

REFERENCES

David L. Goetsch ,Stanley Davis. 1995. Implementing Total Quality. Englewood Cliffs, N.J: Prentice Hall.

Douglas Montgomery. 1985. Introduction to Statistical Quality Control. John Wiley & Sons.

Eugene L. Grant, Richard S. Leavenworth. 1996. Statistical Quality Control ;Seventh Edition. McGraw Hill.

H.J. Harrington. 1987. The Improvement Process (How America's Leading Companies Improve Quality). McGraw Hill.

Jeffrey T. Luftig, Ph.D. 1993. An Introduction to Statistical Process Control. Luftig & Associate, Inc.

J.M. Grocock. 1986. The Chain Of Quality (Market Dominance Through Product Superiority). John Wiley & Sons.

Kaoru Ishikawa. 1985. What Is Total Quality Control? The Japanese Way. Englewood Cliffs, N.J.:Prentice-Hall, Inc.

Molex Singapore. 1997. Supplier Quality Handbook. Molex Incorporated.

Molex Thailand. 1998. THOA 0023 Supplier Quality Management Procedure. Molex Thailand.

Molex Thailand. 1998. THOA 0012 Incoming Quality Inspection Procedure. Molex Thailand.

Molex Thailand. 1998. THQA 0038 Material Quality Performance Rating Procedure. Molex Thailand.

Samuel K. Ho. 1996. TQM An Integrated Approach Implementing Total Quality Through Japanese 5- S and ISO 9000. London:Kogan Page Limited.

Appendices



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MEMORANDUM

From : Setthasorn Charoenphanich
Sales Manager / Co-Advisor
Pages : 1 (incl. this page)
Subject : Molex (Thailand) Ltd.

The name Molex (Thailand) Ltd. allow to be used in the thesis “ SUPPLIER QUALITY IMPROVEMENT FOR THE HARNESS AND CONNECTOR ASSEMBLY PLANT “ by *Mr. Paisit Tangkitsiri* for study purpose only and shall not be reused or duplicated in any other means.

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Sincerely Yours.

Setthasorn Charoenphanich

APPENDIX I
Work Instruction For Incoming Inspection Method
(Old revision befor supplier quality improvment)

Molex (Thailand) Limited

WORK INSTRUCTION

WI # CC015

TITLE :

REV # C

การตรวจสอบสินค้าเข้า
Incoming Inspection Method

REF THQA-0012

PAGE 1 OF 2

- 1 รับใบของจากเจ้าหน้าที่สโตร์ ซึ่งงานจะถูกโอนอยู่ในพื้นที่ MFGIQC ตามระบบ เอเอส - 400
Warehouse shall transfer Receiving note and incoming parts to MEGIQC by follow AS - 400 system
- 2 ตรวจสอบแต่ละรายการตามใบรับของ (Inspect each part follow receiving note)
- 3 หากเป็นงานที่ส่งมาจากโมเล็กซ์ สาขาต่าง ๆ และงานที่ยกเว้นการตรวจสอบ จะถูกยกเว้นการตรวจสอบ
If part is sent from Molex Entity and Part without dimension & functional inspection it do not need to inspcet (Skip)
- 4 การตรวจสอบแต่ละรายการให้ดูหัวข้อตรวจสอบจากเอกสารใบตรวจสอบสินค้าเข้าตามเบอร์ไอคิว
Inspection of each part by follow check point in Incoming Inspection checklist which is defined as IQ no
- 5 บันทึกผลการตรวจสอบในใบบันทึกผลการตรวจสอบสินค้าเข้าซึ่งแยกตามหมายเลขของงานในแต่ละชิ้น
แบบฟอร์ม THQA-0030
Record inspection Result in Vendor History / Incoming Inspection Record, which is defined in each part & Vendor Form No. THQA-0030
- 6 เมื่อนำการตรวจสอบครบทุกรายการตามใบรับของ ให้ประทับตรา "Accept" บนใบรับของ
ถ้างานทุกรายการถูกยอมรับ แต่ถ้าหากมีงานบางรายการถูกปฏิเสธให้เขียนรายละเอียดของงานที่
ปฏิเสธในใบรับของด้วยปากกาแดง พร้อมประทับตรา Reject
After inspection every part is completed. Stamp "Accept" on receiving note if all of them are accept. if there are some rejected the reject detail of that part shall be recorded with red ink and red "Reject" Stamp
- 7 การยอมรับล็อต (Lot Acceptance)
 - 7.1 การยอมรับล็อต (Lot Acceptance) ให้ประทับตรา "Accept" ในใบบันทึกผลการตรวจสอบและตัวงาน
Stamp "Accept" on Vendor History / Incoming inspection Record and accepted part.
 - 7.2 ส่งงานกลับจากพื้นที่ MFGIQC ไปยัง MFFG (Warehouse) ด้วยระบบ AS-400 พร้อมใบโอนงาน
แนบไปกับงานตามรายการใบรับของและใบรับของ
Transfer the accpeted part from MFGIQC to MFFG (Warehouse) by AS-400
Take accepted part with inventory Transfer report and Receiving note to Warehouse.

APPROVED BY Name : Patchara N.

Sign : Patchara N.

Date : ๑๖/๐๑/๐๙

APPROVED BY Name : Pornpanom K.

Sign :

Date : ๑๖/๐๑/๐๙

Molex (Thailand) Limited

WORK INSTRUCTION**TITLE :**

การตรวจสอบสินค้าเข้า
Incoming Inspection Method

WI #	QC015
REV #	C
REF	THQA-0012
PAGE	2 OF 2

8. การปฏิเสธล็อต (Lot Rejection)

8.1 ให้บันทึกผลการปฏิเสธ. หมายเลขใบรายงานคุณภาพของวัตถุดิบ (MQR) พร้อมทั้งประทับตรา " Reject " ลงในใบบันทึกผลการตรวจสอบและตัวชิ้นงาน

Record rejection detail. Material Quality Report Number as well as stamp " Reject " on vendor History Incoming Inspection Record and reject part

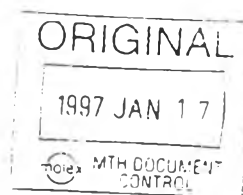
8.2 ออกใบรายงานคุณภาพของวัตถุดิบ (MQR) เพื่อระบุรายละเอียดของของเสีย ถ้าเป็นขนาดที่สามารถวัดเป็นข้อมูลได้ ให้ลงข้อมูลจริง 5 ค่า พร้อมทั้งแนบตัวอย่างของเสียไปกับ MQR ทั้ง " Original " และใบ " Material

Issue material Quality Report to specify rejection information with defect sample attachment for original and material copy

If defect is dimension or measurement, the data shall be kept and recorded 5 data.

8.3 ส่งงานที่ถูกปฏิเสธจากพื้นที่ MFGIQC ไปยัง MFGIRU โดยระบบ AS-400 พร้อมใบโอนงานแนบไปกับชิ้นของเสียเพื่อรอการตัดสินใจในการกำจัดของเสีย ส่งใบรับของที่มีรายละเอียดของงานที่ถูกปฏิเสธให้เจ้าหน้าที่ลิตอร์

Separate reject part from MFGIQC to MFGIRU location with Inventory Tranfer report by using AS0-400 System in order to waiting for Final Disposition. Return receiving note with reject information to warehouse to inform concern person for the final disposition



REVISED BY: _____
DATE: _____

APPROVED BY Name : Patchara N.

Sign: Patchara N. Date: 97/01/09

APPROVED BY Name : Pornpanom K.

Sign: _____ Date: 97 Jan 16

APPENDIX II
Quality System Rating Sheet
(Old revision before supplier quality improvement)

APPRAISAL AUDIT
(FOR QUALIFICATION OF NEW VENDOR)

COMPANY NAME
ADDRESS

CONTACT/
DESIGNATION
NATURE OF BUSINESS

HEADCOUNT
MAJOR CUSTOMERS

NO. OF SHIFT

DATE OF EVALUATION

AUDITORS
DEPARTMENT
SIGNATURE

RESULT OF AUDIT	MAX. PTS	RATING	%RATING
SECTION			
1. PRICE / COMPETITIVENESS	40		
2. MANNAGEMENT	25		
3. ENGINEERING	25		
4. QUALITY CONTROL SYSTEM	200		
TOTAL SCORE	290		
STATUS OF AUDIT			
GOOD	80 - 100%		
AVERAGE	70 - 79%		
DISAPPROVED	< 69%		

COMMENTS

OBSOLETED
R 10:

EXTERNAL QUALITY SYSTEM AUDIT

COMPANY NAME	
ADDRESS	
CONTACT/ DESIGNATION	
NATURE OF BUSINESS	
HEADCOUNT	NO. OF SHIFT
MAJOR CUSTOMERS	

DATE OF EVALUATION

AUDITORS
DEPARTMENT
SIGNATURE

RESULT OF AUDIT			
SECTION	MAX. PTS	RATING	%RATING
4.0 QUALITY CONTROL SYSTEM	30		
4.1 DOCUMENT CONTROL	20		
4.2 MANUFACTURING FLOW	10		
4.3 MATERIAL CONTROL	40		
4.4 CALIBRATION/MAINTENANCE	20		
4.5 IN-PROCESS CONTROL	50		
4.6 FINAL PROCESSING	30		
TOTAL SCORE	200		
STATUS OF AUDIT			
EXCELLENT	90 - 100%		
GOOD	70 - 89%		
AVERAGE	60 - 69%		
UNSATISFACTORY	< 59%		

COMMENTS

AUDIT QUESTIONNAIRES

1	PRICE / COMPETITIVENESS	SCORE	COMMENTS
a	Is the current product price competitive ?	10	
b	Will the price still be competitive within the next 12 months ?	5	
c	Is the competitive price achieved through vendor's effective management of operating cost ?	5	
d	Is there adequate details in production planning and effective expeditious in handing customer's parts ?	10	
e	Is vendor able to demonstrate their ability to service and support short lead time delivery for extremely urgent parts without jeopardizing quality ?	10	

2	MANAGEMENT	SCORE	COMMENTS
a	Is management willing to commit its resources to ensure competitive edge. eg absorb partial tooling cost or offer appropriate price reduction over time ?	5	
b	Is management committed to bring about continuous improvement in the quality and productivity of products and services ?	5	
c	Are there frequent labour turn-over which may affect product quality and delivery ?	5	
d	Is the vendor capable/willing to manage and provide manufacturing resources to support customer's increase sales volume ?	10	

3	ENGINEERING	SCORE	COMMENTS
a	Has the vendor the manufacturing facilities and capabilities to manufacture parts to Molex Thailand's requirements ?	10	
b	Is there a presence of technical personnel capable of providing engineering support and improvement of process ?	10	OBSOLETED REFER TO:
c	Does the vendor demonstrates mutual technical assistance and joint planning with Molex Thailand ?	5	

4.	QUALITY CONTROL SYSTEM	SCORE	COMMENTS
a	Is Quality Assurance Organisation Management in existence ?	10	
b	Is a formal Quality Manual develop and the facility implement these procedures ?	5	
c	Has the vendor defined the responsibility and authority of all personnel who perform work affection quality ?	5	
d	Are operators/inspectors trained and certified before being allowed to be on the job ?	10	

4.1	DUCOMENT CONTROL	SCORE	COMMENTS
a	Is there a formal procedure to document and control specifications, drawings and Standard Operation Procedure (SOP)	5	
b	Are pertinent issues of appropriate documents available at all location where operation essential to the effective functioning of the quality systems are being performed ?	10	
c	Wer obsolete documents promptly removed from all points of issue or use ?	5	

4.2	MANUFACTURING FLOW	SCORE	COMMENTS
a	Is there a manufacturing flowchart defining the flow from assembly to packaging of the final product ?	5	
b	Is there a control plan defining the process and inspection control ?	5	

4.3	MATERIAL CONTROL	SCORE	COMMENTS
a	Has the supplier established & maintained procedures for identifying the product from applicable drawing, specs or other document, during all stages of production & delivery ?	5	
b	Is material traceability maintained such that defective or suspect material can be trace and recall when necessary ?	5	
c	Does the supplier has an effective systems for assuring quality of incoming product ?	10	
d	Is there a formal procedure to handle customer returns and provide appropriate corrective action ?	10	OBSOLETED REFER TO: /
e	Are ther adequate control to prevent mixing of products ?	5	
f	Are storage area dry, free from dust and the parts stored in orderly and secure manner ?	5	

4.4	CALIBRATION & MAINTENANCE PROGRAM	SCORE	COMMENTS
a	Is there a calibration program for all measuring equipment ?	10	
b	Is there a preventive maintenance program for all equipments ?	10	

4.5	IN-PROCESS CONTROL	SCORE	COMMENTS
a	Are there adequate and orderly handling/storage of materials at work stations ?	5	
b	Is there a formal non-conformance material control procedure and evidence of implementation ?	10	
c	Is good housekeeping evident and adequate safety measures implements ?	5	
d	Are rejected materials identified, segregated & with proper disposition ?	10	
e	Is there a smooth flow of material in the entire operation ?	5	
f	Does the vendor utilizes SPC to monitor performances at critical operations ?	10	
g	Is a document in-house audit plan available ?	5	

4.6	FINAL PROCESSING	SCORE	COMMENTS
a	Are there adequate packaging procedures to ensure product integrity during transportation ?	5	
b	Has the supplier established and maintained records which prove that the product has passed inspection or test with defined acceptance criteria ?	10	
c	Are products checked for proper identification, damaged, count and indication of final acceptance ?	10	OBSOLETE REFER TO:
d	Are FIFO system employed adequate for shipment of age-sensitive product ?	5	
TOTAL SCORE			

APPENDIX III
Supplier Manufacturing Flow

SUPPLIER A

品質工程圖
QUALITY FOLLOW CHART

APPLY TO : HOOKUP WIRE ~ AUTOMOBILE WIRE ~ PVC INSULATED WIRE ~ GROUND WIRE ~ PROF WIRE

D/O : EQC001
EDITION : 1.4

ADMIT BY 	CONFIRM BY 	PRODUCER
--------------	----------------	--------------

RAW MATERIAL	FOLLOW CHART			STEP OF PROCESS	WORKING INSTRUCT	CONTROL			TEST METHOD						REMARK
	RAW	PREP ARE	PROCESS			CHECK BY WORKER	PROCESS INSPECTION	INSTR-UCT	RECORD	RESPO-ND	DIRECT	FREQUENCY	EQUIPMENT	ABNORMAL REACTION	
COPPER 8.3.2 2.6 MM DIA.				INC-OMING TEST	STANDARD OF INCOMING PRODUCT		O.D (TENSION) OUTSIDE CONDITION	PURCHASE STANDARD	TEST REPORT 0004	I.Q.C	-SUPERVISOR	AQL 0.65 H LEVEL I	- MICROMETER - (TENSION TESTER) - VISUAL	- INCOMING DEFECT. REPORT	
				DRAWING	-WORKING INSTRUCTION -OPERATION STANDARD	-OUTSIDE CONDITION -O.D -ARRANGE ON SPOOL	-OUTSIDE CONDITION -ELONGATION -O.D	-PRODUCT PLAN -WORKING ORDER	-CHECK REPORT 0003 -CHECK REPORT 0004	-WORKER -IQC	-BUNCH LEADER -INCHARGE -SUPERVISOR	- FIRST PRODUCT - EACH SPOOL	- MICROMETER - ELONGATION TESTER - VISUAL	- CHECK REPORT - QUALITY ABNORMAL REPORT	
				TYPED	WORKING INSTRUCTION OPERATION STANDARD	OUTSIDE CONDITION -O.D -ARRANGE ON SPOOL	OUTSIDE CONDITION -O.D -ARRANGE ON SPOOL	PRODUCT PLAN -WORKING ORDER	CHECK REPORT 0003 -CHECK REPORT 0004	WORKER -IQC	BUNCH LEADER -INCHARGE -SUPERVISOR	- FIRST PRODUCT - EACH SPOOL	MICROMETER - VISUAL	CHECK REPORT - QUALITY ABNORMAL REPORT	

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SUPPLIER A

品質工程圖
QUALITY FOLLOW CHART

APPLY TO : HOOKUP WIRE < AUTOMOBILE WIRE < PVC INSULATED WIRE<GROUND WIRE<DROF WIRE

D/O : EQC001
EDITION:1.4

ADMIT BY	CONFIRM BY	PRODUCER
EQUIPMENT	ABNORMAL REACTION	REMARK
- MICROMETER - VISUAL - RULER	- CHECK REPORT - QUALITY ABNORMAL REPROT	
- VISUAL	- CHECK REPORT - QUALITY ABNORMAL REPROT	
- DIAL THICKNESS GAGE - DIAL MICRO METER - VISUAL - ELONGATION TESTER - CONTINUITY TESTER - (OVER) - (INSULATION TESTER) - (FLAME TESTER)	- CHECK REPORT - QUALITY ABNORMAL REPROT	

RAW MATERIAL	FOLLOW CHART			STEP OF PROCESS	WORKING INSTRUCT	CONTROL			TEST METHOD						
	RAW	PREPARE	PROCESS			CHECK BY WORKER	PROCESS INSPECTION	INSTRUCT	RECORD	RESPOND	DIRECT	FREQUENCY	EQUIPMENT	ABNORMAL REACTION	REMARK
PVC COMPOUND				TWISTING	WORKING INSTRUCTION OPERATION STANDARD	- TWIST DIRECT - PITCH - ARRANGE ON SPool - NO. OF STRANDS	- TWIST DIRECT - PITCH - CONDITION NO. OF STRANDS	- PRODUCT PLAN - WORKING ORDER	- CHECK REPORT CO09 - CHECK REPORT CO08	- WORKER - IPQC	- BUNCH LEADER - INCHARGE - SUPERVISOR	- FIRST PRODUCT - EACH SPOOL	- MICROMETER - VISUAL - RULER	- CHECK REPORT - QUALITY ABNORMAL REPROT	
				PVC COMPOUNDING	WORKING INSTRUCTION	- COLOR - PRODUCT NO.	- COLOR - PRODUCT NO.	- WORKING ORDER	- CHECK REPORT V001	- WORKER	- BUNCH LEADER - SUPERVISOR	- FIRST PRODUCT	- VISUAL	- CHECK REPORT - QUALITY ABNORMAL REPROT	
				EXTRUDING	WORKING INSTRUCTION OPERATION STANDARD	- MARKING - SPARK - OUTSIDE CONDITION - O.D - COLOUR - CONDUCTIVITY	- MARKING OUTSIDE CONDITION - O.D - THICKNESS - COLOUR - ELONG. (BINDING) - (AGED) - (L.R) - (FLAME)	- WORKING ORDER - 11.75% - CSA - 210.2 - TIS - JIS - TOT	- CHECK REPORT W001 - CHECK REPORT W003 - FINAL REPORT Q010, Q016, Q020, (Q000)	- WORKER - IPQC - Q.A	- BUNCH LEADER - INCHARGE - SUPERVISOR	- FIRST PRODUCT - PROCESS INSPEC. - PRODUCT INSPEC.	- DIAL THICKNESS GAGE - DIAL MICRO METER - VISUAL - ELONGATION TESTER - CONTINUITY TESTER - (OVER) - (INSULATION TESTER) - (FLAME TESTER)	- CHECK REPORT - QUALITY ABNORMAL REPROT	

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REVISE DATE:1998.01.05

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SUPPLIER A

品質工程圖
QUALITY FOLLOW CHART

APPLY TO : HOOKUP WIRE \ AUTOMOBILE WIRE \ PVC INSULATED WIRE \ GROUND WIRE \ DROP WIRE

D/O : EQC001
EDITION : 1.4

ADMIT BY 	CONFIRM BY 	PRODUCER 
---	---	---

RAW MATERIAL	FOLLOW CHART			STEP OF PROCESS	WORKING INSTRUCT	CONTROL			TEST METHOD					ABNORMAL REACTION	REMARK
	RAW	PREPARE	PROCESS			CHECK BY WORKER	PROCESS INSPECTION	INSTRUCT	RECORD	RESPOND	DIRECT	FREQUENCY	EQUIPMENT		
			○	STORE & DELIVERY	- LABEL STORE LIST	PLACE OF STORE	- STYLE - AMOUNT - COLOR CODE - PACKING	ORDER	- CHECK REPORT Q012	WORKER	SUPERVISOR	100 %	- VISUAL	QUALITY ABNORMAL REPORT	

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PAGE : 3/3

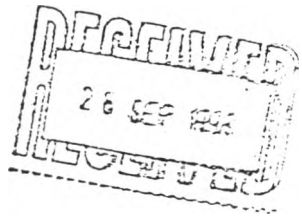
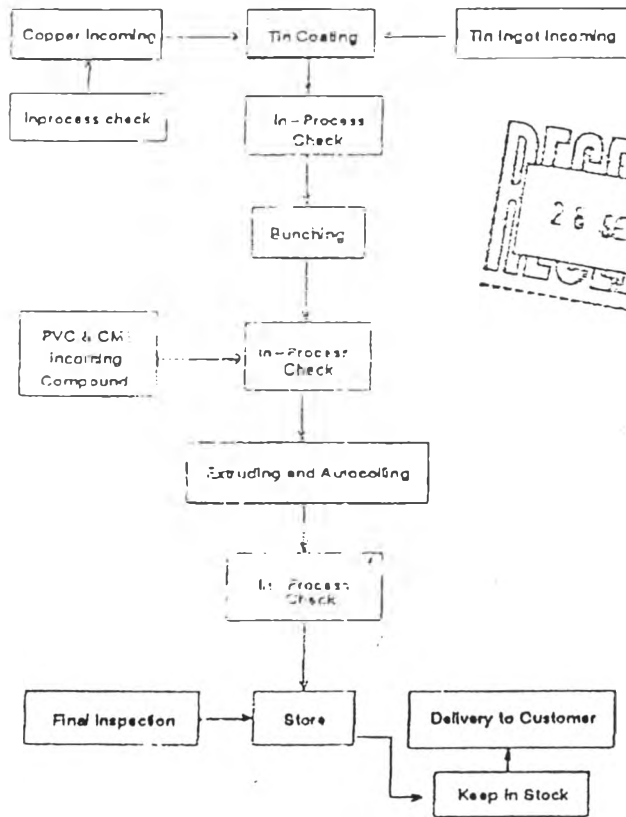
10

STANDARD WORK PROCEDURE		NO. SWP. - QC. - 002F
Date of Issue : Original 14/5/87		Revise : 8/6/94
Title : Sampling work for inspection of Hook up wire		Issue : <i>Amber P.</i>
		Approve : <i>A. Parry</i>
Process : Q.C.	Machine :	
Cable : Supplier B	Size :	

Purpose of work :

Materials to be used		

Contents : Production Flow chart of hook up wire



Delivery of Copy : QC., Engineering

1. These tables show Acceptance Raw material

1.1 Copper incoming

Raw material Acceptance Test of Copper

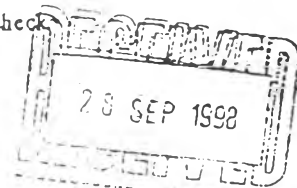
Test Item	Spec. Value	Sampling	Test equipment
1. Over all dia.	↑	20%/ lot/ size	Micrometer
2. Roundness	According to	•	•
3. Elongation	Purchasing	•	Tensile test
4. appearance	Specification	All outer surface	Visual
5. Winding condition	↓	All outer surface	•

Remark : If lot was rejected, inform supplier and 3 lots later 100 % check

1.2 PVC & CMB

Raw material test of PVC & CMB

Test Item	Spec. Value	Sampling	Test equipment
1. Appearance	According to	All	Visual
2. Color	Purchasing	All	•
3. Moisture	Specification	—	Supplier Data
4. T/S & T/E	↓	—	•



1.3 Tin Incoming

Raw material Test of Tin Ingot

Test Item	Spec. Value	Sampling	Test equipment
1. Appearance	According to	All	Visual
2. Purity	Purchasing Specification	All	Supplier Data

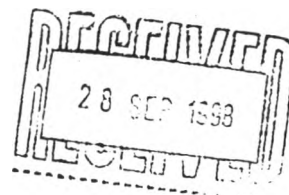
2. These table show In - Process check

2.1 In - Process check of Tin - Coating


Test Item	Spec. Value	Sampling	Test equipment
1. Overall Dia.		20 %/st, ed/Reel	Micrometer
2. Chemical test		-	ASTM - B - 33 - 81
3. Roundness			Micrometer
4. T/E		-	Tensile tester

2.2 In - Process check of Bunching

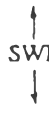
Test Item	Spec. Value	Sampling	Test equipment
1. Strand direction and Pitch		1 Sample/st,ed/Reel	Manual
2. No. of strand wire			
3. Individual wire OD in strand wire		7 cond/sample/st, ed/Reel	Micrometer
4. Cross-section area by measured individual wire dia.		1 Sample / st. ed / Reel	-
5. Cross-section area by weight			Precision balance.
6. Appearance		All outer surface	Visual

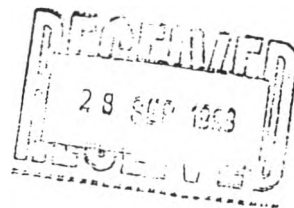


2.3 Ia - Process check of Extruding and Autocoiling

Test Item	Spec. value	Sampling	Test equipment
1. OD of Individual conductor	 MG	20 % / lot	Micrometer
2. Ins. thickness by using projector		•	Projector
3. Ins. OD		•	Micrometer
4. Marking & Appearance		•	Visual
5. Eccentricity		•	Projector
6. T/S, T/E of PVC Insulation		1 Sample/color / lot	Tensile tester
7. Bonding Strength		•	•
8. Spark test		All length	Spark tester
9. Continuity		•	Continuity tester
10. Coiling Appearance		•	20 % / lot

3. Final Inspection
3.1 Electrical test

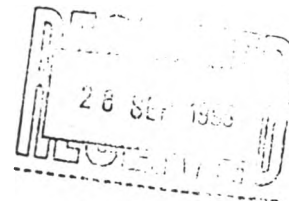
Test Item	Method	Sampling	Test equipment
1. Cond Resistance	 SWP	1 Sample/type/week	Resistance tester
2. High voltage test		•	HV tester
3. Ins resistance		•	IR tester



J.2 Physical test same as Factory test

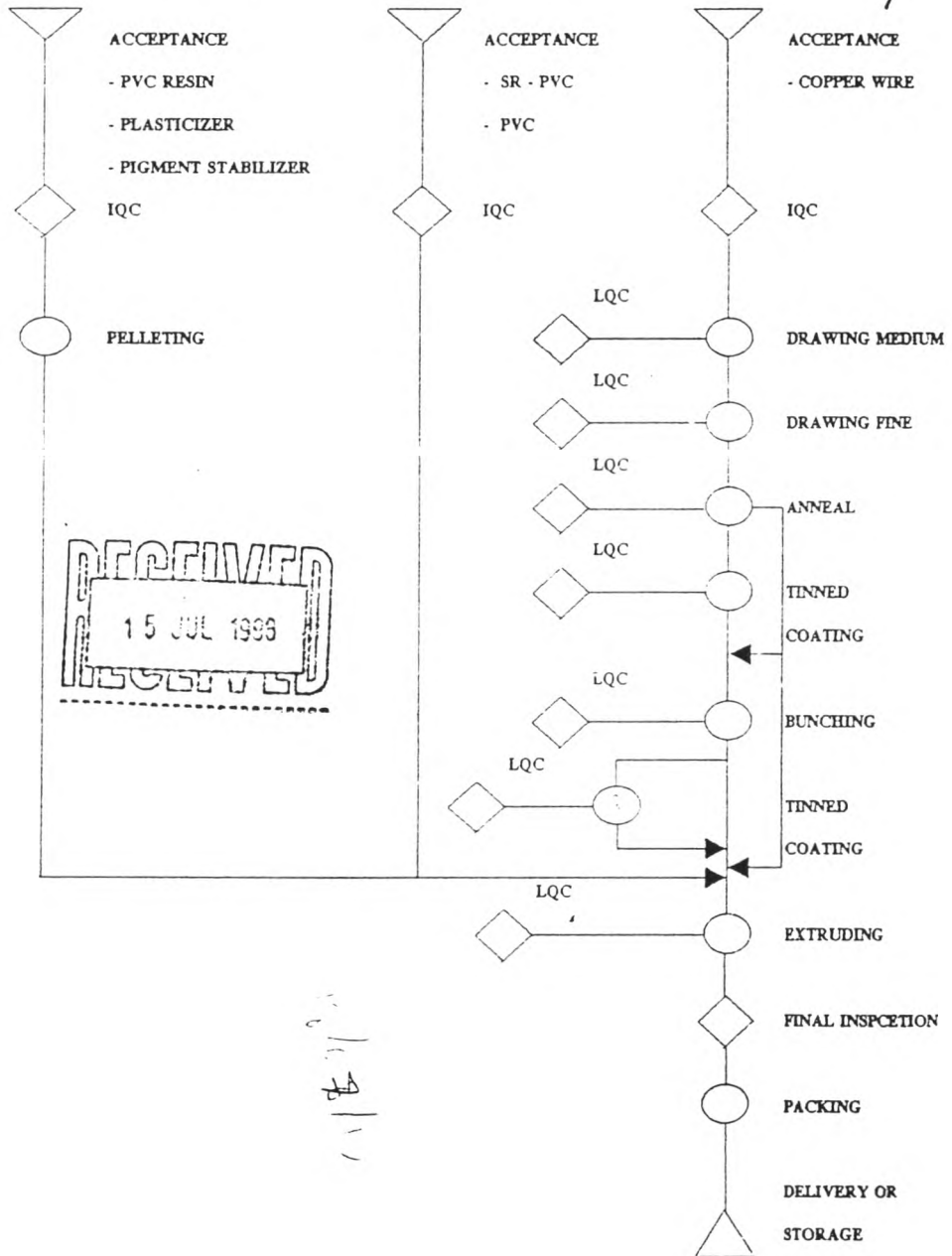
Test Item	Method	Sampling	Test equipment
1. Flame test	SVP	2 Sample/week	Flame test apparatus
2. Deformation		3 Sample /type/ 6 month	Deformation oven
3. cold bend		"	Refrigerator mandrel
4. Heat shock		"	Oven, mandrel
5. T/S, T/E before aging		"	Tensile tester, Air
6. T/S, T/E after aging		3 Sample/type/ 6 month	Circurated oven
7. Flexing test		"	Flexing strength tester

Remark : Appearance, spark test, continuity test in process check at extruding and autocolling are seems as final inspection.



Supplier C

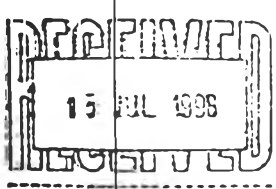
TYPE : HOOK UP WIRE	PROCESS FLOW CHART #	CODE : HSJ 5001	PREPARED : <i>[Signature]</i>
		DATE : NOV 7' 1995	CHECKED : <i>[Signature]</i>
		DEPT. : QA DEPT.	APPROVED : <i>[Signature]</i>



Supplier C		CODE : HSI 5001		PAGE : 1/7	PREPARED : <i>[Signature]</i>	
TITLE :		QUALITY CONTROL FLOW CHART		DATE : NOV7'1995	REV : 1	CHECKED : <i>[Signature]</i>
HOOK UP WIRE				DEPT : QA DEPT.	APPROVED : <i>[Signature]</i>	

FLOW CHART	PROCESS NAME	CONTROL METHOD				RECORD	RESPONSIBLE
		CHECK ITEM	STANDARD REFER	MEASURING	INSPECTION FREQUENCY		
	① IQC (WIRE)	1. MATERIAL CONFIRM 2. PACKING CONDITION 3. DIMENSION 4. CONDUCTIVITY TEST 5. TORSION TEST 6. VISUAL 7. MATERIAL CERTIFICATION	1. INCOMING INSPECTION CRITERIA 2. INCOMING INSPECTION STANDARD 3. FOR RAW MATERIAL	1,2,6,7 CHECK BY EYES 3. MICROMETER 4. PORTABLE DOUBLE BRIDGE 5. TORSION TESTER	EVERY LOT	WIRE INCOMING INSPECTION REPORT REFER TO	QA DEPT.
	② DRAWING MEDIUM	1. MATERIAL (WIRE) 2. LINE SPEED 3. DIMENSION 4. WEIGHT	1,3 JOB ORDER 2. JOB ORDER STANDARD OF DRAWING MEDIUM	1. CHECK BY EYES MICROMETER 2. CONFIRM TO CONTROL PANEL 3. MICROMETER 4. WEIGHING MACHINE	1,3 - EVERY 1 HOUR - HAVE A NEW JOB 4. EVERY BOB	1,2 DBTA INSPECTION REPORT 3. DBTA INSPECTION REPORT - DBTA DAILY PRODUCTION REPORT 4. DBTA DAILY PRODUCTION REPORT	PRODUCTION DEPT.
	③ IQC (DRAWING MEDIUM)	1. DESIGNATION COLLECTION 2. VISUAL 3. DIAMETER	INSPECTION STANDARD (IQC INSPECTION OF DRAWING , DM)	1,2 CHECK BY EYES 3. MICROMETER	- EVERY BOB - AFTER ADJUSTMENT OR IMPROVEMENT MACHINE	1,2 IQC INSPECTION REPORT FOR DRAWING MEDIUM 3. X , R CHART	QA DEPT.

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 15 JUL 1998

TITLE :		QUALITY CONTROL FLOW CHART			DATE : NOV 7 1995	CODE : IISJ 5001	PAGE :	REV : 1
HOOK UP WIRE							27	
FLOW CHART	PROCESS NAME	CONTROL METHOD				RECORD	RESPONSIBLE	
		CHECK ITEM	STANDARD REFER	MEASURING	INSPECTION FREQUENCY			
	(4) DRAWING FINE 	1. MATERIAL (WIRE) 2. LINE SPEED 3. DIMENSION 4. WEIGHT	1,3 JOB ORDER 2. JOB ORDER STANDARD OF DRAWING FINE	1. CHECK BY EYES MICROMETER 2. CONFIRM TO CONTROL PANEL 3. MICROMETER 4. WEIGHING MACHINE	1,3 EVERY 1 HOUR HAVE A NEW JOB 4. EVERY BOB	1-2 DBTA INSPECTION REPORT 3. DBTA INSPECTION REPORT -DBTA DAILY PRODUCTION REPORT 4. DBTA DAILY PRODUCTION REPORT	PRODUCTION DEPT.	
	(5) LQC (DRAWING FINE)	1. DESIGNATION COLLECTION 2. VISUAL 3. DIAMETER	INSPECTION STANDARD (LQC INSPECTION OF DRAWING, DE)	1,2 CHECK BY EYES 3. MICROMETER	1. 1 SHIFT/1MACHINE / 1 DAY AFTER ADJUSTMENT OR IMPROVEMENT MACHINE	1,2 LQC INSPECTION REPORT FOR DRAWING FINE 3. X.R CHART	QA DEPT.	
	(6) ANNEAL	1. MATERIAL (WIRE) 2. LINE SPEED 3. TIME 4. TEMPERATURE 5. DIMENSION 6. WEIGHT	1,5 JOB ORDER 2-4 JOB ORDER STANDARD OF ANNEAL	1. CHECK BY EYES MICROMETER 2,4 CONFIRM TO CONTROL PANEL 5. MICROMETER 6. WEIGHING MACHINE	1,2,5 EVERY 1 HOUR HAVE A NEW JOB 3,4 HAVE A NEW JOB 6. EVERY BOB	1,2 DBTA INSPECTION REPORT 3,4 CONDITION CHECK SHEET FOR ANNEAL 5. DBTA INSPECTION REPORT -DBTA DAILY PRODUCTION REPORT 6. DBTA DAILY PRODUCTION REPORT	PRODUCTION DEPT.	

TITLE : HOOK UP WIRE		QUALITY CONTROL FLOW CHART			DATE : NOV 7 1995	CODE : HISJ 5001	PAGE : 3/7	REV : 1
FLOW CHART	PROCESS NAME	CONTROL METHOD			RECORD	RESPONSIBLE		
		CHECK ITEM	STANDARD REFER	MEASURING			INSPECTION FREQUENCY	
	7 LQC (ANNEAL)	1. DESIGNATION COLLECTION 2. ELONGATION 3. VISUAL 4. DIAMETER 5. ANNEAL CONDITION	INSPECTION STANDARD (LQC INSPECTION OF ANNEALING)	1,3,5 CHECK BY EYES 2. CONDUCTOR ELONGATION TESTER OR TENSILE STRENGTH TESTER 1. MICROMETER	- DIAMETER MORE THAN 0.40 mm. - CHECK EVERY BOB - DIAMETER LESS THAN 0.40 mm. - CHECK 5 BOB/LOT AFTER ADJUSTMENT OR IMPROVEMENT MACHINE	1,3,5 LQC INSPECTION REPORT FOR ANNEAL 2,4 X.R CHART	QA DEPT.	
	8 TINNED COATING	1. CONSTRUCTION OF CONDUCTOR 2. DIMENSION 3. LINE SPEED 4. WEIGHT	1,2 JOB ORDER 3. JOB ORDER STANDARD OF TINNED	1,2 MICROMETER 3. CONFIRM TO CONTROL PANEL 4. WEIGHING MACHINE	1-3 EVERY 1 HOUR HAVE A NEW JOB 4. EVERY BOB	1,3 DBTA INSPECTION REPORT 2. DBTA INSPECTION REPORT - DBTA DAILY PRODUCTION REPORT 4. DBTA DAILY PRODUCTION REPORT	PRODUCTION DEPT.	
	9 LQC (TINNED COATING)	1. DESIGNATION COLLECTION 2. VISUAL 3. DIAMETER 4. BENDED WIRE TEST	INSPECTION STANDARD (LQC INSPECTION OF TINNED)	1,2 CHECK BY EYES 1. MICROMETER 4. ZOOM LENS - WEIGHT	- EVERY BOB - AFTER ADJUSTMENT OR IMPROVEMENT MACHINE	1,2,4 LQC INSPECTION REPORT FOR TINNED COATING 3. X.R CHART	QA DEPT.	

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TITLE :		QUALITY CONTROL FLOW CHART				DATE : NOV 7 1995	CODE : HSJ 5001	PAGE : 5/7	REV : 1
FLOW CHART	PROCESS NAME	CONTROL METHOD				RECORD	RESPONSIBLE		
		CHECK ITEM	STANDARD REFER	MEASURING	INSPECTION FREQUENCY				
	12 IQC PVC, SR - PVC	1. MATERIAL CONFIRM 2. PACKING CONDITION 3. MATERIAL CERTIFICATION	- INCOMING INSPECTION CRITERIA - INCOMING INSPECTION STANDARD FOR RAW MATERIAL.	CHECK BY EYES	EVERY LOT	INCOMING INSPECTION REPORT	QA DEPT.		
	13 IQC PVC RESIN PLASTICIZER PIGMENT STABILIZER	1. MATERIAL CONFIRM 2. PACKING CONDITION 3. MATERIAL CERTIFICATION	- INCOMING INSPECTION CRITERIA - INCOMING INSPECTION RAW MATERIAL.	CHECK BY EYES	EVERY LOT	INCOMING INSPECTION REPORT	QA DEPT.		
	14 PELLETING	1. TYPE OF PRODUCT 2. COLOUR, 3 WEIGHT	STANDARD OF PELLETING	1,2 CHECK BY EYES 3 WHICH AND MACHINE	EVERY LOT	PELLET DAILY PRODUCTION REPORT	PRODUCTION DEPT.		
	15 EXTRUDING	1. CONSTRUCTION OF WIRE AND CABLE 2. DIAMETER 3. CONCENTRICITY 4. MARKING 5. VISUAL 6. COLOUR 7. MATERIAL 8. SPARK VOLTAGE 9. GEAR 10. LINE SPEED 11. TEMPERATURE 12. DIE AND NIPPLE 13. LENGTH 14. TYPE OF PACKING	- JOB ORDER - STANDARD OF EXTRUSION	1,2 MICROMETER 3 - CHECK BY EYES PROJECTOR 4 7,12 14 CHECK BY EYES 8-13 CONFIRM TO CONTROL PANEL.	1-8 - EVERY 1 HOUR - HAVE A NEW JOB AFTER ADJUSTMENT OR IMPROVEMENT MACHINE 9-14 - HAVE A NEW JOB AFTER ADJUSTMENT OR IMPROVEMENT MACHINE	1-8 - EXTRUSION INSPECTION REPORT	PRODUCTION DEPT.		

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TITLE :		QUALITY CONTROL FLOW CHART			DATE :	CODE :	PAGE :	REV :
HOOK UP WIRE					NOV 7 1995	HSJ 5001	7/7	1
FLOW CHART	PROCESS NAME	CONTROL METHOD				RECORD	RESPONSIBLE	
		CHECK ITEM	STANDARD REFER	MEASURING	INSPECTION FREQUENCY			
	(18) PACKING	1. CONSTRUCTION WIRE AND CABLE 2. LENGTH 3. COLOUR	JOB ORDER STANDARD OF PACKING	1. DIAL GAUGE MICROMETER 2. RIBBON LENGTH MEIER 3. CHECK BY EYES	EVERY LOT	PACKING DAILY PRODUCTION REPORT	PRODUCTION DEPT.	

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15 JUL 1995
INSPECTOR

Supplier F

QUALITY PLAN

Effective Date : 06 / MAY / 96

Subject Q - Plan For Mouse Cable

Revision : A

Pg : 1 of 1

Symbol Start / Stop, Process, Inspection, Connection, Store, Shipped

Document No. : QP - 007

Process Flow	Operation	Item	Control / Check Requirements		Quality Record	Reference Document No.	Responsibility (Section)
			Method Used	Frequency			
	Connection				-	QP - 002	-
	Twisting & Wrapping	Lay of strand/Insul.Oil/Colour	Refer to spec stated in Machine, PTC	Every spec. change or once / shift	-	PI - ENG - 007, 008	Production
	Inspection	OD & Colour	Thickness dial gauge & visual	3 / per shift	I.P.Q.C.R-3	SOP - QA - 002	Q. A.
	Spiralling	Lay of strand/Copper wire	Refer to spec stated in Machine, PTC	Every spec. change	-	PI - ENG - 011	Production
	Inspection	1) Copper wire O.D. 2) No. of conductor	1) Thickness dial gauge 2) Visual count	3/ per shift or spec change	I.P.Q.C.R-2	SOP - QA - 002	Q. A.
	From PVC Compounding Jacketing	1) Colour 2) O. D 3) Surface brightness 4) Centre value 5) Insul.Colour	1) Visual 2) Thickness dial gauge 3) Visual 4,5) Visual	One hour or spec change	-	QP - 001 PI - ENG - 012, 013, 014, 015	Production
	Inspection	1) Colour & brightness 2) O. D 3) Thickness value 4) Cable continuity test	1) Visual (colour file) 2) Thickness dial gauge 3) Microscope or Pin dial gauge 4) Cable continuity tester	1/per shift or every spec change 2/shift or spec change 100%	I.P.Q.C.R-1 C.C.T.R	SOP - QA - 002 PI - QA - 025	Q. A.
	Cutting & Packing	1) Cutting length 2) Cleanliness	1) Measuring tape or m/c length counter 2) Visual	Every spec. change	-	PI - ENG - 016	Production
	Inspection	1) Outer dimension 2) Length 3) Appearance	1) Thickness dial g 2) Measuring tape 3) Visual	Every lot 1/per shift (min)	I.O.Q.C.D.R. I.P.Q.C.R.4	SOP - QA - 003 SOP - QA - 092	Q. A.
	Finish Goods Store				-	SOP - PPD - 004	P. C.
	Shipped				-	SOP - PPD - 006	P. C.
	END						

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06 OCT 1996

Initiated By :

Name : K. H. CHUNG

Signature : *[Signature]*

Date : 03 / 05 / 96

Checked By QC Officer :

Name : FINE SIAU WEE

Signature : *[Signature]*

Date : 05 / 05 / 96

Approval By Factory Manager :

Name : Chen Ming Lung

Signature : *[Signature]*

Date : 05 / 05 / 96

PAN INTERNATIONAL WIRE & CABLE (M) S

* I.P.Q.C.R. IS PROCESS QUALITY CONTROL REPORT - 1

PI - ENG - THE ENGINEERING DEPT

REFERENCE COPY

Supplier F

Q U A L I T Y P L A N

Effective Date : 06 / MAY / 96

Subject Q - Plan For Hook - Up Wire

Revision : A

Pg : 1 of 1

Symbol Start / Stop, Process, Inspection, Connection, Store, Shipped

Document No : QP - 010

Process Flow	Operation	Item	Control / Check Requirements Method Used	Frequency	Quality Record	Reference Document No.	Responsibility (Section)
	Connection					QP - 002	
	Inspection	1) Pl. / CSA Marking 2) Appearance 3) Colour 4) O. D 5) Bond Strength	1) Visual 2) Visual 3) Visual 4) Thickness dial gauge 5) Bond Strength tester	Every lot	OQCDR	SOP - QA - 003	Q. C.
	Packing	1) Pl. Marking 2) Appearance	1) Visual 2) Visual	Every roll			P. C.
	Finish Goods Store					SOP - PRD - 004	P. C.
	Shipped					SOP - PRD - 006	P. C.
	END						

RECEIVED
 06 OCT. 1998
RECEIVED

Initiated By : K. S. Chuan
 Name : _____
 Signature : [Signature]
 Date : 5/5/96

Checked By QC Officer : [Signature]
 Name : _____
 Signature : [Signature]
 Date : 5/5/96

Approval By Factory Manager : Chen Ming Lung
 Name : _____
 Signature : [Signature]
 Date : 5/5/96

OQCDR - Outgoing quality report

REFERENCE COPY

Document Control Section

APPENDIX IV
Rating Sheets For Supplier 'S Manufacturing And
The Results Of Quality System Rating

Section 2 : Quality System Evaluation

QUALITY SYSTEM EVALUATION RESULT

Supplier Name :		Rating						
Date	No System	Significant Deficiency	Need Improvement	Satisfactory	Outstanding	Weight	Total	
	0-20	21-40	41-70	71-85	86-100			
	Sub System							
1	Quality System					0.2		
2	Documentation					0.1		
3	Procurement					0.1		
4	Manufacturing and Material Control					0.2		
5	Final Acceptance					0.1		
6	Calibration					0.1		
7	Statistical					0.2		
Previous Score				Score for this Year				
Comment								
Auditor's Team Signature								
1) 0-20 No System		3) 41-70 Need Improvement			5) 86-100 Outstanding			
2) 21-40 Significant Deficiency		4) 71-85 Satisfactory						

RATING SHEET FOR SELF ASSESSMENT AND QUALITY SYSTEM AUDIT

1. Quality System		Rating					Score
Item No.	Description	No System	Significant Deficiency	Need Improvement	Satisfactory	Outstanding	
		0	1	2	3	4	
1.1	Are quality objective and responsibilities defined then distributed through company ?						
1.2	Does all support organization understand the roles to achieve customer satisfaction ?						
1.3	Are quality objectives used to guide planning (production) ?						
1.4	Is the formal quality manual developed and implemented ?						
1.5	Are operators/inspectors trained and certified before being allowed to work ?						
	Does training program exist both all operators and staffs ?						

Page 1 of 7

RATING SHEET FOR SELF ASSESSMENT AND QUALITY SYSTEM AUDIT

2. Documentation		Rating					Score
Item No.	Description	No System	Significant Deficiency	Need Improvement	Satisfactory	Outstanding	
		0	1	2	3	4	
2.1	Does the system ensure that current (up dated) customer specification is available for manufacturing ?						
2.2	Does the system ensure that current (up dated) material specification is available for procurement ?						
2.3	How well is customer specification assured before an order is accepted ?						
2.4	Is there a process/document to inform customer about process or material change after the product is approved ?						
2.5	Is there the procedure for specification control drawings and proces flow chart ?						
2.6	Are obsoleted documents handled, treated ?						
2.7	How are the procedures distributed to operations where quality needed ?						

RATING SHEET FOR SELF ASSESSMENT AND QUALITY SYSTEM AUDIT

3. Procurement / Material Control		Rating					
Item No.	Description	No System	Significant Deficiency	Need Improvement	Satisfactory	Outstanding	Score
		0	1	2	3	4	
3.1	Is there a formal procedure to handle customer complaints and provide appropriate corrective action ?						
3.2	Is Quality History considered along with Price, Delivery & Service when making sourcing decision ?						
3.3	Are vendors expected to conform to specification and SPC is applied in supplier control ?						
3.4	Is surrounding at storage controlled such as temperature, shelf life of the products, humidity ?						
3.5	Are the material needs properly specified ?						
3.6	How are incoming inspection procedures documented and followed effectively ?						
3.7	Are there the procedures to make disposition on defective material and store it effectively ?						
3.8	Is there an effective supplier certification program and is it verified ?						

RATING SHEET FOR SELF ASSESSMENT AND QUALITY SYSTEM AUDIT

4. Manufacturing		Rating					
Item No.	Description	No System	Significant Deficiency	Need Improvement	Satisfactory	Outstanding	Score
		0	1	2	3	4	
4.1	Is there a manufacturing flow chart which defines the flow from assembly until packaging the product including inspection control ?						
4.2	Are Process Capabilities studied and maintained on all critical processes ?						
4.3	Are there process inspections activities, test operations that are specified / performed properly ?						
4.4	Is the inspection result used for preventive and corrective action ? How well is it used ?						
4.5	Is there housekeeping activity and it is followed continuously ?						
4.6	Are the material in process/storage identified and controlled ?						

RATING SHEET FOR SELF ASSESSMENT AND QUALITY SYSTEM AUDIT

5. Final Inspection Gate		Rating					Score
Item No.	Description	No System	Significant Deficiency	Need Improvement	Satisfactory	Outstanding	
		0	1	2	3	4	
5.1	Are SPC techniques used to indicate product acceptability conforming to spec ?						
	Are final product inspection procedure documented/followed ?						
5.3	Are there the procedures for packaging and shipment ?						
5.4	Are final inspection results used to make disposition to the products ? How well is it documented, maintained ?						
5.5	Are inspectors trained in according to procedure or job instruction to ensure their skills ?						
	How the facilities and equipments maintained properly ?						

RATING SHEET FOR SELF ASSESSMENT AND QUALITY SYSTEM AUDIT

6. Statistical Technique		Rating					Score
Item No	Description	No System	Significant Deficiency	Need Improvement	Satisfactory	Outstanding	
		0	1	2	3	4	
6.1	To what extent is Statistical technique applied for your manufacturing ?						
6.2	To what extent is SPC implemented for all processes ?						
6.3	Are operators trained the use of Statistical techniques and apply properly ?						
6.4	Are charts implemented properly and use to monitor the processes continuously ?						

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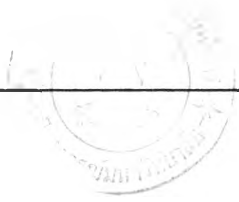
RATING SHEET FOR SELF ASSESSMENT AND QUALITY SYSTEM AUDIT

7. Calibration		Rating					
Item No.	Description	No System	Significant Deficiency	Need Improvement	Satisfactory	Outstanding	Score
		0	1	2	3	4	
7.1	Are there calibration and maintenance adequately ?						
-	Are calibration and maintenance's program planned and documented ?						
7.3	Are tools & equipment that use for inspection, qualified ? and also pass international standard ?						
7.4	How well are records kept, detail show the tools that are used to calibrate the equipment ?						
7.5	Are personnel who perform calibration / maintenance trained and qualified ?						

Section 2 : Quality System Evaluation

QUALITY SYSTEM EVALUATION RESULT

Supplier B		Rating					Weight	Total
Date	Feb 13,98	No System	Significant Deficiency	Need Improvement	Satisfactory	Outstanding		
		0-20	21-40	41-70	71-85	86-100		
Sub System								
1.	Management & Personnel System				79.20 %		0.20	15.84
2.	Documentation				85.70 %		0.10	8.57
3.	Procurement				75.00 %		0.10	7.50
4.	Manufacturing and Material Control				79.20 %		0.20	15.84
5.	Final Acceptance				83.33 %		0.10	8.33
6.	Statiscal Method		31.25 %				0.20	6.25
7.	Calibration					95.00%	0.10	9.50
Previous Score :					Score for this Year :		71.83	
Comment : <i>Conditional Approval.</i>								
Auditor's Team Signature :		<i>Panisil T. 02/13</i> QA Engineer <i>Prasith 02-13</i> Product Engineer <i>3/ 02/13</i> Purchaser(Buyer)						
1) 0-20 No System		3) 41-70 Need Improvement			5) 86-100 Outstanding			
2) 21-40 Significant Deficiency		4) 71-85 Satisfactory						



Section 2 : Quality System Evaluation

QUALITY SYSTEM EVALUATION RESULT

Supplier		Rating					Weight	Total
Date	March 24,98	No System	Significant Deficiency	Need Improvement	Satisfactory	Outstanding		
		0-20	21-40	41-70	71-85	86-100		
Sub System								
1.	Management & Personnel System				75.00%		0.20	15.00
2.	Documentation				75.00%		0.10	7.50
3.	Procurement				75.00%		0.10	7.50
4.	Manufacturing and Material Control				71.00%		0.20	14.20
5.	Final Acceptance				71.00%		0.10	7.10
6.	Statistical Method			50.00%			0.20	10.00
7.	Calibration				75.00%		0.10	7.50
Previous Score :					Score for this Year :		68.80	

Comment : *Conditional Approval*

Auditor's Team Signature : *Prasid T. 23/03/24* QA Engineer
Prasath 21-03-24 Product Engineer
S/K 28/03/24 Purchaser(Buyer)

- 1) 0-20 No System
- 2) 21-40 Significant Deficiency
- 3) 41-70 Need Improvement
- 4) 71-85 Satisfactory
- 5) 86-100 Outstanding

Section 2 : Quality System Evaluation

QUALITY SYSTEM EVALUATION RESULT

Supplier		Rating					Weight	Total
Date	March 11,98	No System	Significant Deficiency	Need Improvement	Satisfactory	Outstanding		
		0-20	21-40	41-70	71-85	86-100		
Sub System:								
1.	Management & Personnel System				75.00%		0.20 15.00%	
2.	Documentation				75.00%		0.10 7.50%	
3.	Procurement:			65.63%			0.10 6.56%	
4.	Manufacturing and Material Control				71.00%		0.20 15.00%	
5.	Final Acceptance				71.00%		0.10 6.67%	
6.	Statiscal Method			50.00%			0.20 12.50%	
7.	Calibration					80.00%	0.10 8.00%	
Previous Score :					Score for this Year :		71.23%	
Comment : <i>Conditional Approval</i>								
Auditor's Team Signature :		<i>Paisit T. 08/03/13</i> QA Engineer <i>Prasith 98-02-13</i> Product Engineer <i>3/ 98/02/13</i> Purchaser(Buyer)						
1) 0-20 No System		3) 41-70 Need Improvement		5) 86-100 Outstanding				
2) 21-40 Significant Deficiency		(4) 71-85 Satisfactory						

Section 2 : Quality System Evaluation

QUALITY SYSTEM EVALUATION RESULT

Supplier	E	Rating					Weight	Total
Date	Feb 27, 98	No System	Significant Deficiency	Need Improvement	Satisfactory	Outstanding		
		0-20	21-40	41-70	71-85	86-100		
Sub System								
1.	Management & Personnel System				83.33%		0.20	16.67
2.	Documentation				82.14 %		0.10	8.21
3.	Procurement					87.50%	0.10	8.75
4.	Manufacturing and Material Control					91.67%	0.20	18.33
5.	Final Acceptance				79.16%		0.10	7.92
6.	Statiscal Method				75.00%		0.20	15.00
7.	Calibration				80 %		0.10	8.00
Previous Score :							Score for this Year :	82.88

Comment : Conditional Approval.

Auditor's Team Signature :

Paul T 03/02/98 QA Engineer
Proctor 98-0227 Product Engineer
OK 98/02/27 Purchaser (Buyer)

- 1) 0-20 No System
- 2) 21-40 Significant Deficiency
- 3) 41-70 Need Improvement
- 4) 71-85 Satisfactory
- 5) 86-100 Outstanding

Section 2 : Quality System Evaluation

QUALITY SYSTEM EVALUATION RESULT

Supplier		Rating					Weight	Total
Date	Sub System	No System	Significant Deficiency	Need Improvement	Satisfactory	Outstanding		
Sep 14 ,1998		0-20	21-40	41-70	71-85	86-100		
1.	Management & Personnel System					95.83 %	0.20	19.17
2.	Documentation					96.43 %	0.10	9.64
3.	Procurement					90.63%	0.10	9.06
4.	Manufacturing and Material Control					87.50 % ;	0.20	17.50
5.	Final Acceptance					91.67 %	0.10	9.17
6.	Statiscal Method					75 %	0.20	15.00
7.	Calibration					100 %	0.10	10.00
Previous Score :						Score for this Year :		89.54
Comment : Conditional Approval								
Auditor's Team Signature :		Paisit 04/09/17 QA Engineer Pimrit 28-09-17 Product Engineer OK 28/09/17 Purchaser(Buyer)						
1) 0-20 No System			3) 41-70 Need Improvement			5) 86-100 Outstanding		
2) 21-40 Significant Deficiency			4) 71-85 Satisfactory					

APPENDIX V
Supplier Periodic Evaluation Result (Time Frame Jul - Sep)



QUARTER SUPPLIER PERFORMANCE RANKING REPORT

Supplier Name : **Supplier B**

Product : Wire

Time Frame : From JUL To SEP

Quality Factors	Actual Data	Weight FULL SCORE	Score
1)LAR(Lot Acceptance Rate)	100%	15	15
2)Defect Per Million (DPM)	0 ppm	15	15
3)Production Complaint (Line Feed Back) and Customer Complaint	0 issue	15	15
4)Responsiveness & Effectiveness Of Corrective Action Report	-	15	15
5)Ship To Stock Program	-	10	5
6)SPC Utilization	-	10	0
<i>Total score of product quality score</i>		80	65

Average Score Of This Period : 57

Recommendation :

Hitachi Bangkok Cable supplier has the good performance in almost quality factors which Mx Thailand expects. SPC utilization in your manufacturing is our requirement that we expect from you. We can support you in term of technical, study even implementation if you wish. We are appreciate if you advise us on your SPC implementation plan.



QUARTER SUPPLIER PERFORMANCE RANKING REPORT

PRODUCT : WIRE & CABLE							
SUPPLIER	Quality Factors	Full Score	Actual Data	Rating CY 1998		Rating CY 1999	
				July - Sep	Oct - Dec	Jan - Mar	Apr - Jun
A:	1. Lot Acceptance Rate(LAR)	15	100 %	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	0 issue	15			
	4. Responsiveness	10	-	15			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	10			
	Total Product Quality Score	80		73.3			
Supplier B	1. Lot Acceptance Rate(LAR)	15	100%	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	0 issue	15			
	4. Responsiveness	10	-	15			
	5. Ship To Stock Program	10	-	5			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80		65			
C:	1. Lot Acceptance Rate(LAR)	15	97.73%	10			
	2. Defect Per Million	15	9,906 ppm	13			
	3. Material Quality Problem	15	1 issue	10			
	4. Responsiveness	10	-	7.5			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	10			
	Total Product Quality Score	80		53.83			
D:	1. Lot Acceptance Rate(LAR)	15	94.74 %	7			
	2. Defect Per Million	15	10,818 ppm	13			
	3. Material Quality Problem	15	0 issue	15			
	4. Responsiveness	10	-	15			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80		53.3			



QUARTER SUPPLIER PERFORMANCE RANKING REPORT

SUPPLIER	Quality Factors	FULL SCORE	Actual Data	Rating CY 1998		Rating CY 1999	
				July - Sep	Oct - Dec	Jan - Mar	Apr - Jun
E:	1. Lot Acceptance Rate(LAR)	15	100%	15			
	2. Defect Per Million	15	0	15			
	3. Material Quality Problem	15	1	10			
	4. Responsiveness	10	-	7.5			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80		50.83			
F:	1. Lot Acceptance Rate(LAR)	15	100%	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	2 issues	5			
	4. Responsiveness	10	-	7.5			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80		45.8			

- Score 75-80 : Excellent level
- Score 60-74 : Satisfactory level
- Score 45-59 : Need Improvement Plan on the weakpoint item
- Score Less than 45 : Disqualification

- ABOVE IS THE PERFORMANCE RATING OF SUPPLIERS WHO SUPPLY TO MOLEX THAILAND

- YOU ARE SUPPLIER WHO OBTAINS SCORE 65
LEVEL B (Satisfactory)

NOT REQUIRED (CORRECTIVE ACTION / IMPROVEMENT)

REQUIRED (CORRECTIVE ACTION/IMPROVEMENT) PLEASE ADVISE YOUR IMPROVEMENT PROJECT PROGRAM, NEED CORRECTIVE ACTION WITHIN 21 DAYS

PREPARED BY *Ram T*
REVIEWED BY *[Signature]*

QA Engineer (SMT Representative) DATE *9/10/97*
QA Manager DATE *9/10/97*



QUARTER SUPPLIER PERFORMANCE RANKING REPORT

Supplier Name : **Supplier F**

Product : Wire

Time Frame : From JUL To SEP

Quality Factors	Actual Data	Weight FULL SCORE	Score
1)LAR(Lot Acceptance Rate)	97.73%	15	10
2)Defect Per Million (DPM)	9.906 ppm	15	13
3)Production Complaint (Line Feed Back) and Customer Complaint	1 issue	15	10
4)Responsiveness & Effectiveness Of Corrective Action Report	-	15	7.5
5)Ship To Stock Program	-	3.3	3.3
6)SPC Utilization	-	10	10
<i>Total score of product quality score</i>		80%	53.80%

Average Score Of This Period : 57

Recommendation :

Pan International Wire & Cable supplier has supplied 44 lots over the last three months. One of them was rejected because of outer diameter of insulator. This case impacted to LAR and DPM score. Another one lot was rejected by our production line because of color error. This also impacted to material quality problem score. However, you met our SPC utilization requirement. We would like you to maintain this implementation. We can support you for this SPC, if you want. We would suggest you that SPC should also be implemented to control outer diameter of insulator .

According to total product quality score 53.80 during Jul-Aug period, we would like you to provide us the improvement plan to reduce the quality problems as mentioned above within 21 days after receiving this report.



QUARTER SUPPLIER PERFORMANCE RANKING REPORT

PRODUCT : WIRE & CABLE							
SUPPLIER	Quality Factors	Full Score	Actual Data	Rating CY 1998		Rating CY 1999	
				July -Sep	Oct-Dec	Jan - Mar	Apr - Jun
A:	1.Lot Acceptance Rate(LAR)	15	100 %	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	0 issue	15			
	4. Responsiveness	10	-	15			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	10			
	Total Product Quality Score	80			73.3		
B:	1.Lot Acceptance Rate(LAR)	15	100%	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	0 issue	15			
	4. Responsiveness	10	-	15			
	5. Ship To Stock Program	10	-	5			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80			65		
Supplier F	1.Lot Acceptance Rate(LAR)	15	97.73%	10			
	2. Defect Per Million	15	9.906 ppm	13			
	3. Material Quality Problem	15	1 issue	10			
	4. Responsiveness	10	-	7.5			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	10			
	Total Product Quality Score	80			53.83		
D:	1.Lot Acceptance Rate(LAR)	15	94.74%	7			
	2. Defect Per Million	15	10.818 ppm	13			
	3. Material Quality Problem	15	0 issue	15			
	4. Responsiveness	10	-	15			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80			53.30		



QUARTER SUPPLIER PERFORMANCE RANKING REPORT

SUPPLIER	Quality Factors	FULL SCORE	Actual Data	Rating CY 1998		Rating CY 1999	
				July - Sep	Oct - Dec	Jan-Mar	Apr - Jun
E:							
	1. Lot Acceptance Rate(LAR)	15	100%	15			
	2. Defect Per Million	15	0	15			
	3. Material Quality Problem	15	1	10			
	4. Responsiveness	10	-	7.5			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	0			
Total Product Quality Score	80			50.83			
F:							
	1. Lot Acceptance Rate(LAR)	15	100%	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	2 issues	5			
	4. Responsiveness	10	-	7.5			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	0			
Total Product Quality Score	80			45.8			

- Score 75-80 : Excellent level
- Score 60-74 : Satisfactory level
- Score 45-59 : Need Improvement Plan on the weakpoint item
- Score less than 45 : Disqualification

- ABOVE IS THE PERFORMANCE RATING OF SUPPLIERS WHO SUPPLY TO MOLEX THAILAND

- YOU ARE SUPPLIER WHO OBTAINS SCORE 53.83
LEVEL C (Need Improvement Plan)

NOT REQUIRED (CORRECTIVE ACTION IMPROVEMENT)

REQUIRED (CORRECTIVE ACTION/IMPROVEMENT) PLEASE ADVISE YOUR IMPROVEMENT PROJECT/ PROGRAM. NEED CORRECTIVE ACTION WITHIN 21 DAYS

PREPARED BY *Perant J.* QA Engineer (SMT Representative) DATE *18/10/07*

REVIEWED BY *[Signature]* QA Manager DATE *28 Oct 07*



QUARTER SUPPLIER PERFORMANCE RANKING REPORT

Supplier Name : **Supplier E**

Product : Wire & Shrinkable Tube

Time Frame : From JUL To SEP

Quality Factors	Actual Data	Weight <small>FULL SCORE</small>	Score
1) LAR (Lot Acceptance Rate)	94.74 %	15	7
2) Defect Per Million (DPM)	10.818ppm	15	13
3) Production Complaint (Line Feed Back) and Customer Complaint	0 issue	15	15
4) Responsiveness & Effectiveness Of Corrective Action Report	-	15	15
5) Ship To Stock Program	-	10	3.3
6) SPC Utilization	-	10	0
<i>Total score of product quality score</i>		80%	53.30%

Average Score Of This Period : 57

Recommendation :

Sumitomo Electrics Company has supplied 19 lots over last three months. One of them was rejected because of wrong color. This case impacted to LAR and DPM score. However, you responded this quality issue in time by replacement.

We suggest that you should improve your performance in term of SPC implementation that we can provide our best support to you. According to total product quality score 53.30% we would like you to provide implementation plan on SPC utilization. Please advise your implementation plan within 21 days after receiving this report.


QUARTER SUPPLIER PERFORMANCE RANKING REPORT
PRODUCT : WIRE & SHRINKABLE TUBE

SUPPLIER	Quality Factors	Full Score	Actual Data	Rating CY 1998		Rating CY 1999	
				July -Sep	Oct - Dec	Jan - Mar	Apr -Jun
A:	1. Lot Acceptance Rate(LAR)	15	100 %	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	0 issue	15			
	4. Responsiveness	10	-	15			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	10			
	Total Product Quality Score	80		73.3			
B:	1. Lot Acceptance Rate(LAR)	15	100%	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	0 issue	15			
	4. Responsiveness	10	-	15			
	5. Ship To Stock Program	10	-	5			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80		65			
C:	1. Lot Acceptance Rate(LAR)	15	97.73%	10			
	2. Defect Per Million	15	9,906 ppm	13			
	3. Material Quality Problem	15	1 issue	10			
	4. Responsiveness	10	-	7.5			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	10			
	Total Product Quality Score	80		53.83			
Supplier E	1. Lot Acceptance Rate(LAR)	15	94.74 %	7			
	2. Defect Per Million	15	10,818 ppm	13			
	3. Material Quality Problem	15	0 issue	15			
	4. Responsiveness	10	-	15			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80		53.30			



QUARTER SUPPLIER PERFORMANCE RANKING REPORT

SUPPLIER	Quality Factors	FULL SCORE	Actual Data	Rating CY 1998		Rating CY 1999	
				July - Sep	Oct - Dec	Jan - Mar	Apr - Jun
E:							
	1. Lot Acceptance Rate(LAR)	15	100%	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	1 issue	10			
	4. Responsiveness	10	-	7.5			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80		50.83			
F:							
	1. Lot Acceptance Rate(LAR)	15	100%	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	2 issues	5			
	4. Responsiveness	10	-	7.5			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80		45.8			

- Score 75-80 : Excellent level
- Score 60-74 : Satisfactory level
- Score 45-59 : Need Improvement Plan on the weakpoint item
- Score Less than 45 : Disqualification

- ABOVE IS THE PERFORMANCE RATING OF SUPPLIERS WHO SUPPLY TO MOLEX THAILAND

- YOU ARE SUPPLIER WHO OBTAINS SCORE 53.30
LEVEL D (Need Improvement Plan)

NOT REQUIRED (CORRECTIVE ACTION IMPROVEMENT)

REQUIRED (CORRECTIVE ACTION/IMPROVEMENT) PLEASE ADVISE YOUR IMPROVEMENT PROJECT/ PROGRAM. NEED CORRECTIVE ACTION WITHIN 21 DAYS

PREPARED BY *[Signature]* QA Engineer (SMT Representative) DATE *9/31/07*

REVIEWED BY *[Signature]* QA Manager DATE *9/30/07*



QUARTER SUPPLIER PERFORMANCE RANKING REPORT

Supplier Name : Supplier A

Product : Wire&Cable

Time Frame : From JUL To SEP

Quality Factors	Actual Data	Weight FULL SCORE	Score
1)LAR(Lot Acceptance Rate)	100%	15	15
2)Defect Per Million (DPM)	0 ppm	15	15
3)Production Complaint (Line Feed Back) and Customer Complaint	1 issue	15	10
4)Responsiveness & Effectiveness Of Corrective Action Report	-	15	7.5
5)Ship To Stock Program	-	10	3.33
6)SPC Utilization	-	10	0
<i>Total score of product quality score</i>		80%	50.83

Average Score Of This Period : 57

Recommendation :

Thai Wonderful Wire & Cable has supplied 126 over the last three months. One of them was rejected because of damaged insulator . this case found in the production line. Another quality factor that Molex Thailand expects . is SPC utilization in your process. We would suggest you to implement SPC in your process to control the critical parameter. Material audit should be done properly in order to inspect the condition of your product in your storage.

According to your total product quality score . we would like you to advise your improvement plan as mentioned above within 21 days after receiving this report.


QUARTER SUPPLIER PERFORMANCE RANKING REPORT
PRODUCT : WIRE & CABLE

SUPPLIER	Quality Factors	Full Score	Actual Data	Rating CY 1998		Rating CY 1999	
				July - Sep	Oct - Dec	Jan - Mar	Apr - Jun
A:	1. Lot Acceptance Rate(LAR)	15	100 %	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	0 issue	15			
	4. Responsiveness	10	-	15			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	10			
	Total Product Quality Score	80		73.3			
B:	1. Lot Acceptance Rate(LAR)	15	100%	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	0 issue	15			
	4. Responsiveness	10	-	15			
	5. Ship To Stock Program	10	-	5			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80		65			
C:	1. Lot Acceptance Rate(LAR)	15	97.73%	10			
	2. Defect Per Million	15	9,906 ppm	13			
	3. Material Quality Problem	15	1 issue	10			
	4. Responsiveness	10	-	7.5			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	10			
	Total Product Quality Score	80		53.83			
D:	1. Lot Acceptance Rate(LAR)	15	94.74%	7			
	2. Defect Per Million	15	10,818 ppm	13			
	3. Material Quality Problem	15	0 issue	15			
	4. Responsiveness	10	-	15			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80		53.30			



QUARTER SUPPLIER PERFORMANCE RANKING REPORT

SUPPLIER	Quality Factors	FULL SCORE	Actual Data	Rating CY 1998		Rating CY 1999	
				July - Sep	Oct - Dec	Jan - Mar	Apr - Jun
Supplier A	1. Lot Acceptance Rate(LAR)	15	100%	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	1 issue	10			
	4. Responsiveness	10	-	7.5			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80			50.83		
F:	1. Lot Acceptance Rate(LAR)	15	100%	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	2 issues	5			
	4. Responsiveness	10	-	7.5			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80			45.8		

- Score 75-80 : Excellent level
- Score 60-74 : Satisfactory level
- Score 45-59 : Need Improvement Plan on the weakpoint item
- Score Less than 45 : Disqualification

ABOVE IS THE PERFORMANCE RATING OF SUPPLIERS WHO SUPPLY TO MOLEX THAILAND

YOU ARE SUPPLIER WHO OBTAINS SCORE 50.83
LEVEL E (Need Improvement Plan)

NOT REQUIRED (CORRECTIVE ACTION /IMPROVEMENT)

REQUIRED (CORRECTIVE ACTION/IMPROVEMENT) PLEASE ADVISE YOUR IMPROVEMENT PROJECT/ PROGRAM, NEED CORRECTIVE ACTION WITHIN 21 DAYS

PREPARED BY *[Signature]* QA Engineer (SMT Representative) DATE 9/31/07

REVIEWED BY *[Signature]* QA Manager DATE *[Signature]*



QUARTER SUPPLIER PERFORMANCE RANKING REPORT

Supplier Name : **Supplier D**

Product : Wire & Cable

Time Frame : From JUL To SEP

Quality Factors	Actual data	Weight FULL SCORE	Score
1)LAR(Lot Acceptance Rate)	100%	15	15
2)Defect Per Million (DPM)	0 ppm	15	15
3)Production Complaint (Line Feed Back) and Customer Complaint	2 issues	15	5
4)Responsiveness & Effectiveness Of Corrective Action Report	-	15	7.5
5)Ship To Stock Program	-	10	3.3
6)SPC Utilization	-	10	0
<i>Total score of product quality score</i>		80	45.80

Average Score Of This Period : 57

Recommendation :

Furukawa Electrics Singanore company has supplied 120 lots over the last three months. Two of them were found to reject in the production line. damaged insulator and pitch to pitch of flat cable out of spec. These two case impacted to material quality problem score. Also, you have no SPC utilization on your process in which this quality factor is our requirement. According to total production quality score 45.80 , we would like you to advise your improvement plan to reduce your production quality problem including SPC implementation by 21 days after receiving this report.



QUARTER SUPPLIER PERFORMANCE RANKING REPORT

PRODUCT : WIRE & CABLE							
SUPPLIER	Quality Factors	Full Score	Actual Data	Rating CY 1998		Rating CY 1999	
				July - Sep	Oct - Dec	Jan - Mar	Apr - Jun
A:	1. Lot Acceptance Rate(LAR)	15	100 %	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	0 issue	15			
	4. Responsiveness	10	-	15			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	10			
	Total Product Quality Score	80		73.3			
	B:	1. Lot Acceptance Rate(LAR)	15	100%	15		
2. Defect Per Million		15	0 ppm	15			
3. Material Quality Problem		15	0 issue	15			
4. Responsiveness		10	-	15			
5. Ship To Stock Program		10	-	5			
6. SPC Utilization		10	-	0			
Total Product Quality Score		80		65			
C:		1. Lot Acceptance Rate(LAR)	15	97.73%	10		
	2. Defect Per Million	15	9,906 ppm	13			
	3. Material Quality Problem	15	1 issue	10			
	4. Responsiveness	10	-	7.5			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	10			
	Total Product Quality Score	80		53.83			
	D:	1. Lot Acceptance Rate(LAR)	15	94.74 %	7		
2. Defect Per Million		15	10,818 ppm	13			
3. Material Quality Problem		15	0 issue	15			
4. Responsiveness		10	-	15			
5. Ship To Stock Program		10	-	3.33			
6. SPC Utilization		10	-	0			
Total Product Quality Score		80		53.30			



QUARTER SUPPLIER PERFORMANCE RANKING REPORT

SUPPLIER	Quality Factors	FULL SCORE	Actual Data	Rating CY 1998		Rating CY 1999	
				July - Sep	Oct -Dec	Jan -Mar	Apr -Jun
E:							
	1. Lot Acceptance Rate(LAR)	15	100%	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	1 issue	10			
	4. Responsiveness	10	-	7.5			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80		50.83			
Supplier D							
	1. Lot Acceptance Rate(LAR)	15	100%	15			
	2. Defect Per Million	15	0 ppm	15			
	3. Material Quality Problem	15	2 issues	5			
	4. Responsiveness	10	-	7.5			
	5. Ship To Stock Program	10	-	3.33			
	6. SPC Utilization	10	-	0			
	Total Product Quality Score	80		45.8			

- Score 75-80 : Excellent level
- Score 60-74 Satisfactory level
- Score 45-59 Need Improvement Plan on the weakpoint item
- Score Less than 45 : Disqualification

- ABOVE IS THE PERFORMANCE RATING OF SUPPLIERS WHO SUPPLY TO MOLEX THAILAND

- YOU ARE SUPPLIER WHO OBTAINS SCORE 45.80
LEVEL: **F (Need Improvement Plan)**

NOT REQUIRED (CORRECTIVE ACTION /IMPROVEMENT)

REQUIRED (CORRECTIVE ACTION/IMPROVEMENT) PLEASE ADVISE YOUR IMPROVEMENT PROJECT/ PROGRAM, NEED CORRECTIVE ACTION WITHIN 21 DAYS

PREPARED BY *[Signature]* QA Engineer (SMT Representative) DATE 15/10/07

REVIEWED BY *[Signature]* QA Manager DATE 15/10/07

APPENDIX VI
Supplier F 's Corrective Action Report

		Material Quality Report			MGR No: 2219	
				Inspector: <i>SW</i>		Date: 98/09/17
Part No. 89880-0178	Supplier: Pan-Inter.	Qty Rec'd: 29146 MT. (33R)	Material Source			
Description: WIRE	Inv No: 11893	Qty Insp: -	<input type="checkbox"/> Vendor			
Date Rec'd: 98/07/20	P/O No: 72916	Qty Acc: -	<input checked="" type="checkbox"/> Stock Purge			
Date Insp: 98/07/26	AQL 0.1	Acc: -	Rej: 1	Qty Rej: 700 MT. (1R)	<input checked="" type="checkbox"/> Line Purge	
Item	Specified Characteristics	Actual Characteristics	QTY	Unit	For Sketch or Sample	
	DIMENSION	OD. OUT SPEC	700	MT.	A sample shown in the plastic bag. Comment: This wire is used for filter and Hips product. From the assembled part, the wire size is quite different from the others (normal) therefore propose to scrap this rel.	
	WIRE	MFG. DATE: 1998 JUL				
	1007# 18 STR REP	ACTUAL				
	SPEC OD = 2.10 +/- 0.10	1) 2.56				
		2) 2.58				
		3) 2.54				
		4) 2.60				
		5) 2.57				
		Purge stock - Refer to MGR 980917				
QA Supervisor Date: <i>AMPAI H. 98/9/17</i>		For Material Review Board Disposition Only				
Authorized Signature: <i>[Signature]</i>		Comments: <i>[Signature]</i>		Disposition Code		
<input checked="" type="checkbox"/> QA Mgr Date: <i>[Signature]</i>		1. Use As is. 2. MTH. Rework - Supplier Expense 3. MTH. Rework - MTH. Expense 4. Scrap - Supplier Expense 5. Scrap - MTH. Expense 6. Replacement 7. RTV.				
<input type="checkbox"/> Prod. Mgr Date: N/A						
<input type="checkbox"/> Eng. Sec. Chief Date: N/A						
<input checked="" type="checkbox"/> Mat'l Mgr Date: <i>[Signature]</i>		Action	<input type="checkbox"/> Sorting	<input type="checkbox"/> Rework	Name	Date
<input type="checkbox"/> General Mgr Date: N/A		Sorted/Rework By				
		QTY Acc.				
		QTY Rej.				
Supplier Corrective Action						
<input type="checkbox"/> This is an alert-corrective action report not required.						
<input checked="" type="checkbox"/> Corrective action report required within fifteen (15) days.						

FDR #:

MOLEX RFD CORRECTIVE ACTION

TPS#	Concern Title	Date	Champion
------	---------------	------	----------

-	UL 1007 18AWG (STR)	9/10/98	Lake - QA
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D-2 Concern Description	Mfg. Loc.	D-1 Team members
- OUTER DIAMETER (O.D.) out of specification	Customer Place	LEONG - ASST. PROD. MANAGER POO - PRODUCTION OFFICER NG - ENGINEERING OFFICER GOOI - QA ASST. ENGINEER

D-3 Interim (Containment) Actions

- CHECK THE SOURCE WIRE AT THE FINISHED GOOD STORE. THERE ARE FEW ROLLS LEFT. THE PRODUCTION DATE ON SEPTEMBER, AND ALL THE RESULT OF INSULATION O.D. IS IN SPECIFICATION.

D-4 Root Cause(s)	% Contribution
- DUE TO THE BEGINNING OF THE PRODUCTION OR CHANGE OF THE CONDUCTOR BOBBIN, THE INSULATION O.D. MAY NOT CONSTANT AND THE AFFECTED PART WAS NOT TAKEN OUT.	100%

D-5 Corrective Action	Date	% Eff.
DURING BEGINNING OF PRODUCTION, AFFECTED PARTS SHALL BE SCRAP AWAY BEFORE USE AS PRODUCT. PRODUCTION OPERATOR CHECK THE FIRST ROLL OF WIRE WHEN CHANGED OF BOBBIN OR BEGINNING OF THE PRODUCTION. QC TO CONFIRM THE WIRE O.D. WHILE AT IPQC AND OQC.	9/10/98	100%

D-6 Implementation of Permanent Corrective Actions	Eff. Date
- PRODUCTION SUPERVISOR INFORM ALL THE OPERATOR TO SCRAP AFFECTED PARTS WHEN RUN ON BEGINNING OF THE PRODUCTION AND CONFIRM WITH THE QC.	Mfg. 10/10/98
- IPQC & OQC FOR INSPECTION CONFIRMATION	Shipping N/A

D-7 Actions to Prevent Recurrence

- THIS PROCEDURE HAS BEEN ADD IN WORK INSTRUCTION FOR EXTRUSION SECTION.

- IPQC KEEP MONITORING THE O.D. UNTIL THE PROBLEM IS TOTALLY SOLVE.

- IMPLEMENTING THE CONTROL CHART TO CONTROL THE WIRE UP

Reported by: [Signature]	Last Chg. Date: D-8	Congratulatory
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QSP-G004.REV.A

CORRECTIVE ACTION RECEIVED

DATE: 9/10/98

REVIEWED BY: [Signature]

APPROVED BY: [Signature]

APPENDIX VII
Master Table For Single Sampling Plan Inspection MIL STD 105E

Sample size code letter	Sample size	Acceptable Quality Levels (reduced inspection)																																						
		0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000													
		Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re											
A	2	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	1	2	2	3	3	4	5	6	7	8	10	11	14	15	21	22	30	31			
B	2	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	2	4	3	5	5	6	7	8	10	11	14	15	21	22	30	31	
C	2	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑
D	3	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑
E	5	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑
F	8	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑
G	13	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑
H	20	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑
I	32	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑
J	32	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑
K	50	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑
L	80	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑
M	125	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑
N	200	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑
O	315	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑
P	500	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑
Q	500	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑
R	800	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	↓	↑	0	1	↓	↑	0	2	1	3	1	4	2	5	3	6	5	8	7	10	10	13	14	17	21	24	↑

- ⊕ = Use first sampling plan below arrow - If sample size equals or exceeds lot or batch size, do 100 percent inspection.
- ⊖ = Use first sampling plan above arrow.
- Ac = Acceptance number.
- Re = Rejection number.
- ↑ = If the acceptance number has been exceeded, but the rejection number has not been reached, accept the lot, but institute normal inspection.

Table II: Mater table for reduced inspection - single sampling (MIL STD 105 E)

Appendix VIII
Skip Lot Program for IQC inspection
(The old revision in 1994 before supplier quality implementation)

Molex (Thailand) Limited

WORK INSTRUCTION

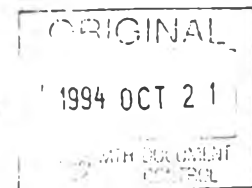
TITLE :

การ Skip Lot ของการตรวจสอบสินค้าเข้าและการตรวจสอบขั้นสุดท้าย
(Skip Lot Program of IQC Inspection and Final Inspection)

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REF.	THQA-0012
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๑. งานที่สามารถ Skip Lot ได้ ต้องเป็นงานที่ผลการตรวจสอบ Accept ติดต่อกัน 4 Lot.
(Which part no as can follow skip lot program. must have inspection result accept 4 consecutive lots.)
๒. งานใน Lot ที่ 5 (หลังจาก Accept ติดต่อกัน 4 Lot) ต้องผ่านการตรวจสอบ หากผลการตรวจสอบ Accept จะทำการ Skip Lot งานนั้น 3 Lot และตรวจสอบ 1 Lot สลับกันไป แต่หากผลการตรวจสอบของ Lot ที่ 5 Reject งาน Lot ต่อไป ต้องตรวจสอบจนกว่าจะ Accept ติดต่อกัน 4 Lot.
(In 5th lot (after inspection result accept 4 consecutive lots) must pass inspection. if result is accept we will to cycle skip lot 3 lot and inspect 1 lot but the result is reject we will inspect untill accept 4 consecutive lots.)
๓. หากได้รับรายงานปัญหาจากสายการผลิตว่ามีปัญหาจากวัตถุดิบ (สำหรับการตรวจสอบสินค้าเข้า) หรือ รายงานปัญหาจากลูกค้า (สำหรับการตรวจสอบขั้นสุดท้าย) ซึ่งเป็นงานที่ Skip Lot ให้ถือว่า Lot นั้นผลการตรวจสอบเป็น Reject บันทึกไว้ใน Vendor History Record หรือ Part History Record ซึ่งจะต้องตรวจสอบจนกว่าจะ Accept ติดต่อกัน 4 Lot จึงเข้าสู่การ Skip Lot อีกครั้ง
(If we get Line Feed Back (IQC Inspection) or Customer feed back (Final Inspection) as skip lot so we change their result to rejected lot and must record in Vendor History Record or part History Record. We must inspec the part untill accept 4 consecutive lots then bring to skip lot program again.)

OBSOLETE
REFER TO:
1998 MAR ' 9



PREPARED BY	Name : Korapin N.	Sign : <i>Korapin N.</i>	Date : 94 Oct 17
APPROVED BY	Name : Torsak P.	Sign : <i>Torsak P.</i>	Date : 94 Oct 17

Molex (Thailand) Limited

WORK INSTRUCTION

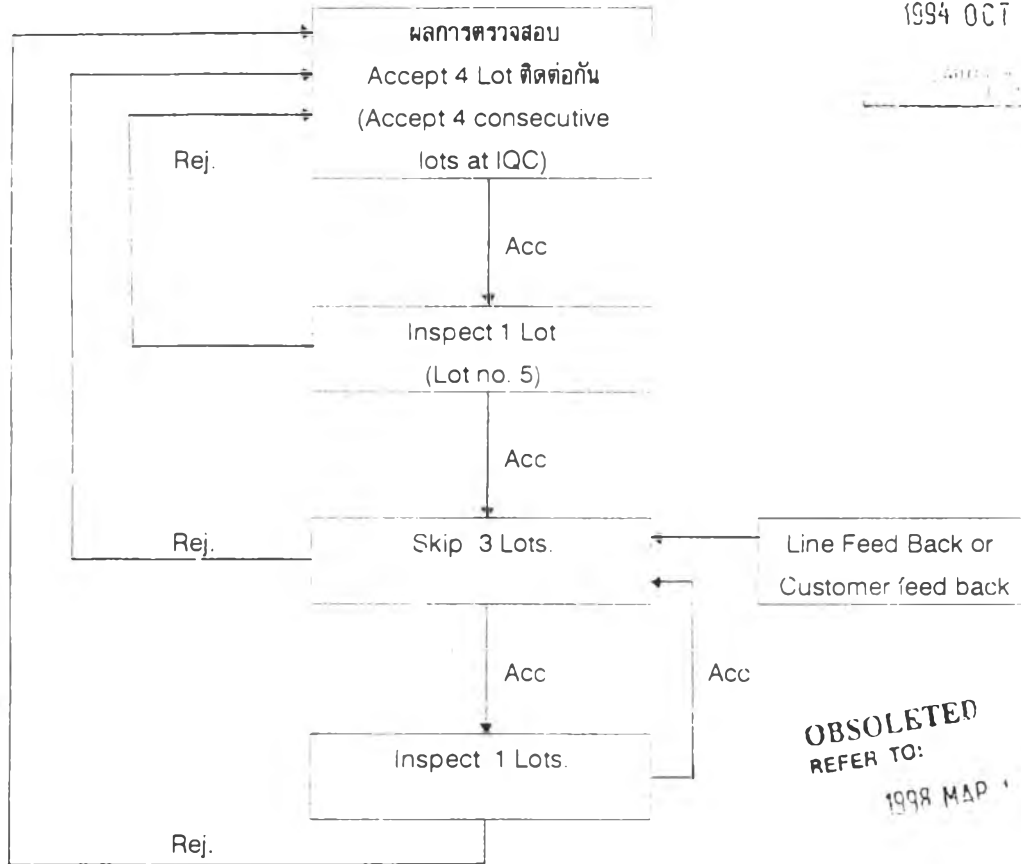
TITLE :

การ Skip Lot ของการตรวจสอบสินค้าเข้าและการตรวจสอบขั้นสุดท้าย
(Skip Lot Program of IQC Inspection and Final Inspection)

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๔. การ Skip Lot ของการตรวจสอบ สามารถเขียนเป็น Flow ได้ดังนี้

ORIGINAL
1994 OCT 21



OBSOLETE
REFER TO:
1998 MAR ' 9

Skip Lot Program

PREPARED BY	Name : Korapin N.	Sign : <i>Korapin N.</i>	Date : ๑๕ Oct ๙๗
APPROVED BY	Name : Torsak P.	Sign : <i>Torsak P.</i>	Date : ๑๕ Oct ๙๗

VITA

Paisit Tangkitsiri was born on March 28 th , 1972 at Ubolratchathanee. He has received a bachelor's degree in applied physics science from King Mongkut Institute Of Technology Ladkrabang. since the academic year 1995. Paisit has studied for the degree of master of engineering at the Regional Centre for Manufacturing Systems Engineering since 1996.