

Audit Name : MIG Welding audit - Frame, S.Arm & Child Parts

Doc No : MATL/PFAB/Checksheet/ 01

Audit For : MIG/MAG welding system audit

Rev.: 6

Vendor : 100048 - Yeshshree_MC - Waluj Audit Date : 25-11-2015

Rev. Date 10-10-2016

Sr. No.	Auditor Name	Sign		Sr. No.	Auditee Names		Sign	
1	Mr. DM Vishwasrao			1	Mr B D Rathod			
2				2	Mr. SS Bhaskar			
3				3				
4				4				
	Checking Parameters	Marks	Marks Obtained	Audit Observation	Action Plan	Responsibility	Target Date	
1	Is the weld penetration testing Microscope is BAL approved party having auto date printing facility enable?	2	2.0					
2	Is software is installed in PC having minimum 3 GB RAM & PC having license copy of antivirus and window's?ev.06)	4	0.0					
3	Is WPR is as per BAL guideline? (Report directly in BAL pproved pdf format only) & having leg & throat values in it?	2	2.0					
4	Polishing papers of 60, 200, 400 & 800 grit size available in spare? (Each 20 no's minimum)	2	2.0					
5	Is sample storage rack is available as per BAL guideline? Is samples stored for 6 month, RPO application of each cut section and every joint is properly identified for joint no & LH /RH Side?	2	2.0					
6	Is failure joint summery sheet prepared for each model? Is Individual joint trend chart (In Monthly freq) available in BAL format? (Applicable for frame & Swing Arm only)	2	2.0					
7	Is cutting templates available for identified cut section of all critical joints? And all templates are being used during cutting operation?	2	2.0					
8	Is weld penetration report sent to plant QA, plant PPC & Purchase -QA on decided frequency?	2	2.0					
9	Cross checking of weld penetration joints from previous month for verification of measurement correctness and reading matching.	2	2.0					
10	N/OK joints analysis by vendor, Availability of 6W2H for each N/OK joint? (Is all N/OK joints analysis report is shared by vendor to BAL)	5	0.0					
11	Availability of fixed lab incharge for weld penetration lab and their skill level / understanding of effectiveness of lab activity?	2	2.0					
12	Is Welder Training Cell Setup is available as per BAL guideline? (Setup must have proper fencing.)	2	2.0					
13	Is display gallery (Vinyl Boards only) in cell is as per BAL guideline? Also OK / NOT OK samples displayed in Cell?	2	2.0					
14	Is Following documents availability in Training Cell? 1. Availability of training calendar. 2. Training PPT / Training documentation. 3. Record of training with trainer details.	2	2.0					

15	Is following records available for each welder?1.Assessment paper of each welder after training?2. Test pieces of LAP, FILLET & Plate to Pipe round weld joint.	2	2.0				
16	Availability of test piece record for 1 month minimum?	2	2.0				
17	Is Deployment of welder on line guideline implemented in organization? (For New welder) - Initial assessment by HR, training cell evaluation record and then deployment on line.	2	2.0				
18	Availability of skill matrix (line wise records).Availability of multi skill matrix, cross checking of welders deployed on fabrication line as per multiskilling matrix.	2	2.0				
19	Welder repeatability is being monitored & availability of records ?	2	2.0				
20	Is signoff process sheet as per latest Rev of drawing is available for all frame, Swing Arm, silencer lines -Robotic cells only ? (Rev.06)	5	0.0				
21	Is all robotic welding is done according to latest signoff process sheet? % Automation is match with process sheet? All weld runs at specified stages only? (Rev.06)	5	0.0				
22	Is Automation is more than signoff process sheet?? (If more than 5% then 5 marks if more than 3 % then 3 marks if no then N/A) (Rev.06)	5	0.0				
23	Availability of qualified programmer in organization who is responsible for all robotic welding MWT preparation, defects analysis and actions? (Rev.06)	2	2.0				
24	Is "Robot Master Program Template" signoff done with Purchase- QA? (Applicable for all robotic application) as per Master program BAL Doc No. WP/2014/005)	5	4.0	Only center stand completed	Holder step & Pillion step to be completed	Mr. TIS / Mr. BDR	17-01-2017
25	Master programs running on line:If 100% all master program running - 5 marks, if >80% master programs running - 3 marks, if <50% master programs running - 0 marks.(% to be calculated for all robotic cells of different lines)	5	5.0				
26	Is process parameters and co-ordinates freeze in Master weld templates is matching in running production program?	5	5.0				
27	Is Robot path reteaching record available and analyzed as per BAL Guideline?(Robot path reteaching sheet BAL Doc No. WP/2013/003) & Availability of action plan for each path reteaching activity?	5	4.0	Detail study not completed	Detail action plan / FTA required	Mr. TIS / Mr. BDR	05-01-2017
28	Is Welder + Robot programmer pair identified for reteaching operation? (Co-ordination between programmer and welder)	3	3.0				
29	Robot Pokayoke on each cell.-Nozzle cleaning in auto cycle? And Frequency set as per BAL auto nozzle cleaning guideline? (Rev.06)	5	3.0	Nozzle cleaning unit working on robotic cell 07 nos out of 23 nos	16 nos to be install	Mr. Tanveer / Mr. ASP	
30	Robot Pokayoke on each cell.-Reed switch, Clamping pokayoke?	3	3.0				
31	Robot Pokayoke on each cell. - Air pressure switch interlock? (Setting of A.P.S as per IPO)	3	3.0				
32	Robot Pokayoke on each cell. - Gas pressure switch interlock?(Is monitoring working condition through Pokayoke audit checksheet)	3	3.0				
33	Availability of shock sensor unit on all robots and are all in working condition?(Rev.06)	5	5.0				
34	Use and spare availability of robotic consumables is as per BAL Guideline? (Rev.06)	5	3.0	100% yet not implimented	consumable trial is in process	Mr. SSB	17-01-2017

35	Is Ø 1.00 mm welding wire used on each Manual welding stations at Inhouse & all Tier 2 vendors?	1	1.0				
36	Is Ar 80% + Co2 20% for shielding gas used at Inhouse & all Tier 2 vendors?	2	2.0				
37	Availability of Gas Bank? (Inhouse)	2	2.0				
38	Availability of Gas Bank? (All Tier2 vendors)	2	0.0				
39	Is Ø 1.2 mm welding wire (In Jumbo spool) used for all robotic welding operations?	2	2.0				
40	Is Welding process parameters is locked for all welding m/c?	4	4.0				
41	Is Inverter base welding m/c available on all manual welding operation?	5	2.0	As per commite 07 m/c		Mr. ASP	
42	Is Antispatter gel is being used for nozzle cleaning on each welding station?	2	2.0				
43	Is checksheet for weld overrun is available and monitoring accordingly started?	2	2.0				
44	Is All round welding operations doing on SPM?	4	4.0				
45	Is high spatter generating stages identified on all fabrication lines with details of actions for spatter prevention?	5	5.0				
46	Is actions for spatter prevention are giving results? Effectiveness of actions taken are sufficient?	5	5.0				
47	Is checking angle setting template for SPM welding torch available at each station? (Inhouse)	2	1.0	SPM welding torch angle template 03 nos available	Torch angle template to be made for main step SPM m/c	Mr. Devanand / Mr. Abhijit	28-01-2017
48	Is checking angle setting template for SPM welding torch available at each station? (Tier2 vendor)	2	0.0				
49	Is runout of round welding SPM Monitored and recorded? (Inhouse) & Availability of v7 checksheet for all SPM's?	2	2.0				
50	Is runout of round welding SPM Monitored and recorded? (Tier2 vendor) & Availability of v7 checksheet for all PM's?	2	0.0				
51	Tier 2 weld penetration Plan vs Actual monitoring available? Is tier2 vendors are doing weld penetration test as per plan and providing WPR to Tier 1?	2	0.0				
52	Weld Quality--	10	8.0				
53	1)Availability of BAL & self IPO audit file with corrective action plan. 2)Actions completed for previous audit Nc,s (Rev 06)	5	4.0				
54	Matching of self audit score & BAL audit score within 5% of total marks for latest month. (Rev.06)	2	2.0				
Marks Obtained			125.0				
Marks Achievable			138.00	Rating System			
%			90.58	Marks obtained >=95% - A		80%<Marks Obtained>=60% C	
Grade			B	95%<Marks Obtained>=80% B		Marks Obtained <60% D	