

# Customer Information

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21.01.2009

**Subject:**

Change of Humidity Indicator

**Products Affected:**

All the products in surface-mounted type of packages (SMD)  
[example : QFP, LQFP, SOP, BGA, LGA, BCC, etc.]

## 1. Background

As part of environmental program, Fujitsu decided to use a new humidity indicator that does not contain cobalt chloride. Since cobalt chloride is identified as carcinogenic material, we've selected a cobalt chloride free indicator that shows the same way for indicating the humidity level (change from blue to pink). With this change, we can also realize CO2-reduction by 70% (compared with the current one), which is the goals of the Kyoto Protocol.

## 2. Description

Change of the current indicator to a cobalt chloride free indicator. Please refer to figure 1 on the next page

Current

30%, 40%, 50% indicator mark

New

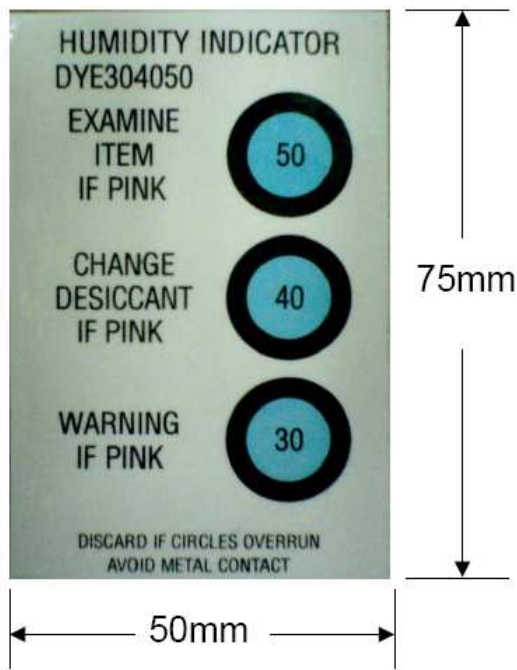
30% indicator mark only

## 3. Introduction Schedule

The change is already effective in Fujitsu production plants

# Photo-1 : Comparison of Humidity Indicator

## Current Indicator



## NEW Indicator

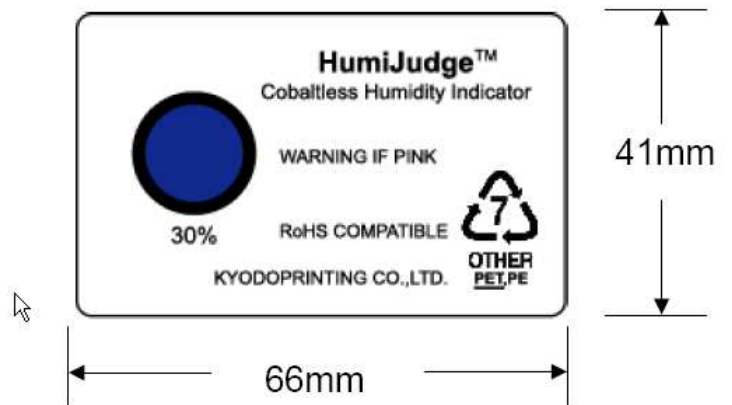


Figure 1 Old and new humidity indicator

#### 4. Humidity indicator after repacking at FME

Once a shipment will be repacked at FME, then we will use a cobalt free indicator, too. Below you will find a picture which shows this indicator



Figure 2 Humidity indicator used after repacking at FME

- 1) **Product :**  
**3 Spots humidity indicator COBALT FREE**
- 2) **Definition :**  
A card on which a moisture-sensitive chemical is printed such that it will change colour from brown to light blue (azure) when the indicated relative humidity is exceeded. The indicator does not contain cobalt
- 3) **Product description:**  
Shape: Rectangular  
Dimensions: 80 mm X 45 mm + 2 mm Col-  
our change: Brown (dry) – Light blue (wet)
- 4) **Applications :**  
It shows the relative humidity content in the environment.  
Each spot is calibrated to change its colour when the indicated percentage of relative humidity is exceeded.  
**How to read it:** observing the spots colour (the colour of the areas that are impregnated with the moisture-sensitive chemical); the humidity value in the environment is the one recognized by the spot that is no more Brown and not yet Light Blue.
- 5) **Technical specifications :**  
3 spot humidity indicator for relative humidity included between 10% ÷ 30%.  
**Support :** high porosity paper of white colour  
**Indicated percentages of R.H.:** 10%, 20%, 30%  
**pH :** n.a.  
**Colour change on the indicating surface :** ± 2% tolerance  
**Chromatic response:** the spot changes its colour from brown to azure when the humidity is higher than the one indicated.  
**Time of response:** the indicator needs a time of response included between 1 and 2 hours, depending on the humidity content of the environment.
- 6) **Stocking :**  
Keep the product in a dry and sheltered place with temperature above 0°C.  
The information given are in accordance with our best technical knowledge, but they cannot be considered as a warranty of the product.
- 7) **Warnings :**  
Avoid the product contact with metallic materials and preserve it from possible chemical contaminations which would invalidate its effectiveness.

Figure 3 Data sheet FME humidity indicator