



Annexure-VII

QUALITY ASSURANCE cum INSPECTION PLAN

[For WELDED / SEAMLESS CS, AS, LT, SS FITTINGS]

Client : Insp. : / TII Ref. No. :				QAP NO :QAP / /STD/2011 REV.0 Date : 1.04.2011				
							SHEET 01 OF 01	
SR.NO.	OPERATION	CHARACTERISTIC	REF.DOC	FORM OF RECORD	TYPE OF CHECK	SCOPE OF INSPN.		
						TII		
A	RAW MATERIAL IDENTIFICATION PIPES & PLATES	Verification of size Marking & correlation with mill TC	Applicable codes	Mill TC OR check test reports if any	Visual,dimensions verification of marking with MTC & check lest if any	100% H	R	
B	INPROCESS CONTROL FORMING, FORM CORRECTION AND WELDING SET UP	Verification of form, shape,size & thk	As per ANSI, ASME codes, approved drgs & applicable specn.	Internal inspection report	Visual,dimensions, verification of profile& dimension	100% H	-	
	WELDING	Approved WPS/ PQR/ WPQ	ASME SEC. IX	WPS/PQR/WPQ	Witnessing welding & testing	100% H	R	
	HEAT TREATMENT	Review of heat treatment records WLD. CS/LT FTGS = N AS FITTINGS = N&T HF FITTINGS SS FITTINGS = SA	A 234/A 420 A234 A234 A403	} HT RECORDS	Visuals & review	100% H	R	
	MACHINING	COLD FORMED FIGS: CS FTGS = N/SR SS FIGS = SA Verification of size & dimension	A234 A403 B16.9		Internal Inspection	Visuals & dimension	100% H	-
	CLEANING & FINISHING CS,AS,LT Fittings SS FITINGS	Mechanical descating Pickling & Passivative	A234/A 420 A 403 Specn.		Visuals Visuals	100% H 100% H	- -	
	Marking	Mail Specn.Heat No. Lot No. size Vendors monogram	A2 34/A 420 A 403 Specn.		Visuals	100% H		
c	DESTRUCTIVE TESTING TENSILI TLS:	One lest coupon from each material heat under same condition of heat treatment	A234,A420 & A 403	Laboratory report	Witness/Security of report	100% H	R*	



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SHEET 01 OF 01

SR.NO.	OPERATION	CHARACTERISTIC	REF.DOC	FORM OF RECORD	TYPE OF CHECK	SCOPE OF INSPN.	
						TII	
D	IMPACT TESTING (LICS FITTINGS)	1Set of test coupon from each heat of Raw Mat	Applicable Specn	Laboratory report	Wellness/ Scrutiny of report	100% H	R
	IGC PR 'E' (FOR SS FITTINGS)	1Set having highest thk & highest carbon per	A262Pr.E	Laboratory report	Wellness/ Scrutiny of report	100% H	R
	Grain Size Test (For H Grade Fittings)	1Set having highest thk& highest carbon per HT lot	Applicable Specn	Laboratory report	Wellness/ Scrutiny of report	100% H	R
	NON DESTRUCTIVE TESTING ALL WELDED FITTINGS	Review of 100% Radiography	ASME Sec. V ASME Sec,VIII Div. I UW51	Radiography report & radiographs	Review of radiograph	100% H	R** [10%]
		DP/ MPI on BW end	ASME Sec. V ASME Sec,VIII	DP / MPI reports	Visual	100% H	R
F	FINAL INSPECTION	Checking for dimensions, surface finish, marking. code stamping by & CFCL / TII stamping	A234, A420,A403. B16.9	Final offer list and other relevant documents	Visual and Dimensions	100% H	R
G	CERTIFICATION	Certification of chemical (heat & product analysis from lab.), physical specn, size, sch,qty & other lest reports	A234, A420,A403. B16.9 & PO	Certificates & Test Reports	Verification	100% H	H [10%]
H	DESPATCHING	Packing suitably to avoid transit damages marking each cartoon. for proper identification	CLIENTS PO	LR, invoice, challan despatch file etc	Verification	100% H	

- Note:
- SUPPLEMENTARY CONDITIONS : IF ANY AS PER PRIOR SPECN. SHALL BE FULFILLED.
 - Type of Process
 - Seamless Construction - Size up to 16'NB
 - Welded Construction - Size above 16'NB
 - In case physical tests for a particular ID No. have been conducted under any Third Party Inspection agency, those shall be offered for review and acceptance by /TII
 - 100% Radiography welded fittings will be reviewed / interpreted by ASNT Level II person by Tube Innovatives India & 10% by /TII basis on random basis.

ABBREVIATION:
V- VISUAL, R- REVIEW, I- IMPERINING, N- NORMALIZING, SA- SOLUTION ANNEALING, SR- STRESS RELIVING,
D- DIMENSION, LR- LABORATORY REPAIRS, W- WITNESS, S- SCRUTINY OF REPORT, H-HOLD.
TUBE INNOVATIVES (INDIA)



Inspection Authority