

“T1-126: Standard for Appearance and Visual Check with Limit Samples”

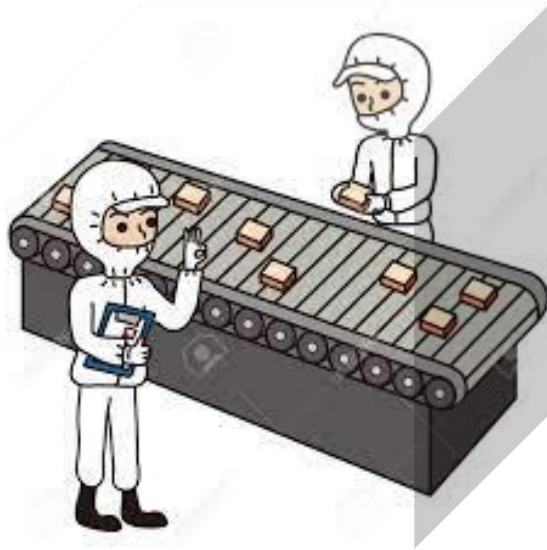
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CONFIDENTIAL

- ① Purpose of “**T1-126**”
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① Purpose of “T1-126”



To advance the creation of **limit samples** facilitating appearance and visual inspection and thereby **achieve stable product quality**.



② Definition of Terms

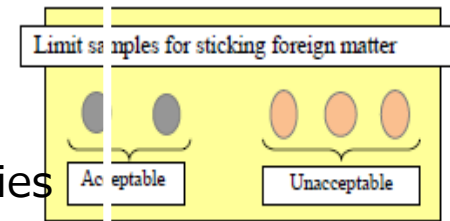
1. COMPLIANCE RULES

- Must be strictly observed in order to meet the standard.



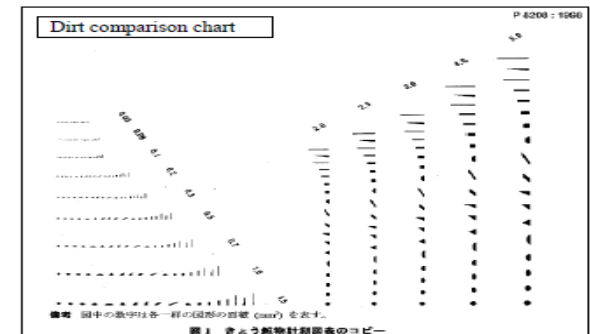
2. Limit sample

- A criterion for acceptance or rejection standard to allow departments concerned to make the same decisions through sensory inspections regarding whether a part or product satisfies appearance or functional quality requirements.
- In general, this is made passing criteria but when using as failing criteria always clarify limit sample certificates.



3. Dirt comparison chart

- A tool used to determine the size of a flaw, stain, etc.



③ Preparation of Limit Samples

In mass production or production inspection **when determining acceptability of the product**, perform when any of the following conditions is fulfilled or when it is determined to be necessary by a person in charge of a department such as:

acceptance inspection, quality verification, product assembly or development and design.

1. When **unable to set amounts** or set values
2. When **unable to measure**
3. When it is **deemed more logical to judge visually** than measuring



④ Inspection Work Overview using Limit Samples

4.1 Inspection work using limit samples

Compliance rule:



- Compare defects of inspected objects and limit samples and determine acceptability.

4.2 Training of inspection work with limit samples

Compliance rule:



- Those involved in the inspection work using limit samples shall be trained.



④ Inspection Work Overview using Limit Samples

Training Procedure cases:

- (1) Show **accepted** items.
- (2) Show **rejected** items.
- (3) Have them **understand the theory of criteria** and **learn** the criteria.
- (4) Show limit samples for accepted and rejected items and have them **learn those samples with senses**.
- (5) Explain the **inspection procedures** and the **criteria for acceptance and rejection** and have them try.
- (6) Repeat the practical inspection training using limit samples to **reduce the inspection man hours and improve the accuracy**.
- (7) They **shall be trained under almost the same conditions** as in actual working areas.

④ Inspection Work Overview using Limit Samples

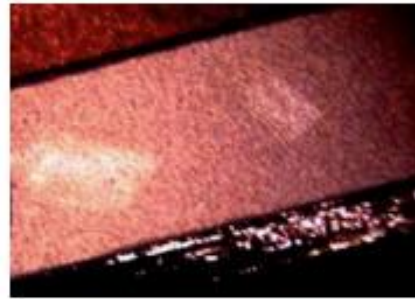
Figure 1

Part name: HP tape
Problem: Surface defect
Cause of rejection: Abrasion



Figure 2

Part name: HP tape
Problem: Surface defect
Cause of rejection: Gouge



Training
materials on
causes of
rejection

Figure 3

<Dirt> Acceptable limit samples

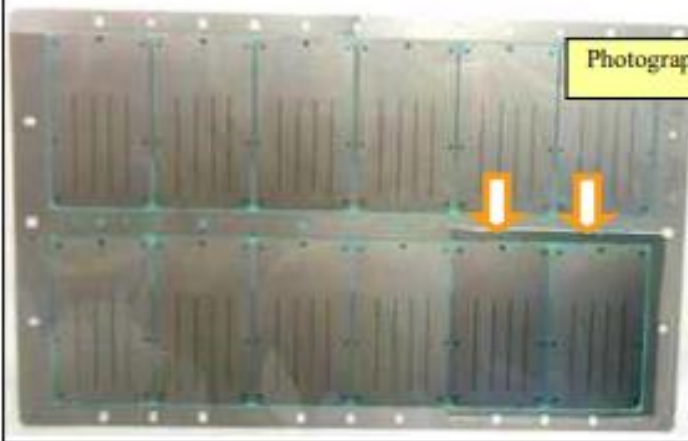
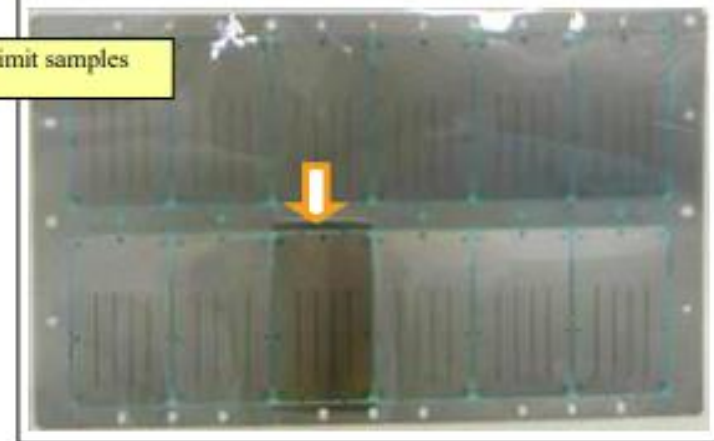


Figure 4

<Dirt> Unacceptable limit samples



Photographic limit samples

4.3 Continuous training with inspection work by limit samples

The **trainer verifies results about judgment** and when there are misjudged items, **it is reviewed why it was misjudged** and it is **important to educate** and **continuously train** in inspection work.

Continuous training:

(1) Prepare **20 to 30 specimens in total** for use in training.

(2) 20-30% of them shall be close to nearly accepted or nearly rejected items.

(3) Check them with eyes without using limit samples.

➤ In general, unacceptable items may not be missed but acceptable ones tend to be under evaluated and then rejected

④ Inspection Work Overview using Limit Samples

4.4 Handling of limit samples

Compliance rule:



- Limit samples shall be **handled with clean cotton** or **plastic gloves** when they may get dirty or change in color or quality when handled.

4.5 Identification method for limit samples

Compliance rules:



- The limit samples **meeting the criteria for acceptance** and those meeting the criteria for rejection shall be identified by marking.
- They shall be **marked with the category number, subject type, inspection item** and **control date** and have a checking mark.

⑤ Maintenance and Management of Limit Samples

5.1 Storage of limit samples

Compliance rule:



- Limit samples the limits expressed by which may be affected by the environment shall be kept under conditions that will not affect the limits.

5.2 Check limit sample characteristics

Compliance rule:



- Check functions, accuracy and performance, record results in a management ledger and receive the seal of the managing supervisor.

THANK YOU!

brother
at your side