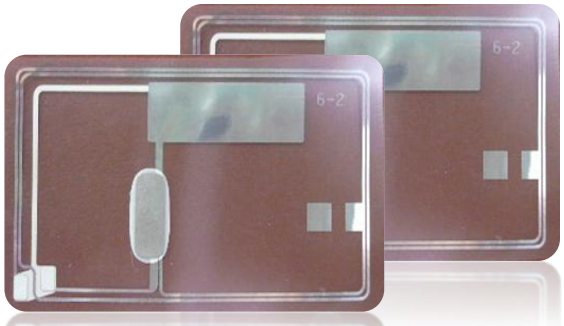
MATERI TRAINING INLET

CONTROL PLAN



PRODUCTION TRAINING

FMEA (FAILURE MODE AND EFFECT ANALYSIS)

adalah suatu prosedur terstruktur untuk mengidentifikasi dan mencegah sebanyak mungkin mode kegagalan (*failure mode*).

FMEA digunakan untuk mengidentifikasi sumber-sumber dan akar penyebab dari suatu masalah kualitas.

- **Control Plan**
  adalah Sistem pengontrolan pada suatu proses yang dilakukan oleh Process Control, Opertaor dan Leader atau Supervisor

- **Manufacturing Spesification**
  adalah Batasan atau spesifikasi suatu produk yang diperbolehkan dari hasil suatu proses

- **Process Cndition Table**
  adalah Batasan atau spesifikasi kondisi mesin yang diperbolehkan pada saat proses.

CONTROL PLAN

Dokumen pendukung : Refer Control Plan Inlet G08Z - 087A

NCP application (Musashi dispenser preasure ML-808FX)

PROCESS		Process Specification	Measurement Technique	Size	Freq	Pic	Control Method
Temperature of syringe holder 1		35±0.5 ℃	Monitor check	1 Point	1 time/shift	Operator	Check sheet (Doc. No. B5-01)
Temperature of pre-heater No.1		100±5℃	Monitor check Surface thermometer	1 Point	1 time/shift 1 time/week	Prod. Operator Process Control	Check sheet (Doc. No. B5-01) Graph (Doc. No. B5-10)
Temperature of pre-heater No.2		100±5℃	Monitor check Surface thermometer	1 Point	1 time/shift 1 time/week	Prod. Operator Process Control	Check sheet (Doc. No. B5-01) Graph (Doc. No. B5-10)
Temperature of pre-heater No.3		100±5℃	Monitor check Surface thermometer	1 Point	1 time/shift 1 time/week	Prod. Operator Process Control	Check sheet (Doc. No. B5-01) Graph (Doc. No. B5-10)
Temperature of mounting stage NCP dispense		77±5℃	Monitor check Surface thermometer	1 Point	1 time/shift 1 time/week	Prod. Operator Process Control	Check sheet (Doc. No. B5-01) Graph (Doc. No. B5-10)
Temperature of pre-heater No.4		80±5℃	Monitor check Surface thermometer	1 Point	1 time/shift 1 time/week	Prod. Operator Process Control	Check sheet (Doc. No. B5-01) Graph (Doc. No. B5-10)
Dispenser Pressure		210± 30kPa	Monitor check	1 Point	1 time/day	Operator	Check sheet (Doc. No. B5-01)
Dispenser Time		1.35 s (constant)	Monitor check	1 Point	1 time/day	Operator	Check sheet (Doc. No. B5-01)

NCP spreading and application (SMAC LAL35-025-65F)

PROCESS		Process Specification	Measurement Technique	Size	Freq	Pic	Control Method
NCP Receive		Keeping quality under < -20℃	Test report supplier & Data track during transportation	Each lot	Each lot of the manufacturer (per Lot)	PIC in warehouse	Data keeping
NCP storage temperature		< -20℃	Check temperature monitor	Point	1 time/day	Operator	Check sheet (Doc. No. G5-03)
Expire date for use NCP (freezer storage life)		12 months after manufacturing date	Naked eyes	Each syringe	The unit of NCP lot	Operator	Check sheet (Doc. No. B5-06)
NCP life Time (after thawing)		Within 7day after take-out from freezer	Time Control	Each syringe	Each syringe	Operator	Check sheet (Doc. No. B5-06)
NCP thawing Time		1 hour in room temperature	Time Control				
		1 hour in syringe heater		Every change syringe	Every change syringe	Operator	Check sheet (Doc. No. B5-06)
		(Total thawing Time 2 hours)					
Temperature syringe heater		35±0.5 ℃	Monitor check	Every change syringe	Every change syringe	Operator	Check sheet (Doc. No. B5-06)

COF Mounting (Chip Pick up)

Chip handling /scattering chip→collecting		No scattering chip	Naked Eyes	1 Point	1 Time/day	Operator	Check sheet (Doc. No. B5-01)

COF- mounting (ACP application) (KEYENCE XG-035M)

PROCESS		Process Specification	Measurement Technique	Size	Freq	Pic	Control Method
Temperature of ACP squeeze stage		35℃±5℃	Monitor check	1 Point	1 Time/shift	Operator	Check sheet (Doc. No. B5-01) Check sheet (Doc. No. B5-10)
			Surface Thermometer	1 Point	1 Time/week	Process Control	
ACP storage temperature		< -20℃ freezer setting -30℃)	Check temperature monitor	Every Syringe	1 Time/day	Operator	Check sheet (Doc. No. G5-03)
ACP use-by date (frozen storage life)		Within 12month after manufacturing date	Visual check	Every Syringe	Every Lot or Syringe	Operator	Check sheet (Doc. No. B5-02)
ACP use-by date after thawed		Within 7days after take-out from freezer and including thawing Time within total 168h	Time control	Every Syringe	1 Time/day	Operator	Check sheet (Doc. No. B5-02)
ACP thawing Time		Keep over 1hour under room temperature	Time control	Every Syringe	When change syringe	Operator	Check sheet (Doc. No. B5-02)
ACP pattern/transcrip check or ACP spreading on bump		ACP pattern can see into bump (mean there is ACP) and ACP pattern can't see into the bump (mean there is no ACP)	Monitor/camera check (Monitor #3)	1 Point	1 Time/day	Operator	Check sheet (Doc. No. B5-01)

COF-mounting (chip mounting) KEYENCE XG-035M

PROCESS		Process Specification	Measurement Technique	Size	Freq	Pic	Control Method
Temperature of temporary press area		65℃±5℃	Monitor Check Surface Thermometer	1 Point	1 time / shift 1 time / week	Operator Process Control	Check sheet (Doc. No. B5-01) Graph (Doc. No. B5-01)
Temporary press force		COF#01 (Peak Value) : 4.51N-5.31N COF#02 (Peak Value): 4.11N-4.91N Target : 1.5N ±0.5N	Actual pressure reading on machine monitor Load cell by equipment	1 Point	1 time / day 1 time / month	Operator PE Engineer	Graph (Doc. No. B5 -01) Graph (Doc. No. B5 -30)
Temperature of mounting head Chip Press 1 & 2		185℃±5℃	Monitor check Surface tthermometer	All Head Every head	1 Time/shift/Every head 1 Time/shift/Every head	Operator Process Control	Check sheet (Doc. No. B5-01) Graph (Doc. No. B5-10)
Temperature of bottom heater Chip Press 1 & 2		125℃±5℃	Monitor check Surface thermometer	Every head	1 Time/shift/Every head	Operator Process Control	Check sheet (Doc. No. B5-01) Graph (Doc. No. B5-10)
Main Press Pressure (Head 1 and 2)		COF#01 : H1 : (Peak value): 6.20N - 6.54N (Valley Value) : 6.20 - 6.52 H2 : (Peak value): 5.25N-6.15N (Valley Value) : 5.30 - 6.10 COF#02 H1 : (Peak value) : 5.71 - 6.01 N (Valley Value) : 5.66 - 5.96 H2 : (Peak value): 6.05N-6.35N (Valley Value) : 6.00 - 6.30	Actual pressure reading on machine monitor	1 Point	1 Time/day	Operator	Graph (Doc. No. B5-01)
		2.2N ±0.5N	Load cell by equipment	1 Point	1 Time/month	PE. Engineer	Graph (Doc. No. B5-030)
Carring teflon tape		No run off (no empty) No Jamming	Visual check	Every day	1 Time/day and Every change	Operator	Check sheet (Doc. No. B5-01)

COF mounting (Plate mounting) Mushasi dispenser preasure ML-808FX

PROCESS		Process Specification	Measurement Technique	Size	Freq	Pic	Control Method
Temperature of syringe holder heater		35℃±2℃	Monitor check	1 Point	1 Time/shift	Prod. Operator	Checksheet (Doc. No. B5-04)
Temperature of pre-heater No.5		55℃ ± 5℃	Monitor check	1 Point	1 Time/shift	Prod. Operator	Checksheet (Doc. No. B5-04)
			Surface Thermometer		1 Time/week	Process Control	Graph (Doc. No. B5-14)
Temperature of pre-heater No.6		55℃ ± 5℃	Monitor check	1 Point	1 Time/shift	Prod. Operator	Checksheet (Doc. No. B5-04)
			Surface Thermometer		1 Time/week	Process Control	Graph (Doc. No. B5-14)
Temperature of pre-heater No.7		55℃ ± 5℃	Monitor check	1 Point	1 Time/shift	Prod. Operator	Checksheet (Doc. No. B5-04)
			Surface Thermometer		1 Time/week	Process Control	Graph (Doc. No. B5-14)
Temperature of glass dispense area		55℃ ± 5℃	Monitor check Surface Thermometer	1 Point	1 Time/shift 1 Time/week	Prod. Operator Process Control	Checksheet (Doc. No. B5-04) Graph (Doc. No. B5-14)
Temperature of glue mounting area		55℃ ± 5℃	Monitor check	1 Point	1 Time/shift	Prod. Operator	Checksheet (Doc. No. B5-04)
			Surface Thermometer		1 Time/week	Process Control	Graph (Doc. No. B5-14)
Temperature (after heat) No.8		OFF (Room Temperature)	Monitor check	1 Point	1 Time/shift	Prod. Operator	Checksheet (Doc. No. B5-04)

COF mounting (Plate mounting) Mushasi dispenser preasure ML-808FX

PROCESS		Process Specification	Measurement Technique	Size	Freq	Pic	Control Method
Dispenser Pressure		80 kPa ～ 140 kPa	Monitor check	1 Point	1 Time/ Shift	Prod. Operator	Checksheet (Doc. No. B5-04)
Glue Receive		< -20℃ Freezer setting -30℃	Testing report by manufacturer	1 Point	Every lot	Operator	-
Glue storage temperature		< -20℃ Freezer setting -30℃	Monitor check	1 Point	1 Time/day	Operator	Check sheet (Doc. No. G5-03)
Freezer Storage Life		Within 8 months after Product	Naked eyes	Every lot	Every Lot and Syringe	Operator	Checksheet (Doc. No. B5-05)
Glue use by date after thawing		Within 7day after take-out from freezer	Time control	1 Point	1 Time/day	Operator	Checksheet (Doc. No. B5-05)
Glue thawing Time		1 hour in room temperature 1 hour in syringe heater (Total thawing Time 2 hours)	Time control	All Machine	When change syringe	Operator	Checksheet (Doc. No. B5-05)

COF mounting (Plate mounting Condition) KEYENCE XG-200M

PROCESS		Process Specification	Measurement Technique	Size	Freq	Pic	Control Method
Temporary Press temperature		OFF (Room Temperature)	Monitor check	1 Point	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Carring teflon tape		No jamming No runn off (No empty)	Visual Check	Each Machine	1 Time/day	Operator	Checksheet (Doc. No. B5-04)
Glue Filet (Overflow)		Reject Criteria Visual Inspection	Visual check	1 Point	1 Time/day	Operator	Checksheet (Doc. No. G12K5-001A)
Backstage vacuum pressure		-50kPa ～ -60kPa	Visual check	Every Lot	1 Time/day	Operator	Checksheet (Doc. No. B5-04)

COF Mounting (inline cure) COF Mounter

PROCESS		Process Specification	Measurement Technique	Size	Freq	Pic	Control Method
Space Temperature Heater Block 1		COF#01 : 92±5℃ / COF#02 : 92±5℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Space Temperature Heater Block 2		COF#01 : 82±5℃ / COF#02 : 90±5℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Space Temperature Heater Block 3		COF#01 : 85±5℃ / COF#02 : 87±5℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Space Temperature Heater Block 4		COF#01 : 87±5℃ / COF#02 : 81±5℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Space Temperature Heater Block 5		COF#01 : 83±5℃ / COF#02 : 87±5℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Space Temperature Heater Block 6		COF#01 : 83±5℃ / COF#02 : 85±5℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Space Temperature Heater Block 7		COF#01 : 80±5℃ / COF#02 : 80±10℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 1/ Upside		COF#01 : 103±2℃ / COF#02 : 101±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 1/ Downside		COF#01 : 102±2℃ / COF#02 : 101±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 2/ Upside		COF#01 : 95±2℃ / COF#02 : 95±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 2/ Downside		COF#01 : 104±2℃ / COF#02 : 100±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 2/ Downside		COF#01 : 100±2℃ / COF#02 : 90±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)

PROCESS		Process Specification	Measurement Technique	Size	Freq	Pic	Control Method
Heater Block 3/Upside		COF#01 : 100±2℃ / COF#02 : 90±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 3/ Downside		COF#01 : 157±2℃ / COF#02 : 165±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 3/ Middleside		COF#01 : 157±2℃ / COF#02 : 160±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 4/ Upside		COF#01 : 100±2℃ / COF#02 : 98±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 4/ Downside		COF#01 : 90±2℃ / COF#02 : 97±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 5/ Upside		COF#01 : 110±2℃ / COF#02 : 125±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 5/ Downside		COF#01 : 150±2℃ / COF#02 : 175±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 5/ Middleside		COF#01 : 150±2℃ / COF#02 : 165±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 6/ Upside		COF#01 : 105±2℃ / COF#02 : 103±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 6/ Downside		COF#01 : 95±2℃ / COF#02 : 92±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 7/ Upside		COF#01 : 105±2℃ / COF#02 : 103±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)
Heater Block 7/ Downside		COF#01 : 105±2℃ / COF#02 : 103±2℃	Monitor check	Each Equipment	1 Time/shift	Operator	Checksheet (Doc. No. B5-04)

Oven Cure (oven Bake) after COF-mounting ESPEC PH 201M

PROCESS		Process Specification	Measurement Technique	Size	Freq	Pic	Control Method
Setting Temperature		100±5℃	Monitor check	1 Point	1 Time/day	Operator	Checksheet (Doc. No. H5-01)
Chamber Appearance		No dirty/ FM	Visual check	All chamber room	1 Time/ day	BM Tech	Checksheet (Doc. No. G10K-189A)
Measuring Temperature		100±5℃	Temperature recorder	Each Machine	1 Time/ 6 months	QC Engineer	Graph
Curing Time		80 minutes	Timer	Every products	All products	Operator	Checksheet (Doc. No. H5-01)

Visual Inspection

PROCESS	Item check		Process Specification	Measurement Technique	Size	Freq	Pic	Control Method
Visual Inspection 1	NCP Void		Reject Criteria Visual Inspection	Visual check	Every day	All Products	Operator	GPRISM System
	NCP Filling (Insufficient)							
	Bump Mark							
INLET INSPECTION	Bump Position							
	Contamination							
	Foreign Material							
Visual Inspection 2	Glue Void		Reject Criteria Visual Inspection	Visual check				GPRISM System
	Glue Filet							
INLET INSPECTION	Glue Filling (Insufficient)				Every day	All products	Operator	
	Support Plate Position							
	Foreign Material							
Visual Inspection 3	Scratch on capasitor pattern		Reject Criteria Visual Inspection					GPRISM System
	Contamination on sheet							
	Foreign Material on sheet							
INLET INSPECTION	Wrinkle sheet							
	Blocking Bristle/pattern			Visual check	Every day	All products	Operator	
	Breaking Mark on sheet							
	NG label position							
	Push Mark							
	Silver Paste							

Final Test (F-Test)

PROCESS		Process Specification	Measurement Technique	Size	Freq	Pic	Control Method
Voltage value of stabilized power supply		28.0V～28.5V	Monitor check	All test stage	1 Time/month	TM Eng.	Checksheet (Doc. No. B5-26)
RF (communication test)		Pass rate 100/100 OK	Tester	All test stage	1 Time/month	TM Eng.	Checksheet (Doc. No. B5-26)
Accuracy of communication test (Standard sample Check)		Standard sample unit	Tester	Every month	1 Time/month	TM Eng.	Checksheet (Doc. No. B5-26)
RF/Test program check		Name of program	Check Lot sheet	Every lot	1 Time/Lot	Operator	Checksheet (Doc. No. D5-01)

Finishing 530 (Inlet Finishing Machine)

PROCESS		Process Specification	Measurement Technique	Size	Freq	Pic	Control Method
Direction of reel		Label side in front	Visual check	Every reel	1 Time/reel	Operator	Checksheet (Doc. No. E5-02)
Checking Program		Program D-Test : For Mass Production Program IDDD : For Re Process Program No use MP : For Buy off Process	Monitor Check	1 point	Every lot	Operator	Checksheet (Doc No. G12K5-002A)
Checking of Serial / PUPI no.		Serial no. must be sequence	Monitor Check	2 Pcs	Every lot	Operator	Checksheet (Doc No. G12K5-002A)
End tape position		Length of end tape position (according toWPI)	Measure (Ruler)	All product	Every dummy replacement	Operator	Checksheet (Doc. No. E5-01)
			Verificationt (measure) dummy replacement result			Process Control	
Sample		Reject Criteria Visual Inspection	Visual check	Every sample	Every lot	Operator	Checksheet (Doc. No. D5-01)

Packing

PROCESS		Process Specification	Measurement Technique	Size	Freq	Pic	Control Method
-Quantity (2700 -3700 pcs)		To check and match between type/device name and lot-sheet	Naked eye	Each packing unit	Each packing unit	Operator	Checksheet (Doc. No. F5-01)
-Type/Device name							
-Aluminium Bag / Outer box labeling. Etc.							
Control of product (function control)		Reject qty of appearance, shipping qty, fraction inventory qty	Naked eye	1 point	1 Time/day	Operator	Product control table and function inventory slip
Self Life		Shipment within 1 year	SAP system auto lock	All product	Every shipment	FG Warehouse	SAP Systemauto lock (Doc. No. G15C-001)
Room temperature/ Hummidity		25 ± 3°C 50 ± 10% R.H	Thermo-hygrograph	1 Area	1 time/day	FG Warehouse	Doc.No.G15K-004B