



**QUALITY ASSURANCE PLAN
CAST CARBON STEEL GATE,GLOBE,CHECK VALVE**

QAP No:	Rev: 0
Date:	Prepared by : PBB
Quantity:	Approved by: NMG

Po No :	Sale Order No:	Customer :	Project :--
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SI No	Component & Operation	Characteristics	Method of Check	Quantum of Check by L&T	Reference Document	Acceptance Norm	Format of Record	Scope of Inspection			Remarks
								Vendor	L&T	TPIA	
1.0 RAW MATERIAL											
1.1	Casting: Body & Bonnet / cover	Chemical	Review of vendor TC	All heats	Relevant ASTM Material standard	Relevant ASTM Material standard	Foundry Test Certificate (EN 10204 Type 3.1)	100%	R	R	
		Heat Treatment	Review of vendor TC	All heats & Castings	Relevant ASTM Material standard	Relevant ASTM Material standard	Foundry Test Certificate (EN 10204 Type 3.1)	100%	R	R	
		Mechanical Properties	Review of vendor TC	All heats	Material Specification	Material Specification	Foundry Test Certificate (EN 10204 Type 3.1)	100%	R	R	
		Surface examination & Dimension Inspection	Visual & Measurement	L&T Sampling Plan	MSS-SP-55 / L&T Drawing	MSS-SP-55 / L&T Drawing	GRN /QC Check list	100%	SI	-	
1.2	Forging : Stem,Seat Ring	Chemical & Mechanical properties	Review of Vendor TC	All lots	L&T Drawing / Relevant ASTM Material standard	L&T Drawing / Relevant ASTM Material standard	Vendor TC (EN 10204 Type 2.2)	100%	R	-	
		Surface examination & Dimension Inspection	Visual & Measurement	L&T Sampling Plan	L&T Drawing	L&T Drawing	GRN	SI	R	-	
2.0 BOF Items											
2.1	Fastener (For Body Bonnet Joint)	Chemical & Mechanical properties	Review of vendor TC	All lots	L&T Drawing / Relevant ASTM Material standard	L&T Drawing / Relevant ASTM Material standard	Vendor TC (EN 10204 Type 2.2)	100%	R	-	
		Surface examination & Dimension Inspection	Visual & Measurement	L&T Sampling Plan	L&T Drawing	L&T Drawing	GRN	SI	R	-	
2.2	Gland Packings, Gaskets	Chemical & Physical properties	Review of vendor TC or Compliance Certificate of Supplier	All lots	L&T Drawing / Relevant standard	L&T Drawing / Relevant standard	Vendor TC or CC	100%	R	-	
		Surface examination & Dimension Inspection	Visual & Measurement	L&T Sampling Plan	L&T Drawing	L&T Drawing	GRN	SI	R	-	
2.3	Overlay: Seat ring / Disc	Surface examination & Thickness of Overlay & Stellite Hardness measurement	Visual, Measurement & Hardness Check	L&T Sampling Plan	WPS/PQR/WPQ	WPS/PQR/WPQ	WPS/PQR/WPQ	-	SI	-	
		PT (On Hardfaced surface)	PT Check	All lots	L&T Procedure No NDE 003	L&T Procedure No NDE 003	Dye penetrant examination report	-	SI	-	



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3.0	PRODUCT EVALUATION & TESTING:										
3.1	Finished Valve Assembly	Shell Test	Hydro	100%	API 598 / BS6755 Part 1	API 598 / BS6755 Part 1	Test Record	-	100% W	10% W	
		Backseat Test #	Hydro								
		Seat Test	Hydro								
		Seat Test #	Air								
		Functional Test	Operational Check								
4.0	FINAL INSPECTION :										
4.1	Valves	Visual, Overall Dimension,SI.No & Tag No.	Visual Measurement	100%	Approved GA Drawing / QAP	Approved GA Drawing / QAP	L&T Inspection report	-	100%	R	
4.2		TC Verification & Requirements of PO	Documents Verification	100%	Approved GA Drawing / QAP	Approved GA Drawing / QAP	L&T Inspection report	-	100%	R	
4.3		Surface Preparation & Painting Check	Visual & Measurement	100%	L&T Std*	L&T Std	Painting report	-	100%	-	
5.1	Final documentation & Final release	Documents	Verify	100%	L&T Drawing / QAP	L&T Drawing / QAP	MTC's / VTR / IRN	-	100%	H	

NOTES:
 * Paint shall suitable for coastal area environment
 1 IBR valves Inspection will be as per IBR Statutory requirements. No TPIA is involved
 # For Gate & Globe Valve only
 Abbreviations: R - Review, W - Witness, SI - Sampling Inspection, GRN - Goods Receipt Note,
 TC - Test certificate, CC - Compliance Certificate, TPIA - Third Party Inspection Agency