How to use new indicator "HUMIJUDGE"

8th September, 2008 FIM production Engineering Div. **Test Engineering Director**

1. Product information

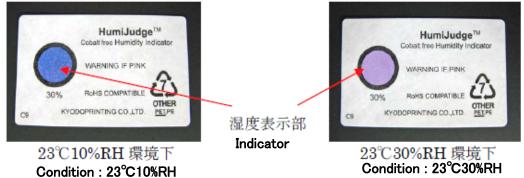
Name of the product: HUMIJUDGE

Type: KP-COF-HIC30

Change in color

- •Surrounding humidity level is indicated on the circle marked indicator.
- Dry: Colored blue, Humid: Colored pink
- It takes about 20min to an hour to change color from blue to pink (Condition 23 °C30%RH).
- •Time for color change depends on surrounding condition.

(表示例) (Specimen)



- 3. To store
- 1) The indicator is sensitive for humidity. Therefore, please take care of external air. We recommend users to use aluminum laminated foil bag or any other enclosure to block humidity.
- 2) Keep dry and avoid direct sunlight. And also, please keep it in natural surrounding temperature.
- 3) Please keep away from metal and chemical exposure.
- 4) Please keep away from liquid.
- 5) We cannot guarantee the quality after the best before use (over 1 year after produced).
- 4. After opened
- 1) Do not eat and swallow.
- 2) Do not break and fold it.
- 3) Please keep away from liquid.
- 4) It would change in color short after open. Please use it immediately once opened.
- 5) Preferred working condition is low humidity. High humidity cause color change easily.
- 6) Do not heat up over 80 °C and over 2 hours.

7) Unless leaving this indicator in enclosed condition, The color on indicator would be in change.

Please see the store methods below.

- Store in enclosed container with desiccant.
- Store in aluminum bag with desiccant.

Specimer Fold up 3 times at top of aluminum bag and then put tape on the center to hold it.

保管時の様子 Specimen



袋の口を3回折り曲げる Fold up 3 times at top of aluminum bag. 中央部をセロハンテープで一箇所止める Apply tape on the center to hold it.

According to our experiment, blue color has been remained for a month. Note: This is up to surrounding condition.

5. How to retrieve initial condition

In case you find colored pink on the indicator after opened, it is possible to retrieve initial condition. Please note. Do not do initial setting more than 5 times. That cause functional error.

1) Preferred humidity condition for initial setting: Less than 10%RH, Retrieval time: More than 3 hours For example) Put and enclose it in an aluminum laminated foil bag with desiccant for more than 3 hours

6. Specimen

We provide users some barometers to identify proper color in each stages. See below. If the color does not match at all compared with specimen, please retrieve initial condition.

Div. Test Engineering Director

HUMIJUDGE Specimen

Approved by Kageyama 4th September, 2008

Recommended store surrounding

Temperature : 25°C±5 Humidity : Less than 10%

In case the surrounding condition does not meet these recommended condition, please take care of the color on indicator to judge whether available or not.

Recommended store condition is in RH10% or less.



Almost colored blue

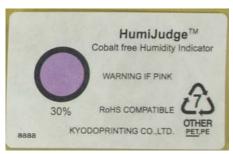
Available to use Less than RH25%



Colored purple

If you confused this color with colored pink, try to compare those putting together. It could be easily recognised.

Unavailable to use More than RH30%



Colored pink

In this case, you can retrieve initial condition. (Please refer to section 5.)

- 7. Comparison between new indicator "HUMIJUDGE" and previous one. And special treatment in proces
 - 1) Leaky enclosed container with desiccant is used and humidity condition is kept in less than 25%. For example) Container: W160xL230xH130 with more 20 pieces of desiccant (20g).



2) On condition humidity 20% to 25%, previous indicator change in colored light blue though, new one change in colored purple.

If you found colored purple on indicator before use, it would be no problem to use. This is caused by conditon that discoant and HUMIJUDGE are stored together in a leaky encloused container. (Condition Less than RH 25%)

Remark: If colored purple, it will be retrieved colored blue stored in dry packed aluminum laminated foil bag. It takes for a day.

- 3) When it is intended not to use for a moment, it is necessary to store adequately using aluminum laminated foil bag etc to prevent humidity.
- *How long is the "for a moment"? It is meant several hours.
- 4) In case leaky encloused container is uesed, please use it as many as you really need. You can store rest of them. *To store. Please see 7) in section 4.