200	Min. 3.0	3,17
		Depth	mm	Max. 0.2	0.18
3	17.5	Visual Appagance		The memory External surfaces shall be smooth, clean and the form proofing and other defects. Ends shall be square with the axis of the pipe	Satisfactory
		Out of Squareness	me.	Max. 3.0	2.81
	7.2	Length of straight pipe	Mirs		Not Applicable
	7.4	Dimensions of Pipe			TTOTAPPIICABLE
	7.4.1.1	Outside Diameter			
	Table-3	Minimum	- 100	90.0	90.17
		Maximum	6060	90.6	90.51
4	7411	Wall Thickness	-		30.51
	Table-4 Minimum Maximum	Minimum	mm	5.3	5.39
		Maximum	mm	5.9	5.84
	7.4.1.2	Ovality	mm	Max 1.8	0.20
	8	Performance Requirement	FT 1	17102.1.0	0.20
	8.1.1 Table-5	H,draulic Characteristic (IPCR) Acceptance Test 48 hrs at 80°C © 5.7 MPa Induced Stress	सिंप	The sample shall show no signs of localized swelling, leakage or weeping and shall not burst during the Test Duration	No Sign of Failure Observe during test duration.
- 1	8.2	Longitudinal Reversion Test	%	Max ± 3 %	1.7
5	8.3	Carbon Black Content	%	2.5 ± 0.5	2.11
		Carbon Black Dispersion		Satisfactory	Satisfactory
į.	8.4	Melt Flow Rate (190°C/5kgf)	g/10min	0.20 to 1.10	0.243
- [8.5	Oxidation Induction Time	minutes	≥ 20 0	Enclosed
	8.7	Base Density at 27°C	kg/m³	930 to 960	951.3
	8.9	Elongation at Break	%	≥ 350	423.67
6	10 of Documer	Marking on Pipe		MERCURY HDPE PIPE PE100 PN8 SDR17 DN90 IS 4984 2016 CM/L 6500061705	Marking are as per Standard

SI.	w of Documer Clause				
No.	No.	Tests Parameters/ Documents	Certificate/ Report No. & Date	Report	Review/ Remarks
1.	5.2. 6.1.1 Table 2	Raw material property Grade: Sabic P6006AD	Batch no. 25040036 dt 28.09.2022	Sabic	Reviewed & Confirmed
2.	8.1.1 Annex E	Internal Pressure Creep Rupture Test of Pipe (at 27°C for 100 h)		Sabic M/s Pioneer Testing Laboratory .New Delhi CIPET-	
3.	Do	Internal Pressure Creep Rupture Test of Pipe (at 80°C for 165 h)			Reviewed &
4.	Do	Internal Pressure Creep Rupture Test of Pipe (at 80°C for 1000 h)	Report No: PTL/GEN/04117		
5.	8.6	Overall Migration	Dated: 03.08.2022		Confirmed
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	Test report on Date 12.04.2023	CIPET-	Reviewed &

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.

2. These witness result stated above relate Exclusive to the work order of the object(s) or the lot inspection.

3. Lab. Environmental Condition during the witness or Tests: Temperature 27± 2 °C& R.H. 65±5%.

4. Calibration Status of equipment's/Instruments are verified.

08 AUTHORIZED SIGNATORY (M Balasubramanian & 267)

द्रीय पेट्रोरसायन अभियांत्रिकी एवं बोगिकी संस्थान (सिपेट)

(पूर्व में केन्द्रीय प्लास्टिक्त इंजीनियरिंग एवं तकनीकी संस्थान) मुख्यालय, पीडीआई सेल्

रसायन एवं पेट्रो रसावन विभाग

रसायन एवं उवरक नत्रालय, भारत सरकार टीवीके कौद्य दिक इस्टेट, गिंडी, चेन्नई - 600 032.

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s-==: paiho@cipet.gov.in



CENTRAL INSTITUTE OF PETROCHEMICALS **ENGINEERING & TECHNOLOGY(CIPET)**

(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

Dated: 08.11.2023

CIPET/QF/7742

Name of Inspecting Official: M Balasubramanian

Code No.

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

Inspection Document NO : IB00423240502493/2

Issued to :M/s. The Executive Engineer, KERALA WATER AUTHORITY, PH DIVISION, Irinjalakuda, Kerala,

Manufacturer / Supplier Inspection Call Letter No. & Date: AND/010/CIPET/23-24_dated 04.11.2023

Test report as per IS 4984 2016 (Latest Amendment) PART - A: PARTICULES OF STORES

Description of the item

b) Grade/Variety/Type/Siz_Class etc.

c) Declared Value, if any

d) Quantity

e)

Item omitted from the original scope of work if any Any Other Information : Batch Numbers

HDPE Pipe

110mm PE100 PN 8 SDR 17

Ni

5234 (34 nos X 150 meter + 1 no X 134 meter)

Nil

20231003001A

PART B: SUPPLEMENTARY INFORMATION

a) Reference to sampling procedure
PART C: RESULTS OF WITNESSED TESTS & REVIEW OF DOCUMENTS :As per IS:4934 -2016 with latest amendment (Random Sampling)

SI. No	Clause No.	Tests Witnessed	Unit	Specified Requirements	Observed Results
1	6.2	of pipe		Black	Black
		ion of Blue Stripes			
2	6.2.1	CH HIV	mm	Min. 3.0	3.42
			mm	Max 0.2	0.19
3	7.1	⊒ua: 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
		* * Squareness	mm	Max. 3.0	2.76
	7.2	of straight pipe	Mtrs		Not Applicable
	7.4	sions of Pipe			
4	7.4.1.1	ide Diameter			
	Table-3	num	min	110.0	110,01
	Idurero	= ham	mm	110.7	110.28
	7411	Trickness			
	Table-4	n m	mm	6.5	6.51
	3376-190-20	. I mum	mm	7.3	7.19
	7.4.1.2	Ang	mm	Max.2.2	1.58
	8	jange Requirement	1		
	8.1.1 Table-5	ic Characteristic (IPCR) ance Test 48 hrs at 80°C MPa Induced Stress	34924	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	tudinal Reversion Test	%	Max ± 3 %	1,3
5	8.3	or Black Content	96	2.5 ± 0.5	2.66
	-32.57	11 Black Dispersion	****	Satisfactory	Satisfactory
	8.4	ow Rate (190°C/5kgf)	g/10min	0.20 to 1.10	0.247
	8.5	on Induction Time	minutes	≥ 20,0	Enclosed
	8 7	= = ensity at 27°C	kg/m ³	930 to 960	949.0
	8.9	Jon at Break	96	≥ 350	421.41
6	10 v of Documen	di_) on Pip∈		MERCURY HDPE PIPE PE100 PN8 SDR17 DN110 IS 4984 2016 CM/L 6500061705	Marking are as per Standard

Revie	w of Documen	any		*	
SI. No.	Clause No.	Tests Parameters/ Documents	Certificate/ Report No. & Date	Report Issued by	Review/ Remarks
Ť.:	5.2, 6.1.1 Table 2	w material property ade: Sabic P6006AD	Batch no. 25040036 dt 28.09.2022	Sabic	Reviewed & Confirmed
2.	8.1.1 Annex E	mal Pressure Creep Rupture Test of Pipe (at 27°C for 100 h)		M/s Pioneer Testing	
3	Do	Pressure Creep Rupture Test of Pipe (at 80°C for 165 h)	Report No: PTL/GEN/04117,		
4.	Do	arna Pressure Creep Rupture Test of Pipe (at 80°C for 1000 h)			Reviewed &
5.	8.6	/erall Migration	Dated: 03.08.2022	Laboratory	Confirmed
6.	8 1 2	emai Pressure Creep Rupture Test of Joint Pipe (at 80° C for 48 h)		,New Delhi	
7.	8 10	ow C:ack Growth Rate Test			
8	8.5	kidation Induction Time	Sample submitted for Test report on Date 12,04,2023	CIPET- Madurai	Reviewed & Confirmed

PART - D: REMARKS

- 1. This Inspection doc These witness resi
- 3. Lab. Environmenta Calibration Status r
- it shall not be reproduced except in full without the written approval of the PDI Cell at CIPET Head Office
- ted above relate Exclusive to the work order of the object(s) or the lot inspection.
 - duting the witness or Tests: Temperature 27± 2 °C& R.H. 65±5%. pn=:00s/mstruments are verified

AUTHORIZED SIGNATORY (M Balasubramanian 8

द्रीय पेट्रोरसायन अभियांत्रिकी एवं **ब्राँ**द्योगिकी संस्थान (सिपेट)

(पूर्व में केन्द्रीय प्लास्टिक्स इंजीनियरिंग एवं तकनीकी संस्थान)

मुख्यालय, पीडीआई सेल रसायन एवं पेट्रो रसायन विमाग रसायन एवं उर्वरक मंत्रालय, भारत सरकार टीवीके बौद्योगिक इस्टेट, गिंडी, चेन्नई - 600 032.

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

-मेल : pdiho@cipet.gov.in



CENTRAL INSTITUTE OF PETROCHEMICALS **ENGINEERING & TECHNOLOGY(CIPET)**

(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

Dated: 08.11.2023

CIPET/QF/7742

Name of Inspecting Official: M Balasubramanian

Code No. : 267

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

INSPECTION DOCUMENTS

Issued to M/s. The Executive Engineer, KERALA WATER AUTHORITY, PH. DIVISION, Irinjalakuda, Kerala,

Manufacturer / Supplier Inspection Call Letter No. & Date: AND/010/CIPET/23-24. dated 04.11.2023

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

Inspection Document NO.: IB00423240502493/3

PART - A: PARTICULRS OF STORES

Description of the items

Grade/Variety/Type/Size/Class etc.

Declared Value, if any

Quantity

Item omitted from the original scope of work if any

Any Other Information

: Batch Numbers

160mm PE100 PN 8 SDR 17

Mili

7411 (823 nos X 9 meter + 1 no X 3 meter)

NE

PART B: SUPPLEMENTARY INFORMATION

Reference to sampling procedure :As per IS:4984 -2016 with largest amendment (Random Sampling) PART C: RESULTS OF WITNESSED TESTS & REVIEW OF DOCUMEN

SI. No	Clause No.	Tests Witnessed	Unit	Specified Requirements	Observed B
:1	6.2	Colour of pipe			Observed Results
		Dimension of Blue Stripes		Black	Black
2	6.2.1	Width	mm		
		Depth	TOTAL STATE	Min. 3.0	3.16
			H-SH	Max. 0.2	0.19
3	7.1	Visual Appearance		The Infernal & External surfaces shall be smooth, clean and first from grooving and other defects. Ends shall be cleanly out and shall be square with the axis of the pipe	Satisfactory
		Out of Squareness	mm	Max. 4.0	
	7.2	Length of straight pipe	Mtrs	Wax 4.0	
	7.4	Dimensions of Pipe		-	Not Applicable
	7.4.1.1	Outside Diameter			
	Table-3	Minimum	men	160 0	1
4	177525.5	Maximum	mm	161.0	555500000
:=1.	7.4.1.1	Wall Thickness		101.0	160,65
	Table-4	Minimum	mm	To the second se	
	200000	Maximum	mm	9.5	9.61
	7.4.1.2	Ovality	THE T	10.6	3.16 0.19 Satisfactory 3.89 Not Applicable 160.21 160.65 9.61 9.97 1.63 No Sign of Failure Obse during test duration. 1.2 2.34 Satisfactory 0.254 Enclosed 952.1 433.13
	8	Performance Requirement	1988	Max 3.2	1.63
	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	No Sign of Failure Observe
. 1	8.2	Longitudinal Reversion Test	%	during the Test Duration	during test duration.
5	8.3	Carbon Black Content	%	Max ± 3 %	1.2
	10,500	Carbon Black Dispersion		2.5 ± 0.5	2.34
	8.4	Melt Flow Rate (190°C/5kgf)	g/10min	Satisfactory	Satisfactory
L	8.5	Oxidation Induction Time	minutes	0.20 to 1.10	0.254
	8.7	Base Density at 27°C	kg/m ³	≥ 20.0	Enclosed
	8,9	Elongation at Break	% Kg/m	930 to 960	952,1
6	10		70	≥ 350	433.13
	of Documen	Marking on Pipe ts (if any)		MERCURY HDPE PIPE PE100 PN8 SDR17 DN110 IS 4984 2016 CM/L 6500061705	Marking are as per Standard

SI, No.	Clause No.	Tests Parameters/ Documents	Certificate/ Report No. & Date	Report	Review/
-21	5.2.	Pau motorial annua t		Issued by	Remarks
1.	6.1.1 Table 2	Raw material property Grade: Sabic P6006AD	Batch no. 25040036 dt 28,09,2022	Sabic	Reviewed 8 Confirmed
2	8.1.1 Annex E	Internal Pressure Creep Rupture Test of Pipe (at 27°C for 100 h)		M/s Pioneer	o siiiilod
3.	Do	Internal Pressure Creep Rupture Test of Pipe (at 80°C for 165 h)	Report No: PTL/GEN/04117 7		Reviewed & Confirmed
4	Do	Internal Pressure Creep Rupture Test of Pipe (at 80 °C for 1000 h)			
5.	8.6	Overall Migration		Testing	
6.	8.1.2	Internal Pressure Creep Rupture Test of Joint Pipe (at 80° C for 48 h)	23.03 : 50.00 2022	Laboratory	
7.	8.10	Slow Crack Growth Rate Test	V	,New Delhi	
8	8,5	Oxidation Induction Time	Sample submitted for Test report on	CIPET-	Reviewed &
D: R	EMARKS		Date 12,04,2023	Madurai	Confirmed

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2. These witness result stated above relate Exclusive to the work order of the object(s) or the lot inspection. 3. Lab. Environmental Condition during the witness or Tests; Temperature 27± 2 °C& R.H. 65±5%.

Calibration Status of equipment's/Instruments are verified.

80 AUTHORIZED SIGNATORY (M Balasubramanian & 267