

QAP of Ball Mill Gear Box for stage wise inspection.

Sl No.	Component operation	Characteristic checked	Type of check	Class	Inspection Details				Type of Records	Acceptance Standards	Remarks
					M	TPI	C	Extent of Inspection			
1.	RAW Material										
	A. Fabricated Body and cover	1. Physical Property	Mechanical testing	Major	P	R	R	1/Heat	Lab TC	BPSCL Drawing	To be tested by Govt. approved/NA BL accredited Lab
		2. Chemical property	Chemical testing	Major	P	R	R	1/Heat	Lab TC		
	B. Gear, Pinion, shaft	1. Physical Property	Mechanical testing	Major	P	R	R	1/Heat	Lab TC	BPSCL Drawing	
2. Chemical property		Chemical testing	Major	P	R	R	1/Heat	Lab TC			
2.	In Process Inspection										
	A. Gearbox housing	1. Dimensions	Measurement	Critical	P	W	R	100%	Compliance	BPSCL Drawing	<ul style="list-style-type: none"> • Bearing shall be SKF/FAG/Timken make. • UT to be done by Level II/Level III certified professional • Relevant IS/equivalent standard shall be followed where drawing is not sufficient
		2. Stress relieved	HT Chart	Major	P	R	R	100%	IR	T-T Curve	
		3. Weld Quality	Visual & DP	Major	P	R	R	100%	IR	Mfg. Procedure	
		4. Leak Test	Kerosene Leak test	Critical	P	R	R	100%	IR	4 Hrs	
	B. Gear & Pinion, shaft assembly	1. Dimensions	Measurement	Critical	P	W	R	100%	Compliance	BPSCL Drawing	
		2. Hardness, Microstructure, case depth	Hardness testing	Major	P	R	R	Sampling	Compliance	BPSCL Drawing	
		3. NDT	Ultrasonic Test	Critical	P	W	R	100%	TC	ASTM A 388/Q8101 rev b	
		4. Back lash	Measurement	Major	P	W	R			BPSCL Drawing	
	C. Cooling Coil	1. Dimensions	Measurement	Major	P	R	R	100%	IR	BPSCL Drawing	
2. Leakage check		Hydraulic testing	Major	P	W	R	100%	IR	BPSCL Drawing		
3.	Final Inspection										
	A. Assembly	1. Overall dimensional	Measurement	Major	P	W	R	100%	IR	BPSCL Drawing	
	B. Final Check	1. DOR	Verification	Major	P	W	R	100%	IR	BPSCL Drawing	
		2. Reduction Ratio	Verification	Critical	P	W	R	100%	IR	BPSCL Drawing	
	C. No Load Run Test(4 hours)	1. Noise	Measurement	Critical	P	W	R	100%	IR	Max 85 db@1 m distance. No gear ratting noise/knock allowed	
		2. Vibration	Measurement	Critical	P	W	R	100%	IR	Vibration limit should be as per API613	
3. Temperature Raise		Measurement	Critical	P	W	R	100%	IR	Max 30 °C		

**LEGENDS: M: Manufacturer TPI: Third Party Inspector C: Client TC-Test certificate IR- Inspection Report
P : Performed W: Witness R:Review.**

Client Review is applicable after receiving the material at store during final inspection.