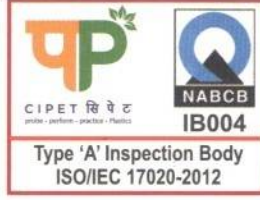


# केंद्रीय पेट्रोकेमिकल्स इंजीनियरिंग एवं तकनीकी संस्थान (सिपेट)

(पूर्व में केंद्रीय प्लास्टिक्स इंजीनियरिंग एवं तकनीकी संस्थान)  
मुख्यालय. पो.डो.आई सेल्  
रसायन एवं पेट्रोसायन विभाग,  
रसायन एवं उर्वरक मंत्रालय, भारत सरकार  
टी.वी.के. इंडस्ट्रियल एस्टेट, गिण्डी, चेन्नई-600 032.  
फोन : +91-44-2225 4781 / 22254 779 / 6462 9018  
ई-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

T.V.K. Industrial Estate, Guindy, Chennai - 600 032.

Phone : +91-44-2225 4781 / 22254 779 / 6462 9018

E-mail : pdiho@cipet.gov.in

Name of Inspecting Official: Radhashyam Giri

W.O.Centre: CIPET - Kochi

Code No. : 1445

Camp at: M/S.Hydraguard International (P) Ltd.Gummidipoondi, TN

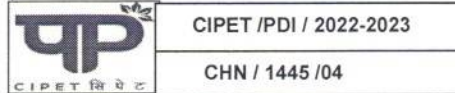
## INSPECTION REPORT

1. Report No : IB00422230503324	Date 23.03.2023
2. Name of the Indentor/ Consignee with detailed address	The Executive Engineer, Kerala Water Authority ,P.H. Division, Irinjalakuda, 680121 kerala
3. Indenter Order No. & Date and Extension	(i) Letter No. D4 -2235 /2022 - dated 09.02.2023 (ii) Work Order No. KWA/HO/SP-440/2017/TP 1 DT.02.07.2020 (iii) Contractor Letter dated 09.02.2023
4. Details of the Consignee	The Executive Engineer, PH Sub Division, JJM – Parappukkara Grama panchayath – Pipe line extension and providing FHTC at various places of Parappukkara Panchayath.
5. Name of the Supplier / Contractor	Sri.M.V. Viswanathan , Mecheril House,Binanipuram, P.O Edayar,Aluva - 683502
6. Supplier Order No. & Date (if any)	PO- No: MHMA/PO/41/2022-23 Dt.02.02.2023 & MHMA/PO/44/2022-23 Dt.10.03.2023
7. Name & address of the Manufacturer / Inspection site	M/S.Hydraguard International Pvt. Ltd., 61 ,Shed No. 16, Chinnaobulapuram, Gummidipoondi, Tiruvallur, TN- 601201.
8. Manufacturer /Supplier Inspection Call Letter No.&Date	NIL dated 11.03.2023
9. PDI Cell Assignment No. & Date	CIPET/HO/2022238151 dated 16.03.2023
10. Date of inspection	Initiated on: 21.03.2023 Completed on: 23.03.2023
11. Any other information	Manufacturer BIS License No. CM/L-6100103267

## DETAILS OF THE STORES:

Sl. No	Description of Items	Qty. as per Order (in Meters)	Qty. Inspected earlier Cumulative (in Meters)	Qty. Offered for Inspection (in Meters)	Qty. Accepted for Inspection (in Meters)	Qty. Rejected (in Meters)	Qty. Balance (in Meters)
<b>HDPE Pipes as per IS 4984:2016 with IS Certification Marks:</b>							
01	PE100PN10 DN225MM SDR 13.6	478 Mtrs	NIL	478 (39Nos x12,1Nox10Mtrs)	478 (39Nos x12,1Nox10Mtrs)	NIL	NIL
02	PE100 PN08 DN250 MMSDR17	50 Mtrs	NIL	50 (4Nos x12,1Nox2Mtrs)	50 (4Nos x12,1Nox2Mtrs)	NIL	NIL
03	PE100 PN10 DN500 MM SDR 13.6	240 Mtrs	NIL	240 (20Nos x12 Mtrs)	240 (20Nos x12 Mtrs)	NIL	NIL

Remarks: All accepted items are stamped thus-



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. IB00422230503324/ 1,2,3 dated 23.03.2023 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.

*Rg*

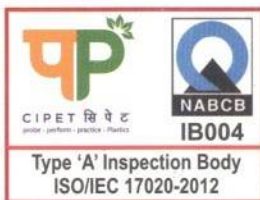
AUTHORIZED SIGNATORY  
(Radhashyam Giri / 1445)

- CC: 1. The Asst. Executive Engineer, PH Sub Division, Irinjalakuda, Kerala.  
2. M/S.Hydraguard International Pvt. Ltd., 61 ,Shed No. 16, Chinnaobulapuram, Gummidipoondi, Tiruvallur, TN- 601201.  
3. Sri.M.V. Viswanathan , Mecheril House,Binanipuram, P.O Edayar,Aluva - 683502  
4. CIPET: Kochi, Kerala.



केन्द्रीय पेट्रोकेमिकल्स इंजीनियरिंग एवं तकनीकी संस्थान (सिपेट)

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Name of Inspecting Official: Radhashyam Giri

Code No. : 1445

W.O.Centre: CIPET - Kochi

Camp at: M/S.Hydraguard International (P) Ltd.Gummidipoondi, TN

INSPECTION DOCUMENTS

Inspection Document NO.: IB00422230503324/ 1

Dated: 23.03.2023

Issued to : M/S.Hydraguard International Pvt. Ltd., 61, Shed No. 16, Chinnobulapuram, Gummidipoondi, Tiruvallur, TN- 601201.

Manufacturer / Supplier Inspection Call Letter No.& Date: NIL dated 11.03.2023

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. : PE 100 / PN10 / DN225 / SDR 13.6 HDPE Pipe  
c) Declared Value, if any : Nil  
d) Quantity : 478 Mtrs. (39 Nos X 12 , 1No X 10 Mtrs.)  
e) Batch Numbers : 20230301L03A  
f) Item omitted from the original scope of work,if any& any Other Information : Not applicable & Nil

PART - B: SUPPLEMENTARY INFORMATION : Nil.

- a) Reference to sampling procedure : IS 4984:2016 (Latest Amendment)

PART C: INSPECTION RESULTS of witnessed Tests & Review of Documents:

Results of Witnessed Tests :

Sl.No.	ClauseNo.	Tests/Witnessed	Unit	Specified Requirements	Results Obtained
1	6.2	Colour of pipe		Black Colour With Blue Strip	Confirm
2	6.2.1	<b>Dimension of Blue Strip:</b>			
		No. of Strips	Nos.	3	3
		Width & Depth	mm	Min.: 3.00 & Max.: 0.50	5.3 & 0.28
	7.4.1.1Table -3	Outside Diameter	mm	Min.: 225.0, Max.: 226.4	225.18 - 225.60
	7.4.1.1Table- 4	Wall Thickness	mm	Min.: 16.60, Max.: 18.40	16.78 - 17.64
	7.4.1.2	Ovality	mm	Max.: 4.50	1.80
	7.2	Length of the Pipe	Mtr.	Min.: 12.0	12.0
7.1	Visual Appearance	--	The Internal & External surface of pipe shall be smooth, clean free from grooving & other defects. Ends shall be cleanly cut and shall be square with the axis of the pipe.	Satisfactory	
	Out of Squareness	mm	Max.: 5.0	0.90	
3	8.1	<b>Performance Requirement :</b>			
	8.1.1 Table -5	Hydrostatics characteristics- (IPCR TEST) Acceptance Test: At 80°C @ 5.7 MPa. Induced Stress for 48 Hours		The pipe shall not show any sign of localized Swelling, Leakage or Weeping and shall not burst during the test duration.	Confirm
	8.2	Reversion test	%	Longitudinal Reversion Max. 3%	0.98
	8.3	Carbon Black Content	%	2.00 to 3.00	2.28
		Carbon Black Dispersion	---	Satisfactory	Confirm
	8.4	Melt Flow Rate	gm/10Min	0.20 to 1.10	0.26
	8.5	Oxidation Induction Time	Min	≥20	Confirm
8.7	Density	Kg/ m <sup>3</sup>	930.00 to 960.00	949.30 - 949.60	
8.9	Elongation at Break	%	≥350	1006.45	
4	10.1.1	Marking on each pipe	--	Marking shall show-Manufacturer Name/Trade Mark , Material Designation, Pressure Rating, SDR , Outside Diameter, Batch/Lot Number.	HYDRAGUARD PE100 PN10 DN225 SDR13.6 IS 4984-2016 20230301L3A and found as per requirement.
	10.2.1	BIS Certification Marking	--	Marking with CM/L No.:	6100103267

Review of Documents (if any):

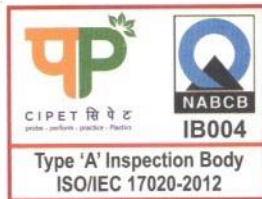
Sl. No.	Clause No.	Test Parameters / Documents	Certificate / Report No. & Date	Certificate / Report Issued by	Review / Remarks
1	8.4,8.5, 8.7	Melt Flow Rate, Oxidation Induction Time, Density (Raw material Parameters)	Opal/CL/HDPE/TR/2023/4037 dated 15.02.2023	M/s.ONGC Petro Chemicals Ltd - Bharuch, Gujarat .	Reviewed and satisfactory
2	8.1.1	Internal Pressure Creep Rupture Test of pipe at 27°C for 100 Hrs.	Test Report No: 0135414 dated 23.11.2022	CIPET- Hyderabad.	
3	8.1.1	Internal Pressure Creep Rupture Test of pipe at 80°C for 1000 Hrs.			
4	8.1.1	Internal Pressure Creep Rupture Test of pipe at 80°C for 165 Hrs.			
5	8.1.2	Internal Pressure Creep Rupture Test of pipe joints@80°C for48Hrs			
6	8.6	Overall Migration			
7	8.8	Tensile Strength for Butt-Fusion			
8	8.10	Slow Crack Growth Rate Test			

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 orTests: Temperature 27± 2 °C&R.H. 65±5%.
- Calibration Status of equipments/Instruments are verified.

AUTHORIZED SIGNATORY  
(Radhashyam Giri / 1445)





Name of Inspecting Official: Radhashyam Giri  
Code No. : 1445

W.O.Centre: CIPET - Kochi

Camp at: M/S.Hydraguard International (P) Ltd.Gummidipoondi, TN

**INSPECTION DOCUMENTS**

Inspection Document NO.: IB00422230503324/ 2

Dated: 23.03.2023

Issued to: M/S.Hydraguard International Pvt. Ltd., 61, Shed No. 16, Chinnabulapuram, Gummidipoondi, Tiruvallur, TN- 601201.

Manufacturer / Supplier Inspection Call Letter No.& Date: NIL dated 11.03.2023

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

**PART - A: PARTICULARS OF STORES**

- g) Description of the items : HDPE Pipe  
h) Grade/Variety/Type/Size/Class etc. : PE 100 / PN08 / DN250 / SDR 17 HDPE Pipe  
i) Declared Value, if any : Nil  
j) Quantity : 50 Mtrs. (4 Nos X 12 , 1No X 2 Mtrs.)  
k) Batch Numbers : 20230210L04A  
l) Item omitted from the original scope of work,if any& any Other Information : Not applicable & Nil

**PART - B: SUPPLEMENTARY INFORMATION** : Nil.

- b) Reference to sampling procedure : IS 4984:2016 (Latest Amendment)

**PART C: INSPECTION RESULTS of witnessed Tests & Review of Documents:**

**Results of Witnessed Tests :**

Sl.No.	ClauseNo.	Tests/Witnessed	Unit	Specified Requirements	Results Obtained
1	6.2	Colour of pipe		Black Colour With Blue Strip	Confirm
2	6.2.1	<b>Dimension of Blue Strip:</b>			
		No. of Strips	Nos.	3	3
		Width & Depth	mm	Min.: 3.00 & Max.: 0.50	5.12 & 0.28
	7.4.1.1Table -3	Outside Diameter	mm	Min.: 250.0, Max.: 251.5	250.10 - 250.51
	7.4.1.1Table- 4	Wall Thickness	mm	Min.: 14.70, Max.: 16.30	14.78 - 15.63
	7.4.1.2	Ovality	mm	Max.: 5.0	1.95
	7.2	Length of the Pipe	Mtr.	Min.: 12.0	12.0
7.1	Visual Appearance	--	The Internal & External surface of pipe shall be smooth, clean free from grooving & other defects. Ends shall be cleanly cut and shall be square with the axis of the pipe.	Satisfactory	
	Out of Squareness	mm	Max. : 5.0	0.93	
3	8.1	<b>Performance Requirement :</b> Hydrostatics characteristics- (IPCR TEST) Acceptance Test: At 80°C @ 5.7 MPa. Induced Stress for 48 Hours		The pipe shall not show any sign of localized Swelling, Leakage or Weeping and shall not burst during the test duration.	Confirm
	8.2	Reversion test	%	Longitudinal Reversion Max. 3%	0.36
	8.3	Carbon Black Content	%	2.00 to 3.00	2.28
		Carbon Black Dispersion	---	Satisfactory	Confirm
	8.4	Melt Flow Rate	gm/10Min	0.20 to 1.10	0.28
	8.5	Oxidation Induction Time	Min	≥20	Confirm
	8.7	Density	Kg/ m <sup>3</sup>	930.00 to 960.00	949.0
8.9	Elongation at Break	%	≥350	950.63	
4	10.1.1	Marking on each pipe	--	Marking shall show-Manufacturer Name/Trade Mark , Material Designation, Pressure Rating, SDR , Outside Diameter, Batch/Lot Number.	HYDRAGUARD PE100 PN8 DN250 SDR17 IS 4984-2016 20230210L04A and found as per requirement.
	10.2.1	BIS Certification Marking	--	Marking with CML No.:	6100103267

**Review of Documents (if any):**

Sl. No.	Clause No.	Test Parameters / Documents	Certificate / Report No. & Date	Certificate / Report Issued by	Review / Remarks
1	8.4,8.5, 8.7	Melt Flow Rate, Oxidation Induction Time, Density (Raw material Parameters)	Opal/CL/HDPE/TR/2023/4037 dated 15.02.2023	M/s.ONGC Petro Chemicals Ltd – Bharuch, Gujarat .	Reviewed and satisfactory
2	8.1.1	Internal Pressure Creep Rupture Test of pipe at 27°C for 100 Hrs.	Test Report No: 0135414 dated 23.11.2022	CIPET- Hyderabad.	
3	8.1.1	Internal Pressure Creep Rupture Test of pipe at 80°C for 1000 Hrs.			
4	8.1.1	Internal Pressure Creep Rupture Test of pipe at 80°C for 165 Hrs.			
5	8.1.2	Internal Pressure Creep Rupture Test of pipe joints@80°C for48Hrs			
6	8.6	Overall Migration			
7	8.8	Tensile Strength for Butt-Fusion			
8	8.10	Slow Crack Growth Rate Test			

**PART - D: REMARKS**

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- Lab Environmental Condition during the witness orTests: Temperature 27± 2 °C&R.H. 65±5%.
- Calibration Status of equipments/Instruments are verified.

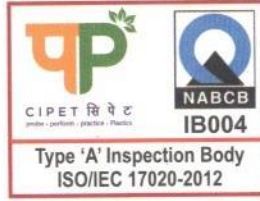
*Radhashyam Giri*

**AUTHORIZED SIGNATORY  
(Radhashyam Giri / 1445)**



# पेट्रोकेमिकल्स इंजीनियरिंग एवं तकनीकी संस्थान (सिपेट)

(पूर्व में केंद्रीय प्लास्टिक्स इंजीनियरिंग एवं तकनीकी संस्थान)  
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Phone : +91-44-2225 4781 / 22254 779 / 6462 9018  
E-mail : pdiho@cipet.gov.in

Name of Inspecting Official: Radhashyam Giri  
Code No. : 1445

W.O.Centre: CIPET - Kochi  
Camp at: M/S.Hydraguard International (P) Ltd.Gummidipoondi, TN

## INSPECTION DOCUMENTS

Dated: 23.03.2023.

Inspection Document NO.: IB00422230503324/ 3  
Issued to : M/S.Hydraguard International Pvt. Ltd., 61 ,Shed No. 16, Chinnaobulapuram, Gummidipoondi, Tiruvallur, TN- 601201.  
Manufacturer / Supplier Inspection Call Letter No.& Date: NIL dated 11.03.2023  
Test report as per IS 4984:2016 (Latest Amendment)

### PART - A: PARTICULARS OF STORES

- m) Description of the items : HDPE Pipe  
n) Grade/Variety/Type/Size/Class etc. : PE 100 / PN10 / DN500 / SDR 13.6 HDPE Pipe  
o) Declared Value, if any : Nil  
p) Quantity : 240 Mtrs. (20 Nos X 12 Mtrs.)  
q) Batch Numbers : 20230307L04B  
r) Item omitted from the original scope of work,if any& any Other Information : Not applicable & Nil

### PART - B: SUPPLEMENTARY INFORMATION

- c) Reference to sampling procedure : IS 4984:2016 (Latest Amendment)

### PART C: INSPECTION RESULTS of witnessed Tests & Review of Documents:

#### Results of Witnessed Tests :

Sl.No.	Clause No.	Tests/Witnessed	Unit	Specified Requirements	Results Obtained
1	6.2	Colour of pipe		Black Colour With Blue Strip	Confirm
2	6.2.1	<b>Dimension of Blue Strip:</b>			
		No. of Strips	Nos.	3	3
		Width & Depth	mm	Min.: 3.00 & Max.: 0.50	17.30 & 0.29
	7.4.1.1Table -3	Outside Diameter	mm	Min.: 500.0, Max.: 503.0	500.18 - 501.50
	7.4.1.1Table- 4	Wall Thickness	mm	Min.: 36.80, Max.: 40.60	36.85 - 38.91
	7.4.1.2	Ovality	mm	Max.: 17.50	6.04
	7.2	Length of the Pipe	Mtr.	Min.: 12.0	12.0
7.1	Visual Appearance		--	The Internal & External surface of pipe shall be smooth, clean free from grooving & other defects. Ends shall be cleanly cut and shall be square with the axis of the pipe.	Satisfactory
		Out of Squareness	mm	Max. : 7.0	1.12
3	8.1	<b>Performance Requirement :</b> Hydrostatics characteristics- (IPCR TEST) Acceptance Test: At 80°C @ 5.7 MPa. Induced Stress for 48 Hours		The pipe shall not show any sign of localized Swelling, Leakage or Weeping and shall not burst during the test duration.	Confirm
	8.1.1 Table -5				
	8.2	Reversion test	%	Longitudinal Reversion Max. 3%	0.55
	8.3	Carbon Black Content	%	2.00 to 3.00	2.29
		Carbon Black Dispersion	---	Satisfactory	Confirm
	8.4	Melt Flow Rate	gm/10Min	0.20 to 1.10	0.28
	8.5	Oxidation Induction Time	Min	≥20	Confirm
8.7	Density	Kg/ m <sup>3</sup>	930.00 to 960.00	950.3 -950.4	
8.9	Elongation at Break	%	≥350	683.68	
4	10.1.1	Marking on each pipe	--	Marking shall show-Manufacturer Name/Trade Mark , Material Designation, Pressure Rating, SDR , Outside Diameter, Batch/Lot Number.	HYDRAGUARD PE100 PN10 DN500 SDR13.6 IS 4984-2016 20230307L04B and found as per requirement.
	10.2.1	BIS Certification Marking	--	Marking with CM/L No.:	6100103267

#### Review of Documents (if any):

Sl. No.	Clause No.	Test Parameters / Documents	Certificate / Report No. & Date	Certificate / Report Issued by	Review / Remarks
1	8.4,8.5, 8.7	Melt Flow Rate, Oxidation Induction Time, Density (Raw material Parameters)	OpaL/CL/HDPE/TR/2023/4037 dated 15.02.2023	M/s. ONGC Petro Chemicals Ltd – Bharuch, Gujarat .	Reviewed and satisfactory
2	8.1.1	Internal Pressure Creep Rupture Test of pipe at 27°C for 100 Hrs.	Test Report No: 0135414 dated 23.11.2022	CIPET- Hyderabad.	
3	8.1.1	Internal Pressure Creep Rupture Test of pipe at 80°C for 1000 Hrs.			
4	8.1.1	Internal Pressure Creep Rupture Test of pipe at 80°C for 165 Hrs.			
5	8.1.2	Internal Pressure Creep Rupture Test of pipe joints@80°C for48Hrs			
6	8.6	Overall Migration			
7	8.8	Tensile Strength for Butt-Fusion			
8	8.10	Slow Crack Growth Rate Test			

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- Calibration Status of equipments/Instruments are verified.

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