



SUBJECT: PURCHASE OF MDPE PIPES ON ARC BASIS FOR A PERIOD OF ONE YEAR

 VADODARA GAS LIMITED		QUALITY ASSURANCE PLAN MEDIUM DENSITY POLYETHYLENE PIPES (MDPE) TENDER NO.: VGL/CO/C&P-PNG/BD202002P11				QAP No. : VGL/PNG/QAP/MDPE/20-21/00 Revision : 00	
SR. NO.	Operation	Quantum of Check	Acceptance Criteria / Norms for Raw Material and IS 14885:2001 for PE Pipe)	Format of Record	Vendor	CA/TPIA	Remarks
1	RAW MATERIAL INSPECTION TEST RESULT OF PE COMPOUND						
1.1	Test result of PE compound	Per Lot of Batch of Compound	ISO1183:1987 & SOS & TS	MTC of Manufacturer	R	R	Witness may be done by CA to ensure use of compound material
2	APPROVAL OF TYPE TEST FOR LONG TERM HYDROSTATIC STRENGTH & OTHERS		@ 80° C for 1000 hours @ 20 ° C for more than 100 hours, As per Table 7 of IS 14885	TPIA approved certificate	R	R/W	
3	IN-PROCESS INSPECTION						
3.1	Raw Material Identification at the time of pouring the bags in Hopper.	Each Bag	PE100 Cl. No. 8 of SOS & TS	Consumption Report	P	H	TPI to verify MTC of each batch for
4	FINAL INSPECTION						
4.1	Visual Appearance						
	a) Smoothness & Cleanliness	Oneout of 10 Pipes	Smooth & clean or as specified in CL no. 7 of IS 14885	--	P	W	
	b) Surface Defects		Free from grooves, scoring etc. or as specified in CL no. 7 of IS 14885	--	P	W	
	c) Cuttings		Cleanly cut ends & square to axis or as specified in CL no. 7 of IS 14885	--	P	W	
4.2	Dimension						
	a) Outside diameter	Oneout of 10 Pipes	Cl no. 6 /Table 4 of IS 14885	Inspection Report	P	W	
	b) Wall Thickness		Cl no. 6 /Table 4 of IS 14886	Inspection Report	P	W	
	c) Ovality		Cl no. 6 /Table 3 of IS 14887	Inspection Report	P	W	
	d) Length		Cl. No. 9 of SOS & TS	Inspection Report	P	W	
4.3	Hydraulic Characteristics						
	a) 80OC for 165 hrs	Table 9	9Cl 8.1, Annexure A & B & Table 7 of IS 14885	Hydrotest Report	P	W	
4.4	Heat reversion test	Table 11	CL 8.2, Annexure C of IS 14885 / Not more than 3% @ 23 ° C > 928.4 kg/m3 & '@ 27 ° C > 930 kg/m3	Inspection Report	P	W	
4.5	Density (matl. from pipe)		Cl 8.1 of SOS & TS	Inspection Report	P	W	
4.6	Melt Flow Rate - Pipe		Cl 8.5, Annexure D of IS 14885 / OIT > 20 minutes	Inspection Report	P	W	
4.7	Thermal Stability to Oxidation		Cl 8.6, Annexure H of IS 14885 / < 350 mg/kg	Inspection Report	P	W	
4.8	Volatile Matter Content Test		Cl 8.7& Annexure J of IS 14885 / Tensile Yield Strength = 15 Mpa (min.), Elongation = 350% (Min.)	Inspection Report	P	R/W*	*Witness shall be done in case valid Type Test Report is not available
4.9	Tensile Test & Elongation at break	Table 11	Cl 8.8 & Annexure F of IS 14885	Inspection Report	P	R/W*	
4.1	Resistance to weathering	-	Cl 8.9 & Annexure G of IS 14885	Inspection Report	P	W	
4.11	Squeeze Off Test	-					
5	MARKING INFORMATION						
5.1	Legibility	Table 10	Visual / Should be legible	Inspection Report	P	R	
5.2	Depth	Table 10	As per Cl 13.1 of SOS & TS, Depth < 0.15 mm	Inspection Report	P	RW	
5.3	Marking Strip	Table 10	Cl 10.3 of IS 14885, Single Strip for Pipes with Nominal Size ≤ 32mm & two strips on opposite side of pipe for other pipes.	Inspection Report	P	RW	
5.4	Colour or Marking	Table 10	As per Cl 12 of SOS & TS/ IS 14885	Inspection Report	P	RW	

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5.5	Height of Character	Table 10	As per CI 13.2 of SOS & TS, Min.3 mm for < 90mm pipe sizes & Min. 5 mm for > 90mm pipe sizes.	Inspection Report	P	RW	
5.6	Legends	Table 10	As per CI 13.3 of SOS & TS, At interval of 1 mtr. and should contain information as specified in SOS & TS	Inspection Report	P	RW	
6	FINAL DOCUMENTATION	-	P.O./ SOS & TS	Compliance Certificate	p	H	
LEGENDS: R - Review, W - Witness, A - Approval, RW - Random Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency , CA - Control Authority (Owner / owner's representative) , P.O. - Purchase order							
Notes: - 1. The Above Testing and acceptance criteria are minimum requirements. However, manufacturer shall ensure that the product shall also comply to the additional requirements as per Scope of Supply and Technical Specifications. 2. The supplier shall submit their own detailed ITP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative 3. Owner/Owner representative shall review/approve all the documents related to QAP/Quality manuals/Drawings etc.submitted by supplier. 4. Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organize Inspection. 5. Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used. In case of conflict between specifications, more stringent condition shall be applicable. 6. Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time. 7. All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/VGL at the time of Inspection 8. At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note & MTC.							