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EDUCATION

Telkom University – Bandung, Indonesia (2012-2017)

Bachelor Degree of Industrial Engineering, majoring Supply Chain and Management in final project.

EXPERIENCE

PT. Panarub Industry (2018 – Present)

Jr. Specialist - Quality System Support (2020)

- **Project Improvement**, lead the project for increasing quality improvement, create new digitalize system, Trial investment machine for increasing consistency process and reduce failure product, create new tooling for assurance the product, lead review first production meeting for new article.
- **Internal and External Audit**, audit internal process to make sure follow standard operation and create checklist and periodically audit subcontractor and suppliers.
- **Data Management**, preparing data to provide weekly meeting quality, production and Liaison Officer Brand including root cause analysis and method to solve the case and create PDCA if have any claim cases issues

Process Engineering (2018)

- **Solver Cases**, coordination with other department if have some obstacle during mass production and follow up cases if have concern from development stage.
- **First Production Conform**, conform all components match with manual book specification and follow sample product

Management Training Quality (2018)

- Learn end to end process stages with quality standard from development stage, commercialization stages, incoming material, material and finish goods warehouse, laboratory, mass production, final inspection and shipping process

LEADERSHIP

Supervisor Laboratory Central Finishing Goods Test (2019)

- Lead Team (15 persons) to control finish goods test follow adidas standard laboratory and make sure all test pass and coordination to other department if have some obstacle during laboratory result fail.

INTERNSHIP

PT Telekomunikasi Indonesia Tbk.

- **Human Capital Management (June 2014 - August 2014)**
Create digitalize decree, reporting decree, approving annual leave and organized internal event
- **Home Services Division (June 2015 - August 2015)**
Handling costumer complaint, updating spot site network coverage area and create strategy to increasing costumer

ADDITIONAL

Technical : Microsoft Office (advance), Adobe (Intermediate), SPSS (Intermediate),
Catia & Solid Works (Intermediate), Pro Model (Basic)

Language : English Conversation, Writing & Listening (Intermediate)

Certificate : 1. SAP – SCM 100 (Business Process Planning)
2. SAP – SCM 300 (Production Overview)
3. SAP – SCM 500 (Process in Procurement)
4. Presenter National Seminar Industrial Services 2017 at Sultan Agung Tirtayasa University

PROJECT LIST

DIGITALIZE BONDING TEST LABORATORY

Create new application web based for daily use for reporting and deliver real time report

AUTO TEMPERATURE CONTROL

Create new tools Arduino based to control surface temperature shoes during process at chamber machine

GTM MACHINE

Trial new supplier machine from GTM comparing with existing Press Universal machine

SMART LAST

Create new tools last with sensor to know actual surface pressure on the shoes for calibration press universal machine

HOURLY AUTO ALARM

Create new tools to remind operator to change the brush periodically

INCENTIVE QC & INSPECTOR

Create new incentive for QC & Inspector to increasing performance and achieve the target settings



Team Project :

Champions : Deputy Quality

Lead Project : M. Zuhdi (Specialist Quality)

User : Manager Quality Lab

Coach : Manager Quality

Core Team Member :

1. Manager Business Analyst
2. Manager Developer Apps
3. Specialist Developer Apps
4. Specialist Business Analyst

Status : **Implemented**

Background :

“Laboratory team must be provided result test lab ASAP to improve process during mass production. Thats why needed new system to increasing accuration and less lead time to distribution report. “

Problem Statement

1. Flow process of report distribution too long (distribution manual to every production cell)
2. Overload queue bonding test (± 50 specimens/day)

Objective

1. Quick distribution test report
2. Digitalize information report to production
3. Paperless report
4. Controllized real time report

Pros :

1. Real time distribution report test
2. Distribution report time (reduce : \$322,5 /month)
Before : 3 Hours for 50 Cell with 3 MP (manual display)
After : Real time distribution (upload report after test)
3. Paperless report (reduce : \$65 /month)
Before : A5 memo & A5 report /each cell (actual ytd dec'20 : 52 cell)
After : Paper less (reduce 52pcs A4 paper/ day)
4. Report posted at production line, free to access report data detail via internal apps system

ATTACHMENT

- DISPLAY

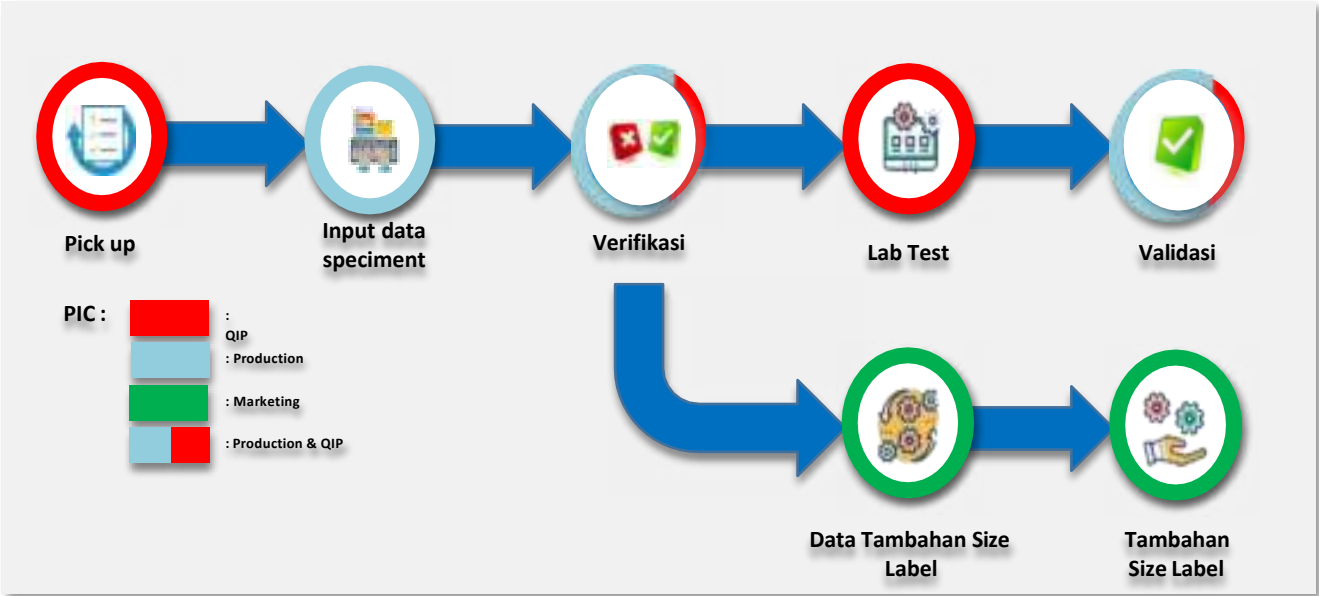
Before :



After :



- FLOW PROCESS



• BEFORE & AFTER PROCESS

NO	PROSES	DESKRIPSI		
		SEBELUM	SESUDAH	
1	Pickup	Pengambilan sepatu dari produksi oleh team QIP Laboratory	Pengambilan sepatu dari produksi oleh team QIP Laboratory	
2	Input Data Speciment	Membuat form keluar sepatu sebagai data untuk pembuatan tambahan size label dan komponen	Input detail sepatu yang sudah di pick-up ke system untuk data tambahan komponen dan size label (pengganti form keluar sepatu)	✔
3	Verifikasi	CTB Produksi : menandatangani form keluar sepatu untuk kebutuhan testing lab QIP Lab : mencocokkan kesesuaian sepatu dengan form keluar sepatu	CTB Produksi : melakukan approval by system bahwa sepatu diminta untuk kebutuhan testing lab QIP Lab : memastikan bahwa sepatu yang diterima sesuai dengan yang di input di system	✔
4	Lab Test	Pengetestan yang dilakukan oleh team QIP Laboratory dan print out report hasil lab test di kertas	Pengetestan yang dilakukan oleh team QIP Laboratory dan upload hasil report ke system	✔
5	Validasi	QIP Lab : tanda tangan print out hasil report bonding test SPV. Assembling : tanda tangan print out hasil report bonding test untuk memastikan bahwa produksi sudah melihat detail hasil test	QIP Lab : melakukan approval by system, hasil report tersimpan di system dan tervisualisasi di proqis SPV. Assembling : melakukan approval by system untuk memastikan bahwa team produksi sudah melihat detail hasil lab testing	✔
6	Data Tambahan Size Label	Melakukan pengumpulan bon tambahan size label yang diserahkan oleh team produksi dengan system FIFO	Export data excel list tambahan size label yang sudah diinput dan di validasi di system untuk dibuatkan temabahan size label	✔
7	Tambahan Size Label	Produksi mengambil tambahan size label ke ruangan tambahan size label	Hasil tambahan size label yang sudah di print dan dapat dilihat di system secara real time	✔

✔ : Covered by new system

✓ : Covered by new system



Team Project :

Champions : Deputy Quality
Lead Project : M. Zuhdi (Specialist Quality)
User : Deputy Production
Coach : Specialist Operation
Core Team Member :
1. Manager Engineering
2. Specialist Engineering
3. Specialist Quality

Status : Done

Background :

Indicator at our machine will be not representation the actual temperature on product surface. The gap between our setting machine and surface on product at range 15-25 Celcius depends on machine. Requirement adidas to submit project digitalize

Problem Statement

1. The gap temperature between setting machine and actual surface in product
2. Manual check temperature surface product and manual report by print out form

Investment :

Cost : 1 Set (Rp. 4.631.000)
Total Investment : Need 244 set for deployment all chamber machine
Rp. 5.486.000 x 52 : Rp. 307.216.000
*cost deployment 1 mini pc can provide 2-5 sensor

Objective

1. Paperless report temperature and digitalize history record report
2. Automation checking surface product temperature

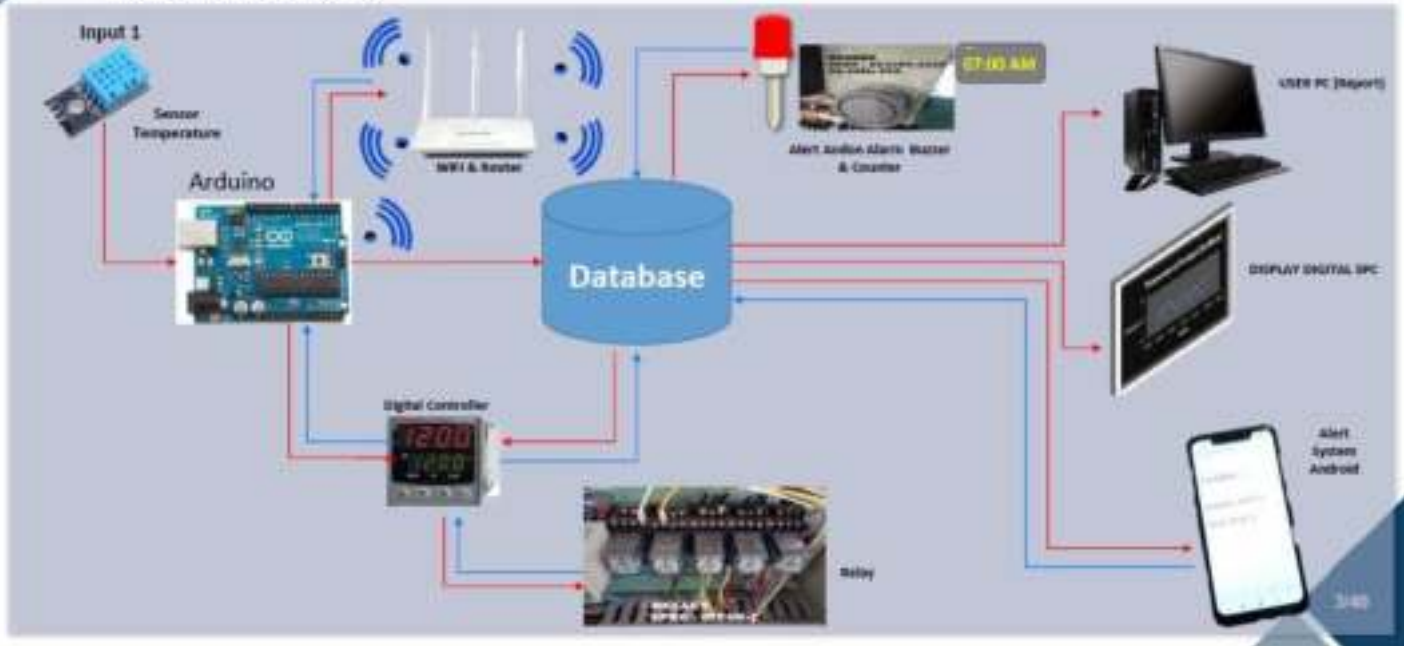
Summary :

1. P Value variance sample test chamber vs thermocouple data 0,848 ($>0,05$), it means no variance significance.
2. Checking temperature realtime and history report capture digitalize
3. Reduce 6 Man Power Quality Temperature Check
4. ROI : 11,9 Month

ATTACHMENT



AUTO TEMPERATURE CONTROL PROJECT FEATURES



REQUIREMENT PART & INVESTMENT

➤ Total Investment

Total investment non WiFi dan WiFi sensor temperature			
Non Wifi	Harga	Wifi	Harga
Kebutuhan :		Kebutuhan :	
1. Arduino Mega	Rp 110.000,00	1. Router WiFi	Rp 181.000,00
2. Sensor gerak	Rp 50.000,00	2. Mini PC	Rp 3.000.000,00
3. Sensor temperature	Rp 125.000,00	3. LED + Bracket	Rp 960.000,00
4. Rotary lamp	Rp 200.000,00	4. Wemos WiFi	Rp 110.000,00
5. Buzzer	Rp 5.000,00	5. Sensor gerak	Rp 50.000,00
6. LCD 20x4	Rp 80.000,00	6. Sensor temperature	Rp 125.000,00
7. SD Card 32GB	Rp 50.000,00	7. Rotary lamp	Rp 200.000,00
8. SD module	Rp 16.000,00	8. Buzzer	Rp 5.000,00
9. RTC	Rp 30.000,00	Total Kebutuhan	Rp 4.631.000,00
Total Kebutuhan	Rp 636.000,00		

AUTO TEMPERATURE CONTROL

TRIAL UPDATE



Differentiation between actual temperature (using thermocouple) vs sensor temperature.

Non permanent setting of chip sensor didn't set permanently that impact chip potentially loose

AUTO TEMPERATURE CONTROL

TRIAL UPDATE



Position of lasted upper unable to reach by sensor



There Is Shoes Inside Conveyor

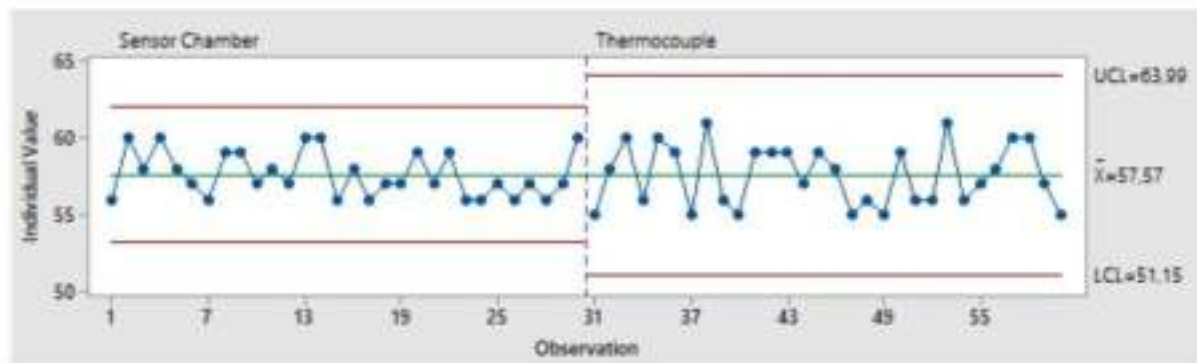


Difficult to change upper control limit & lower control limit range of temperature

AUTO TEMPERATURE CONTROL

DATA COLLECTION & ANALYSIS

Control chart shown that boundaries of temperature during certain timeline. It can be used for taking decision whenever temperature going to be abnormal based on SPC visualization.



Based on SPC, 1st Trial display both measurement from sensor chamber & thermocouple relatively same without any significant differentiation. Also there is no outlier or abnormalities found, which is means chamber temperature in control.

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AUTO TEMPERATURE CONTROL

DATA COLLECTION & ANALYSIS

Trial	Test	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Chamber Sensor	56	60	58	60	58	57	56	59	59	57	58	57	60	60	56	58	56	57	57	59	57	59	56	56	57	56	57	56	57	60
	Thermocouple	55	58	60	56	60	59	55	61	56	55	59	59	59	57	59	58	55	56	55	59	56	56	61	56	57	58	60	60	57	55
2	Chamber Sensor	56	60	59	56	59	57	59	57	57	60	57	58	56	58	56	58	59	59	58	58	57	57	56	58	57	60	60	56	57	58
	Thermocouple	56	60	57	59	55	58	55	59	59	59	60	56	56	59	57	59	59	61	59	60	57	61	60	61	55	56	61	60	58	61
3	Chamber Sensor	60	58	59	57	56	57	60	58	58	58	57	58	58	60	57	59	59	59	57	57	60	58	56	60	57	60	58	59	57	60
	Thermocouple	60	56	61	61	60	58	61	59	61	55	61	58	58	60	55	56	57	60	57	61	61	55	61	58	58	61	59	56	61	59
4	Chamber Sensor	56	56	60	60	56	59	58	60	58	60	59	56	58	60	60	59	56	58	57	60	59	60	57	60	60	57	57	56	56	56
	Thermocouple	57	60	60	59	60	56	60	58	57	55	59	59	55	57	61	56	61	55	61	60	60	60	58	58	56	57	59	61	56	59
5	Chamber Sensor	57	58	60	56	60	58	59	58	58	60	56	60	57	56	58	60	57	56	59	59	56	60	59	57	58	60	60	60	56	58
	Thermocouple	58	58	55	61	58	58	60	56	58	59	61	59	56	57	58	55	57	61	55	61	58	59	60	56	56	60	55	58	55	57

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Factor	1	0,067	0,06667	0,04	0,848
Error	58	103,667	1,78736		
Total	59	103,733			

Based on t - test [significance test], there is no significance difference between **Chamber Sensor** and **Thermocouple** measurement. It means both have same degree of measurement and valid to change thermocouple with sensor due to gain real time display temperature from Chamber (P Value > 0,05).



Press Universal

VS



GTM Machine

Team Project :

- Champions : Deputy Quality
Lead Project : M. Zuhdi (Specialist Quality)
User : Deputy Production
Coach : Manager Quality
Core Team Member :
1. Engineering Workshop
2. Specialist Quality

Status : **Done**

Background :

“Adidas shoes have guarantee for product until 2 years. the one of biggest problem at footwear manufacturing is bonding issue and also the highest return from costumer problem is cementation issue. Thats why we need to reduction bonding issue. But, bonding issue will become from man, machine and method aspect.”

Problem Statement

1. Bonding problem is major issue in shoes product
2. High cost of press universal machine

Objective

1. Reduction bonding issue at production line
2. Reduction cost of process

Investment

GTM Machine cost : **\$30.000 /unit**

Pros :

1. Reduce bonding lab test issue poor pressing **20%**
2. Cost savings **\$13.080 /year**
3. ROI : **2.3 years**

PRB – NON PRESSING PAD MACHINE

BEFORE – UNIVERSAL PRESS



TECHNOLOGY

- Hydraulic press
- Manual setting

ADDITIONAL TOOLS

- Pressing pad

ENERGY CONSUMPTION

\$ 125.06 / Month

DIMENSION

AFTER – GEL PRESSURE



TECHNOLOGY

- Gel press technology
- Digital control
- Air pressure press control

ADDITIONAL TOOLS

- Non pressing pad

ENERGY CONSUMPTION

- Low energy consumption
- \$ 2.36 / Month

DIMENSION

- Small dimension
- Flexible movement

GTM MACHINE

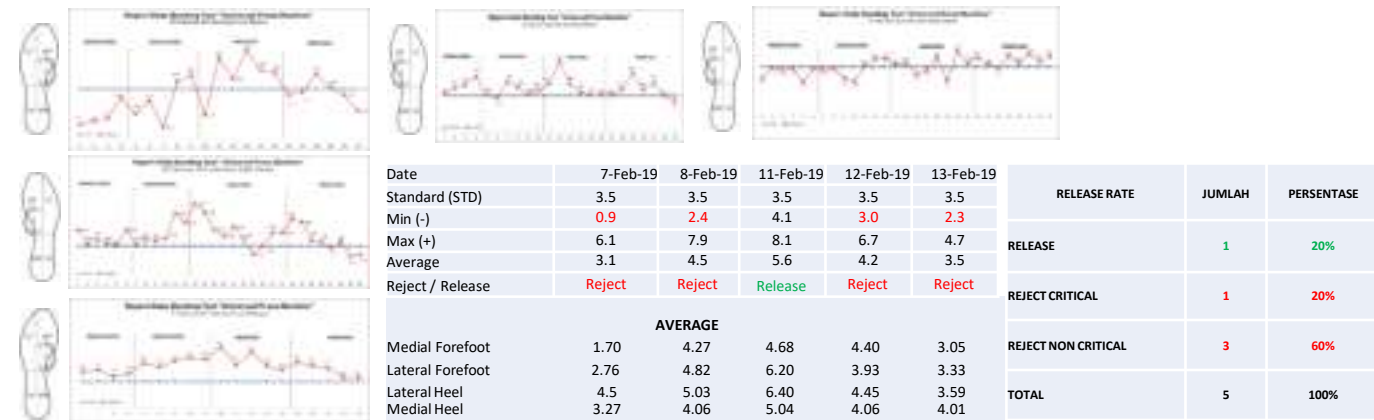


Benefit :

1. Increase **Bonding Performance 20%** in trial.
2. **Eliminate** Pressing pad Cost (**Zero Cost**)
3. Easy to operate
4. Increase **Speed** Operator
5. Eliminate **Setup** Machine.
6. **Efficiency Energy** Consumption USD. 122.70/Month
7. Efficiency Cost Storage & Handling Pressing Pad (**Zero Cost**)

Status : Trial

Universal Press Machine Daily Bonding (Analysis)



No.	Reject	QTY Reject									
		7-Feb-19	Point Reject	8-Feb-19	Point Reject	11-Feb-19	Point Reject	12-Feb-19	Point Reject	13-Feb-19	Point Reject
1	Delamination PU Coating	0	0	2	29, 30	0	0	0	0	13	1,2,4,5,6,7,8,9,10,16,17,19,24
2	Pressing (ASB)	10	1-7,10,20,21	1	27	0	0	1	6	1	3
3	Press Stockfit	0	0	0	0	0	0	1	23	0	0
4	Primer Rubber (ASB)	2	16,17	1	19	0	0	0	0	0	0
Status		Reject		Reject		Release		Reject		Reject	

Sample Test 2 Pairs

Daily Bonding Test



	Original		Football	Outdoor
Model			Untuk line Football tekanan Angin di building D hanya ± 3.5 Bar. Pressure standard dibutuhkan 6-7.9 bar Untuk model Football dan Outdoor resiko outsole stud & contour outsole bisa merusak kantong gel pressing machine. (sedang dilakukan pengecekan kerusakan mesin)	
	Swift Run	Alta	Predator 19.3	AX3
DD	Q4'18	W4 Feb'19	--	--
Status	 Done	 Done	Not Yet	Not Yet
%Bonding	20 %	30 %	--	--



Status : Done

*Not implemented as calibration cause issue durability

Team Project :

Champions : Deputy Quality
Lead Project : M. Zuhdi (Specialist Quality)
User : Deputy Production
Coach : Senior Specialist Operation
Core Team Member :
1. Manager Engineering
2. Specialist Engineering
3. Specialist Quality

Background :

Indicator at our machine will be not representation the actual pressure on product surface. The gap between our setting machine and pressure surface on product at range 5-10 Kg/cm² depends on machine. Requirement adidas to submit project digitalize

Problem Statement

1. The gap pressure between setting machine and actual surface pressure in product
2. Calibration pressure machine into surface only use carbon paper

Investment :

1. 1 set SPI sensor (Laptop + Apps + Hub + 30 Sensor) - \$8.700
2. 2pcs custom last - @\$20
3. Support Tools (Tape, Socks, Foam etc) - \$25

Total Investment : \$8.765 (Rp. 131.475.000)

*Loan after 3 month if not suitable can return back and get 60% cashback

Objective

1. Measure pressure machine press universal on surface
2. Calibration press universal machine
3. Score QTA Project adidas

Summary :

1. Press universal can be measuring by value and area press on surface product
2. Less of durability sensor, After trial process the sensor not suitable for measure this process.
3. Get score 8 from 10 QTA project (10 score if the project implemented)
4. Return to supplier SPI USA cause not suitable with durability and difference max limit value from apps and press universal setting machine

ATTACHMENT

SMART LAST SENSOR

3 PROSPECTIVE SUPPLIERS WERE CONTACTED WITH DETAILS SUMMARY

PARAMETERS			
Sensor type	Matrix	Tactile point	Tactile point
Sensor shape	Flat Sheet	Shoe last - sensor	Free form
Measurement location	Under press pad	Shoe last (inner shoes)	Shoe last (inner shoes)
Accuracy	Low - Med	Med	Med
Technical support	Local	Local	n.a (USA)
Lead Time	6 - 8 Weeks	10 - 14 Weeks	6 - 8 Weeks
Trial	Done at PRB	Done at PRB	On Progress at PRB
Price	\$ 34,000	\$ 5,000	\$ 8,700

SMART LAST SENSOR

FLOW PROCESS SENSOR LAST

- Sensor installation
- Trial & perform durability test

- Analyze the result
- Identify optimum pressure parameter



- Purchase
- Set up for sensor equipment

- Pilot implementation
- Get actual data from universal pressing machine

- Roll out result
- Calibrate universal press machine to follow new parameter

SMART LAST SENSOR MACHINE TRIAL



Pemasangan sensor di 8 titik



Pemasangan sensor di 8 titik + kaos kaki



Proses Trial

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SENSOR AND HUB CABLE



Sensor

Flexibility sensor was good, can attached in every surface. But, the switch area too sensitive will be terminated if getting press and we must make a fixed pit in our last to get more safety.



Hub Connector

The Hub was good easy to plug in but too easy to plug off. It will be concerned cause the hub will be detached if get a slight pull during the test. Size cable + guard too thick it will be make our no more space in our last if we needed adding more sensor

11

15

TRIAL DAY 1



Install 1 sensor in last, we put into toe area and make sure all cable safe.



Setting program for trial



Trial Process



Setting machine
4 MPa = 40 Bar
40 Bar = 40,7 Kg/Cm2



Result test
12,067 ± 2 Kg/Cm2



- As a function according to expectation we conversion from pressure machine into actual measuring pressure and digitalization.
- We can show more options visual actual documentation in windows options (2D view, 3D view, ISO Bar, Graph etc.)

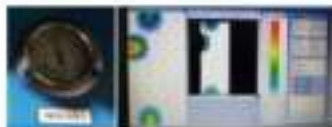


- Standard maximum 250 Psi into program will be our concern, cause we use setting machine until 569 Psi.

Trial Day 2

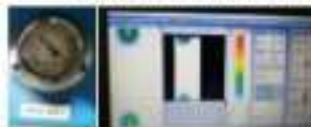


Install more 2 sensor in last, we put into toe, lateral and medial area.



3 location sensor, with Setting
Machine 40 Kg/Cm2

Result :
Toe : 9,277 ± 2 Kg/cm2
Medial : 15,201 ± 2 Kg/cm2
Heel : 11,702 ± 2 Kg/cm2



3 location sensor, with Setting
Machine 30 Kg/Cm2

Result :
Toe : 10,037 ± 2 Kg/cm2
Medial : Breakdown
Heel : 9,728 ± 2 Kg/cm2



3 location sensor, with Setting
Machine 20 Kg/Cm2

Result :
Toe : 9,389 ± 2 Kg/cm2
Medial : Breakdown
Heel : 12,544 ± 2 Kg/cm2



- We put more sensor and test 3 times every cycle and sensor consistency is good, not too much variant result.



- We test with 3 different pressure 40 kg/cm2, 30 kg/cm2, 20 kg/cm2 , not significant different result.
- Durability sensor, medial sensor area was broken during trial.

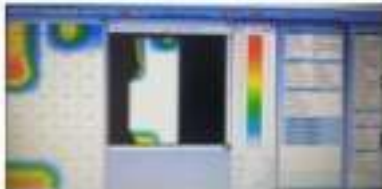
Trial Day 3 and Day 4



Create 8 Lane into our last for making more safety switch cable area during trial with 8 locations sensor, we cover with paper tape for hold the sensor and cable position and we also cover with socks to make more safety and looks good.



Trial Process



Pengetesan ke 2 di 7 titik.

- 5 titik area toe.
- 2 titik area heel
- Setting mesin 40 Kg/cm²

RESULT :

Area Toe

1. 11,531 ± 2 Kg/cm²

2. 11,166 ± 2 Kg/cm²

Limit → 3. 17,571 Kg/cm²

4. 12,235 ± 2 Kg/cm²

Point Critical → 3. 3,490 ± 2 Kg/cm²

Area Heel

1. 14,205 ± 2 Kg/cm²

2. 13,724 ± 2 Kg/cm²

3. Breakdown



- Critical point result will be our focus, about locations sensor can't get pressing well or there's area can't covering by our machine well.



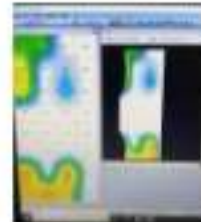
- Limit point, will be our concern cause we can't define point at number 3 area.
- Durability, we also have concern about durability even we had lane into our last, paper tape and socks not guarantee our sensor safe.

Trial Day 5



We change Paper Tape into Duct Tape to make more safety, and we adding more lane unit sensor, total 12 pcs and we trial still using socks with 40 kg/cm² or 569 Psi

Trial Result



Sensor Number

1. 3,799 ± 2 Kg/cm²

2. 2,883 ± 2 Kg/cm²

3. Not Press

4. 7,959 ± 2 Kg/cm²

5. 7,259 ± 2 Kg/cm²

6. 11,647 ± 2 Kg/cm²

7. 11,531 ± 2 Kg/cm²

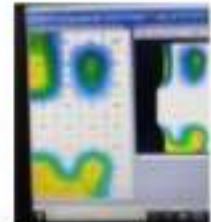
8. 13,669 ± 2 Kg/cm²

9. 11,282 ± 2 Kg/cm²

10. 15,527 ± 2 Kg/cm²

11. 10,707 ± 2 Kg/cm²

12. 16,450 ± 2 Kg/cm²



Sensor Number

1. 8,328 ± 2 Kg/cm²

2. 6,898 ± 2 Kg/cm²

3. Breakdown

4. Breakdown

5. 7,719 ± 2 Kg/cm²

6. 11,071 ± 2 Kg/cm²

7. 10,917 ± 2 Kg/cm²

8. 12,093 ± 2 Kg/cm²

9. 11,725 ± 2 Kg/cm²

10. 11,850 ± 2 Kg/cm²

11. 7,693 ± 2 Kg/cm²

12. 15,077 ± 2 Kg/cm²



- As a function according to expectation we have variant number in 12 to analyze distribution pressure machine



- Durability, duct tape is not replacing paper tape as well. Any suggest ?
- Durability, cable with guard not guarantee safety from pressure 569 Psi or 40kg / cm²



Team Project

Champions : Manager Quality System

Lead Project : M. Zuhdi (Specialist Quality)

User : Deputy Production

Core Team Member :

1. Manager Engineering
2. Specialist Engineering

Status : Implemented

Background :

“Production operator must to change the brush and cloth periodically to avoid re- work process cause tooling use not feasible. That’s why production line needed to remind every hour”

Problem Statement

1. Re-work process cause tooling use not feasible
2. Operator forgot to change brush periodically
3. Finding external audit manufacturing

Investment :

Tools :

1. Flash disk
2. Mp3 Player
3. Timer
4. Speaker Active 10 Inch

Cost : \$660,00 / set, need 5 set for deployment

Total Investment : \$3.300,00

Objective

1. Reduction re-work cleaning, priming and cementing process
2. No finding external audit manufacturing about miss color coding tooling use

Summary :

1. Reduce **2,43%** re-work process at pilot line 1 cell and projection for deployment will be reduce **26 min inspection/day/qc (cost : \$817,80/month)**
2. No finding issue external audit manufacturing will be impact into audit score factory **6 of 100 points.**
3. **ROI : 4, 04 month**