



Product/Process Change Notification [F-44.05]

PCN number	EU454
Issue date	28.08.2025
Submission date	29.08.2025
Change implementation date	Apr.27
Production Site	JAE Yamagata Ltd
Type of change	Replacement
Reason of change	Sub-supplier obsolescence Material obsolescence
Type of improvement	Logistics
Change description	Following the withdrawal of the existing material manufacturer (Furukawa Electric Co., Ltd.) from the reflow tin plating business JAE have identified an existing JAE supplier Kobe Steel Ltd as a replacement material source
Current cavities numbers / units number	N/A
New cavities numbers / units number	N/A
Affects	Material Components source



Product/Process Change Notification [F-44.05]

PCN number	EU454
PPAP availability date	Sep.26
Samples availability date	Sep.26
Target Implementation date (first shipment)	Apr.27
Identification of first shipment	Apr.27
Disposition of old product	Apr.27
Other pending PCNs	N/A
JAE production site responsible person	Kenichi Shimoji, Yuusuke Obata, Yukuya Morishita
Additional comments	

Customer	Customer's plant
	TTI
	TTI
	TTI
	TTI
	TTI
	TTI
	TTI
	TTI
	TTI
	TTI
	TTI

Customer part number	JAE part number		JAE drawing number	JAE drawing revision level
	current	new		
	M44S05K4F1			
	M47S65H2FA			
	M47S65H4FA			
	MX77S13K4F1			
	MX80P08K3F1			
	MX80P10K4F1			
	MX80P10K5F1			
	MX80S08K3F1			
	MX80S08K4F1			
	MX80S08K5F1			
	MX81P08K3F1			
	MX81P08K4F1			
	MX81P08K5F1			

Affects:
Function
Material
Process change
Appearance
Drawing/Dimensions
Capacity
Packaging
Manufacturing location
Test/inspection method
Components source
Safety
Supply Condition
Other (please specify)

Reason of change:
Capacity improvement
Leadtime improvement
Cost improvement
Product quality improvement
Product function improvement
Material obsolescence
Sub-supplier obsolescence
Regular replacement in line with the TPM
Other (please specify)

Type of improvements
Cost
Quality
Delivery
Logistics
Maintenance
Equipment upgrade
Other (please specify)

Type of Change
Additional
Replacement
Location change
Design change
Refurbishment
Process change
Other (please specify)
Logistic change

Production side
 JAE Hirosaki Ltd

JAE Yamagata Ltd
JAE Taiwan Ltd
JAE Wuxi Co. Ltd
JAE Philippines Inc
JAE Oregon Inc
JAE Tijuana S.A. de C.V.
JAE Wujang Co. Ltd

PCN EU454 – MATERIAL SUPPLIER CHANGE

*Tin reflow material from Furukawa to
Kobe Steel*

MATERIAL COMPOSITION – KEY DETAILS

Change of material as follows:

Material with equivalent components, conductivity, and modulus of longitudinal elasticity has been selected

特徴 Characteristics	変更前 Current (Furukawa Electric Co. Ltd.)	変更後 Proposed (Kobe Steel Ltd)
材料名 Material Name	FAS680	CAC60
化学組成 Chemical composition	Cu-2.3Ni-0.55Si-0.5Zn- 0.15Sn-0.1Mg	Cu-1.8Ni-0.4Si-1.1Zn- 0.1Sn
メッキ Plating	リフロー錫 Reflow tin	リフロー錫 Reflow tin
メッキ厚 Plating Thickness	1 μm Min.	1 μm Min.
比重 Specific Gravity	8.8	8.9
導電率 Electrical Conductivity	40 %IACS	44 %IACS
体積抵抗率 Electrical Resistivity	43 nΩ · m	39.2 nΩ · m
縦弾性係数 Modulus Elasticity	132 GPa	127 GPa

PPAP ELEMENTS

No.	要求内容 Requirements		影響 Effects
1	部品提出保証書 Part Submission Warrant	PSW	● Will be changed
2	寸法測定結果 (初回サンプル測定データ) Dimensional Results	ISIR	● Remeasurement
3	初期工程分析 Initial Process Studies	Cpk	● Remeasurement
4	測定システム解析(MSA) Measurement System Analysis Studies	Gauge R&R	No effect
5	材料性能試験結果 Material Performance Test Results	Material certification & Test report	● Will be changed
6	コントロールプラン Control Plan	CPL (TQAP)	● Will be changed
7	製品サンプル(顧客提出用) Sample Production Parts	Sample	● Will be changed
8	SDS (安全データシート) Safety Data Sheet	SDS	● Will be changed
9	製品図面 Product Drawing	SJ	No change
10	設計FMEA Design FMEA	DFMEA	● Will be changed
11	仕様書(評価スペック・製品規格) Evaluation Specification	JACS	No change
12	評価/試験結果 Evaluation Report	SR	● Retest impact items and report results.
13	工程FMEA Process FMEA	PFMEA	No change
14	工程フローチャート Process Flow Chart	PF-C	No change
15	生産能力検証 Run at Rate	Run at Rate	No change
16	取扱説明書 JAHL	JAHL	No change

The effects on the PPAP are as follows –

Note: No process change
No tooling change
No production location change

TEST PLAN TO SPECIFICATION (1 OF 2)

Testing based on “LV214 1.1 Test matrix for contacts”, tests will be conducted on the areas corresponding to "New surface material" and "New contact base material”

LV214	Inspection description 試験名	Test wire 試験電線	Connector with Terminals	Terminal only	Description 備考
PG0	Inspection of as-received condition 受け入れ時の状態の検査	FLRYW-B 0.35sq	○	—	
PG1	Dimensions (incl. dimensions from Crimp Standard Team) 寸法	—	—	○	Submit as ISIR
PG2	Material and surface analysis, contacts 材料および表面分析	—	—	○	Submit as Material Performance Test Results
PG5	Mechanical and thermal relaxation behavior 機械的・熱的緩和挙動	FLRYW-B 0.35sq	—	○	
PG10	Contacts: conductor pull-out strength 端子の圧着部強度	FLRYW-B 0.35, 0.5, 0.75, 1.0sq	—	○	We will report the results as per USCAR-21. °
PG11	Contacts: Insertion and removal forces, mating cycle frequency 端子の挿入/離脱力、繰返しかん合	FLRYW-B 0.35sq	—	○	
PG12	Current heating, derating 電流による温度上昇、デレーティング確認	FLRYW-B 0.35, 0.5, 0.75, 1.0sq	—	○	

○ . . . Test will be conducted.

△ . . . Test will be conducted under certain conditions

TEST PLAN CONTINUED (2 OF 2)

LV214	Inspection description 試験名	Test wire 試験電線	Connector with Terminals	Terminal only	Description 備考
PG14	Thermal time constant 熱時定数	FLRYW-B 1.0sq	—	△	These will only be implemented if the results of PG12 are worse than the current ones.
PG15	Electrical stress test 電気的負荷試験	FLRYW-B 1.0sq	△	—	
PG17	Dynamic load 動的負荷	FLRYW-B 0.35sq	○	—	
PG18A	Coastal climate load 塩水噴霧試験	FLRYW-B 0.35sq	○	—	
PG19	Environmental simulation 環境評価	FLRYW-B 0.35sq	○	—	
PG21	Long-term temperature aging 長期高温放置	FLRYW-B 0.35sq	○	—	
LV214-2	Slow Motion Tests 揺動試験	FLRYW-B 0.35, 0.5, 0.75, 1.0sq	—	○	

○ . . . Test will be conducted.

△ . . . Test will be conducted under certain conditions

TIMING PLAN OF CHANGE

西曆 AD	2024		2025				2026				2027				2028			
	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12
代替材検討・試作 [Selection・Prototyping]	→																	
圧着評価 [Crimp tests]			→															
コネクタ評価 [Connector tests]			→															
変更申請 [Application for Change]																		
顧客承認 [Customer Approval]																		
量産品-現行材料品 [Current Material Products]	→																	
量産品-材料変更品 [New Material Products]																		

- This schedule is the current plans. It is subject to change depending on the progress of the evaluation and coordination with the material manufacturer.
- The timing of the end of supply of the current material is being coordinated with the material manufacturer.