No.	Work Procedure/ Illustration	Records/Remarks/ Quality Pointers

1. Produce sample, prepare jig, instrument needed and identify confirmation points using Wire Confirmation Standard. — WI-PRO-CNC-005
2. Perform wire confirmation based on Wire Confirmation Method. — WI-PRO-CNC-006
3. Input the result of confirmation and data gathered on Develop Sheet for Crimp Data on monitor

3.1 Wire Crimp Height

△6 ◆ Wire Crimp height (mm)

Start				
Start				
Middle				
End				
End				
ΣX				
$\bar{X}$				
R				

- Start : Measure 2 samples and write data
- Middle : Measure 1 sample and write data
- End : Measure 2 samples and write data
- Summation: start + start + middle + end + end
- Average: Average of 5 samples' data
- Range: Difference between the Maximum and Minimum value

* After completing data of 5 samples, check the X chart if does not violate the control chart rules based on Figure 1.

3.2 Wire Crimp Width

Wire Crimp Width	Start	1.85	Measure 1 sample and input data

3.3 Bell-mouth

Bell -mouth	Start	O	Confirm bell-mouth of start and end sample, input O if crimped wire has bell-mouth and X if none
	End	O	

3.4 Insulation Crimp Height

Insulation Crimp Height	Start	3.03	Measure 1 sample at the start and input data
	End	3.03	Measure 1 sample at the end and input data

3.5 Insulation Crimp Width

Insulation Crimp Width	Start	1.80	Measure 1 sample at the start and input data
	End	1.80	Measure 1 sample at the end and input data

3.6 Core Wire

Core Wire	Start	0	Input the quantity of core wire scar, cut or pulling out.
	Start	0	Input 0 (zero) if core wires are OK/ Good, no scar, cut or pulling out.
	End	0	(Strip Length is written on daily report.)

3.7 Indentation Mark

Indentation Mark	Start	0	Confirm crimp wire if no grip mark
	Start	0	Put 0 if no indentation mark
	End	0	Put X if crimp wire have indentation mark

3.8 Crimp burr height

Crimp Burr Height	Start		Input data when there is instruction and / when there is no instruction.
	End		

3.9 Confirm PCB

Crimp Burr Height	Start		Input data when there is instruction and / when there is no instruction.
	End		

3.10 Confirm Curve

Confirm Curve	Start	0	Input 0 (zero) if crimp wire is no bend
	Start	0	
	End	0	

3.11 Core wire protrusion

Core Wire Protrusion	Start	0.02	Measure 1 sample and input data

3.12 Pressure

Pressure	Start	428	(Apply only when model is C511, 550, 551, 555, 556, and 558)
	End	433	Input data on space of start and end sample. Get Actual Pressure data from Maximum Pressure displayed on machine.

3.13 Midterm Check

Midterm Check (Wire Crimp Height)		1.01	If wire type and diameter is not changed pick 1 piece and check wire crimp height Produced by Machine : every 4,000 pcs Produced Manually : every 2,000 pcs Input data on space for midterm check.

3.14 Tensile Strength

△6 ◆ Tensile Strength	Start	100	• Start : Conduct tensile strength (2 samples of crimp) and write data
	Start	105	
	End	103	• End : Conduct tensile strength (2 samples of crimp) and write data

3.15 Note

Input issues, change parts, change points and countermeasure if applicable.

3.16 Judgment

If all items are judged good based on Wire confirmation standard, input O on space for judgment.

Note: During data gathering, compare actual values from the standard written on the upper right portion of the develop sheet for crimp data. All actual values must be within standard.

If at least one (1) data does not meet the standard, adjust settings, produce sample, and repeat steps 3.1 ~ 3.7

During checking of hatsumono, Leader check the actual sample vs encoded on the developsheet and sign prior to production.

※Upon revision develop sheet for crimp data, leader must input standard based on "terminal specification"

Eff./Rev. Date	Rev. No.	Details of change	Revise	Check	Approve	Prepare	Check	Approve
11/18/2024	6	Added special characteristic "diamond mark" in wire crimp height and tensile strength and remove stabilizer width	W. Bergado	C. Calayan	W. Carbillon	W. Bergado	C. Calayan	W. Carbillon
11/03/2023	5	Include checking of identation mark in crimp wire	W. Bergado	O. Merin	O. Merin			
06/01/2022	4	Add details include Conrol Chart Rules	W. Bergado	O. Merin	O. Merin			
11/1/2021	3	Change number of sample from 3 samples to 5 samples	W.Valdez	D.Cornero	O.Merin			
						Est. date:	July 10, 2017	

No.	Work Procedure/ Illustration	Records/Remarks/ Quality Pointers

Figure 1. ILLUSTRATION OF CONTROL CHART RULES

Rule	Rule Name	Pattern
1	Beyond Limits	One or more points beyond the control limits
2	Zone A	2 out of 3 consecutive points in Zone A or beyond
3	Zone B	4 out of 5 consecutive points in Zone B or beyond
4	Zone C	7 or more consecutive points on one side of the average (in Zone C or beyond)
5	Trend	7 consecutive points trending up or trending down
6	Mixture	8 consecutive points with no points in Zone C
7	Stratification	15 consecutive points in Zone C
8	Over-control	14 consecutive points alternating up and down

Figure 1.1: Rules 1 to 4

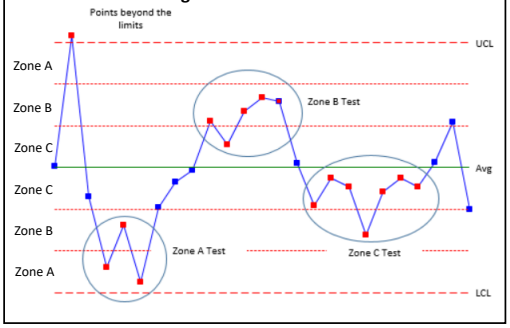


Figure 1.2: Rules 5 and 6

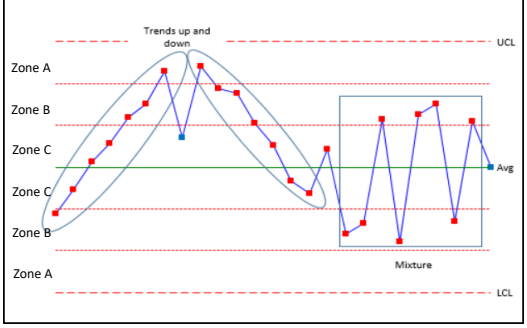
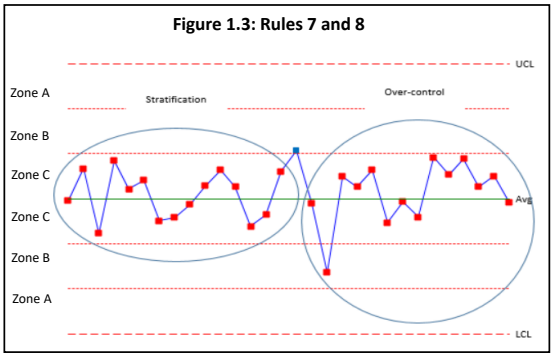


Figure 1.3: Rules 7 and 8



Pattern Description	Rules	Possible Causes
Large shifts from the average	1, 2	New person doing the job Wrong setup Measurement error Process step skipped Process step not completed Power failure Equipment breakdown
Small shifts from the average	3, 4	Raw material change Change in work instruction Different measurement device/calibration Different shift Person gains greater skills in doing the job Change in maintenance program Change in setup procedure
Trends	5	Tooling wear Temperature effects (cooling, heating)
Mixtures	6	More than one process present (e.g. shifts, machines, raw material.)
Stratifications	7	More than one process present (e.g. shifts, machines, raw materials)
Over-control	8	Tampering by operator Alternating raw materials