

Tender No - 110290/WGI/GAIL GAS/14-R0

Dated – 23.12.2009

Sr. No.	Section / Clause No.	Tender Doc. Page No.	Clause Description	Added / Modified / Deleted
1.	Volume II of II Technical, Clause 9.11 (Replies to Bidders Query S. No. 21)	31 of 100	Wall Thickness – The tolerance on specified wall thickness shall be (+) 10% & zero negative tolerance	Wall thickness tolerance on specified wall thickness stands modified (+) 15% & zero negative tolerance
2.	Format A and Format-B		a)Line Pipe Manufacturing Mill Capability Certification b)Line Pipe Coating Capability Certification	Format–A and Format-B attached as Annexure-I
3.	Volume II of II Technical	Additional requirement of Reverse Bend Test	Reverse Bend Test (New)	Additional Requirement of Reverse Bend Test for ERW pipes is attached as Annexure-II
4.	Vol I of II 2.1.1 (d)	52 of 192	Supply of Bare Line Pipe	“(d) Inspection and Testing by Seller’s TPIA for 3.2 certification” stands deleted
5.	Vol I of II 1.1.4	143 of 192	Option 2 Terms of Payment	This point modified as mentioned below: “The balance 10% amount of the Invoice value shall be paid progressively with in 30 days after delivery of finished line pipe by the supplier at GAIL GAS’s storage yard and receipt of the final document.”

Corrigendum-1 is to be treated as part of the original Tender document and while submitting your offer; Corrigendum-1 shall also be signed, stamped and submitted along with Tender Document.

LINE PIPE MANUFACTURING MILL CAPABILITY CERTIFICATION

This is to certify that M/s _____ proposed plant's production line _____ has following manufacturing facilities to manufacture _____ (type of pipes) line pipes as per API 5L PSL2 or equivalent.

SL. No.	DESCRIPTION	Inspection Agency	
		OBSERVATION	REMARKS ON CONFORMITY
A	GENERAL INFORMATION		
1.0	Detailed description of Organization (Structure, number of Employees, facilities, equipments, etc.) concerning the following:		
1.1	Overall structure of Mill Organization		
1.2	Line Pipe production facilities and Capacity		
1.3	Testing Laboratories		
1.4	Quality Control/Quality Assurance (QA/QC): Type and location of the testing facility and step-by-step operations followed to achieve High quality product as per technical specifications		
1.5	Non-Destructive testing facilities		
1.6	Latest Audit certified documents performed during production by one of the International Inspection Agencies (as listed in SCC).		
2.0	Company has valid ISO 9001-2000 Certificate and established Quality manual.		
B	FABRICATION & INSPECTION PROCEDURES		
1.0	Give detailed description of the Fabrication Process to produce Line pipes as per technical documents		
1.1	Inspection of raw material (Plates/Coils/Billets)		
1.2	Forming of the plates / Coils / Billets		
1.3	De-coiling and Inspection		
1.4	Edge preparation		
1.5	Forming		
1.6	Welding		
1.7	Testing		
2.0	Following shall be certified for Mill capability :		
2.1	Inspection of raw material (Plates /Coils/ Billets) The machine shall have an inbuilt edge machining and Ultrasonic testing to test about 25mm width on both sides of the plate edges.		
2.2	Forming of the plates / Coils / Billets During Forming and welding the machine should have tracking system to control welding groove and edge offsets.		
2.3	Welding Pipe mill shall have a continuous tack welding		

	arrangement for better dimensional control, minimum repairs and higher production. Weld procedure qualified shall ensure testing of Impact at -20° C for Weld and HAZ.		
2.4	Inspection & Testing		
	Type and location of the testing facility and step-by-step operations followed to achieve High quality product as per technical specifications.		
	List of all relevant NDT procedures (including Acceptance criteria)		
	List of NDT qualified personnel with valid ASTN-1A certificates for Level III and Level II operators.		
	Ultrasonic machines being used should ensure tracking of weld seam during testing and representing defects on a printout.		
	All instruments used shall have a valid calibration certificates.		
	Capability of mill and procedure followed to produce pipes within technical specifications with special attention to clause number 9.11 of TS.		
	HSAW mill shall ensure, prove and establish adequate methodology that the residual stresses are within acceptable limits (at least equal to cold expanded pipes).		
	Capability of Mill and procedure followed to perform impact test at -20/0 Deg.C as per technical document requirements.		
	Work Instructions and approved procedures to be displayed at each and every work centres for ready reference.		
	ERW mill shall have the facilities, controls, and recording facility for welder frequency, online seam annealing, current & voltage.		
	Various procedures established shall have approval from International Inspection agencies as listed in SCC		

Overall Acceptability:

ACCEPTABLE / NOT ACCEPTABLE

For & On behalf of

Signature
 Name
 Designation
 Agency's name & Seal

Note: All pages of this report (Format A) shall be signed and stamped by the agency.

LINE PIPE COATING CAPABILITY CERTIFICATION

This is to certify that M/s _____ reference plant's production line _____ has following coating facilities to carryout 3LPE external coating of Bare line pipes as per Tender specifications:

SL. No.	DESCRIPTION	GAIL or its authorized representative	
		OBSERVATION	REMARKS ON CONFORMITY
1	BASE MATERIAL		
1.1	Identification		
1.2	Review of the manufacturer's certificates (EN 10204—3.1B)		
1.3	Raw material testing (Batch wise) at vendors laboratory.		
2	SURFACE PREPARATION		
2.1	Preheating before abrasive blasting.		
2.2	Phosphoric acid treatment.		
2.3	PH of pipe surface after phosphoric acid wash.		
2.4	Salt contamination check before second abrasive blasting.		
2.5	Anchor pattern and degree of cleaned surface & degree of dust after second blasting.		
3	COATING		
3.1	Temperature of pipe before chromate application and visual application.		
3.2	Temperature of pipe before application.		
3.3	Temperature of PE, adhesive, Epoxy.		
3.4	Epoxy /Adhesive /PE film thickness.		
3.5	Total coating thickness.		
4	INSPECTION & TESTING		
4.1	Holidaytesting.		



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FOR COATED LINE PIPE
CORRIGENDUM – 1



4.2	Cathodic disbondment.		
4.3	Dimensional check (cut back on both ends of the pipe).		
4.4	Final visual inspection + bond strength + Impact test etc.		
5	Documentation & final certification.		

Overall Acceptability:

ACCEPTABLE / NOT ACCEPTABLE

For & On behalf of

Signature
Name
Designation
Agency's name & Seal

Annexure – II

1. Reverse Bend Test

(New)

1.1

(New) Reverse bend test shall be executed with the same number of tests and retests specified for flattening test in para 9.3.2 of API Spec 5L. Ring Specimen of width 100 mm to 115 mm shall be taken from the pipe and tested in accordance with the procedure given below and Fig. 6.2.7 of this specification.

1.2 Selection of Mandrel

(New) The reverse bend test shall be carried out with a mandrel, whose radius (R), or width (A) shall be calculated for any combination of diameter, wall thickness and grade with the following formula:

$$1.4 (D - t) t$$

$$A = 2 R \text{ ----- } - t$$

$$e (D - 2 t) - 1.4 t$$

Where

- D - Specified outside diameter of pipe, mm
- t - Specified wall thickness of pipe, mm
- 1.4 - Peaking factor
- e - Strain

Minimum value of 'e' shall be as follows:

Grade of Steel Min 'e' value

Gr. B	0.1425
X-42	0.1375
X-46	0.1325
X-52	0.1250
X-60	0.1125
X-65	0.1100
X-70	0.1075

1.3 Procedure

(New)

The mandrel shall be plunged into the specimen, with the weld in contact with the mandrel, to such a depth that the angle of engagement between mandrel and specimen reaches 60° (Ref. Fig 1.0). If the combination of diameter and wall thickness of pipe, and radius of mandrel is such that the angle of engagement does not reach 60° the mandrel shall be plunged into the specimen until opposite walls of the specimen meet.

1.4 Acceptance Criteria

(New)

A specimen which fractures completely prior to the specified engagement of mandrel and specimen, or which reveals cracks or ruptures in the weld or heat affected zone longer than 4 mm, shall be rejected. Cracks less than 6 mm long at the edges of the specimen shall not be cause for rejection. Dye penetrant testing may be used to positively confirm cracks or openings.

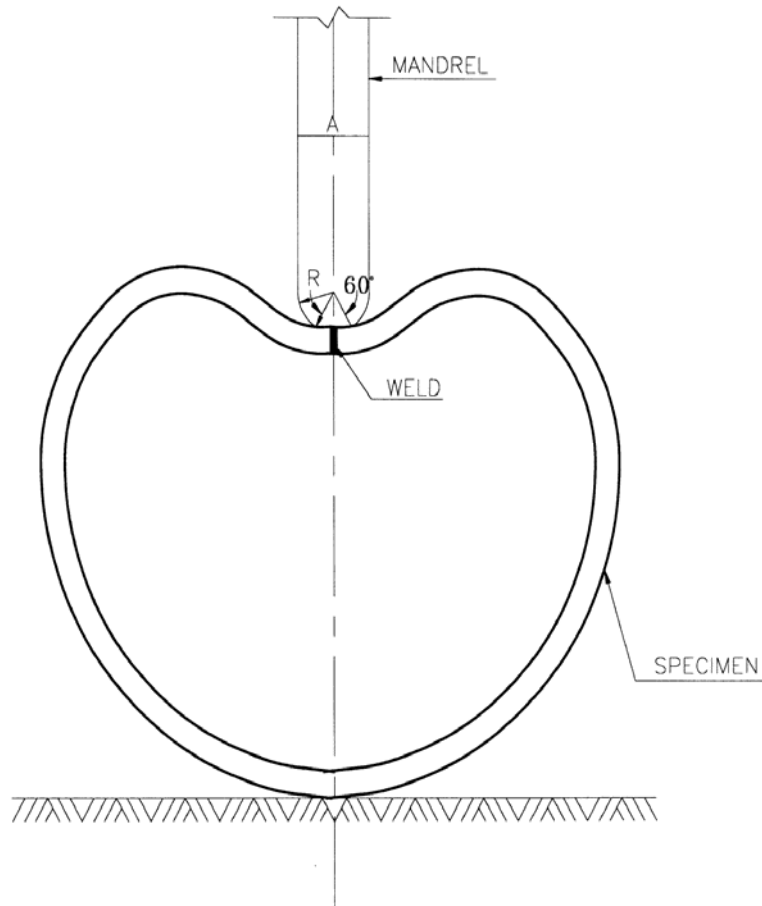


FIGURE: 1.0 : REVERSE BEND TEST