

Revision 18.0 15/01/2024

Process FMEA

Customer KASAI UK					Customer Part No. Various								Org. Date 10/04/2019	Page 1 of 13
Supplier Thier & CO					Code 1111	Supplier Part No. Various								Dwg. Rev. N/A
Part Name KASAI UK GENERIC INJECTION					Process Responsibility Joe Bloggs								Application/Model Year N/A	
Core Team Sophia Johnson, Marcus Rodriguez, Emily Patel, Xavier Chang, Ethan Khan, Olivia Nguyen, Caleb Gomez, Ava Smith					Prepared By Joe Bloggs								Date 15/01/2024	

Process Function / Requirements	Potential Failure Mode	Potential Effect(s) of Failure	S e v e s	C i a s s	Potential Cause(s) / Mechanisms of Failure	O c c u r	Current Process Controls Prevention	Current Process Controls Detection	D e t e c	R. P. N.	Recommended Action(s)	Action Results				
												Actions Taken	S e v	O c c	D e t	R. P. N.
Material feed Correct material supplied to machine	Incorrect material grade supplied to IMM	Does not meet customer test requirements	9		Incorrect material loaded into Silo	1	Material loading procedure: Cross check of delivery paperwork against silo signage Cross check of paperwork against ID tag on transport	Opening of silo coupling by KUK operative after all checks completed	3	27	None required	24/03/2018				
					Incorrect material supplied from Silo following request from Production	1	CMF (Central Material Feed) matrix (ST084 / IJ123)	Toolchange buy-off (IJ010)	7	63	None required	24/03/2018				
					Incorrect material Octabin supplied to CMF	1	Stores warehouse location board	CMF / Drier lane layout	8	72	None required	24/03/2018				
					Incorrect Octabin material supplied through CMF following request from Production	1	CMF matrix (ST084 / IJ123)	Toolchange buy-off (IJ010)	7	63	None required	24/03/2018				
					Incorrect material supplied via Octabin (direct feed into machine) following request from Production	1	Stores warehouse location board	Visual confirmation (SOS GEN)	8	72	None required	24/03/2018				

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													Actions Taken	S e v	O c c	D e t	R. P. N.
Injection moulding Fully formed components meeting all customer appearance & dimensional specification.	Flash on trim part	Poor Appearance - Does not meet requirements	6		Injection pressure / speed too high (2)	2	Start-up procedure Master setting sheet	Visual inspection Teamleader buy-off	7	84	Specify on SOS / ISOS potential areas of flash & the correct procedure for removal	Engineering Dept N/A					
					Mould temperature too high (2)												
	Short shot on trim part	Poor Appearance - Does not meet requirements	6		Damage to bed-off area (2)	2	Start-up procedure Master setting sheet	Visual inspection Teamleader buy-off	7	84	Investigate use of machine parameters to control shot weight	Engineering Dept N/A	No parameters capable of controlling shot weight	6	2	7	84
					Injection time / pressure / speed too low (2)												
					Mould temperature too low (2)						Investigate installation of camera system into downstream machinery	Engineering Dept N/A	Camera unable to detect due to ambient light	6	2	7	84
					Hold pressure too low (2)						Modification of holding nests (where applicable) to highlight areas of last point of fill	Engineering Dept N/A					
													Specify care point on SOS / ISOS for last point of fill	Engineering Dept N/A			

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													Actions Taken	S e v	O c c	D e t	R. P. N.		
	Sink mark on 'A' surface of trim part	Poor Appearance - Does not meet requirements	6		Mould temperature too high	1	Start-up procedure	Visual inspection	7	42	None required	24/03/2018							
	Gate splay	Poor Appearance - Does not meet requirements			Injection pressure too low		Master setting sheet	Teamleader buy-off											
	Orange peel effect	Poor Appearance - Does not meet requirements			Hold pressure too low														
		Fill rate / speed too low																	

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												Actions Taken	S e v	O c c	D e t	R. P. N.
	Pigment dispersion	Poor Appearance - Does not meet requirements	6		Gate size too small Back pressure too low Screw speed too low Fill rate / speed too fast	1	Start up procedure Master setting sheet	Visual inspection Teamleader buy-off	7	42	None required	24/03/2018				
	Burn marks	Poor Appearance - Does not meet requirements	6		Injection pressure too high Contamination Fill rate / speed too high	1	Start up procedure Master setting sheet	Visual inspection Teamleader buy-off	7	42	None required	24/03/2018				
	Gloss level	Poor Appearance - Does not meet requirements	6		Mould temerature too low Injection pressure too low Fill rate / speed too low Poor venting Use of release	1	Start up procedure Master setting sheet	Visual inspection Teamleader buy-off	7	42	None required	24/03/2018				

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												Actions Taken	S e v	O c c	D e t	R. P. N.
					agent											
	Delamination	Poor Appearance - Does not meet requirements	6		Mould temperature too low Gate size too small Fill rate / speed too high	1	Start up procedure Master setting sheet	Visual inspection Teamleader buy-off	7	42	None required	24/03/2018				
	Dimensionally incorrect - trim parts too small / too big	May not fit to vehicle	5		Injection pressure / speed too low / high Mould temperature too low / high Hold pressure too low / high Cooling time too low / high	2	Master setting sheet	1st / Last off	4	40	None required	24/03/2018				
					Incorrect material loaded to machine (Grade)	1	Master setting sheet CMF Control matrix	Teamleader buy-off 1st off / Last off	7	35	None required	24/03/2018				
	Poor weld lines	Poor Appearance - Does not meet requirements	6		Mould temperature too low Gate size too	1	Start up procedure Master setting sheet	Visual inspection Teamleader buy-off	7	42	None required	17/03/2018				

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													Actions Taken	S e v	O c c	D e t
					small Injection pressure too low Fill rate too low Poor venting											
Contamination	Poor Appearance - Does not meet requirements	6			Material hang-up in barrel, nozzle or tool	2	Production running method Purge procedure (IJ 010)	Visual inspection Teamleader buy-off	7	84	Review running method to minimise colour change Check correct purge material being used for application	Prod Control Dept 19/02/2020 Production Dept 19/02/2020				
Gas mark	Poor Appearance - Does not meet requirements	6			Mould venting poor (2) Poor melt flow (1) Injection speed too fast (2) Insufficient material drying (2)	2	Start up procedure Master setting sheet	Visual inspection Teamleader buy-off	7	84	None required	26/06/2020				
De-mould Part removal from mould utilising robot & end of arm tooling	'A' face damage	Poor Appearance - Does not meet requirements	6		EOAT damaged	1	Operator critical checks (IJ 010)	Visual inspection Teamleader buy-off	7	42	None required	19/02/2020				
	Distortion / damage	May not fit to vehicle	6		EOAT damaged	1	Operator critical checks (IJ 010)	Visual inspection Teamleader	7	42	None required	19/02/2020				

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													Actions Taken	S e v	O c c	D e t	R. P. N.
	Contamination	Poor Appearance - Does not meet requirements	6		Incorrect suction cup material	2	EOAT design	Visual inspection Teamleader buy-off	7	84	Review suction cup material	Engineering Dept 19/02/2020	Material changed from silicone to nitrile	6	1	7	42
Gate / Sprue removal Cutting of sprue at gating area to correct depth leaving no sharp edges	Not removed or partially removed	Does not meet customer test requirements	9		Operation not performed to specification	1	Process instruction	Visual inspection Teamleader buy-off	7	63	None required	14/02/2020					
	Under cut	May not fit to vehicle	6		Operation not performed to specification	1	Process instruction	Visual inspection Teamleader buy-off	7	42	None required	14/02/2020					
	Sharp edge	Does not meet customer test requirements	9		Operation not performed to specification	1	Process instruction	Visual inspection Teamleader buy-off	7	63	None required	14/02/2020					

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