

SHARP

Be Original.

Introduction of New Humidity Control Material

TEKIjUN

 **Too dry**

 **Too moist**

< 30%

40%

50%

60%

70%

80%

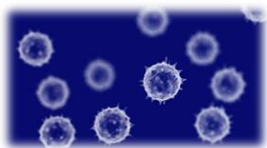
90%

100%

× **Crack**



× **Virus infection risk**



Cameras



Pharmaceuticals



Lacquerware



Fruits and vegetables



× **Condensation or cloudy appearance**



Wooden instruments



Cigars



Bread



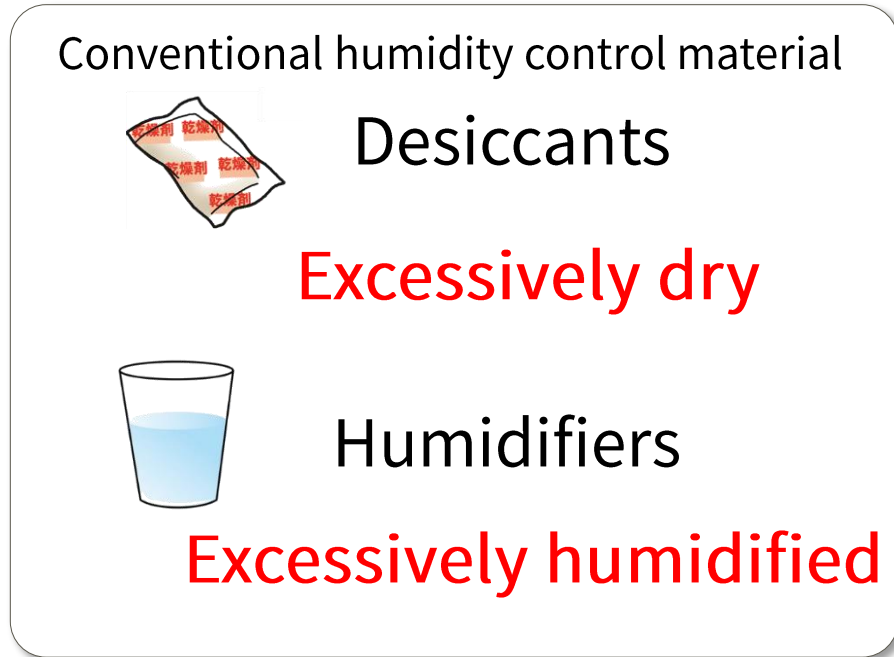
Cheese



× **Stuffy and uncomfortable**



There is a comfortable humidity level for humans, as well as an optimal humidity level for objects. If humidity is not properly controlled, objects may crack or condensate, people may feel stuffy and uncomfortable, and there is an increased risk of virus infection.



Difficult to manage at optimal humidity

We have developed a new material, **TEKIJUN**, that allows you to easily manage humidity.

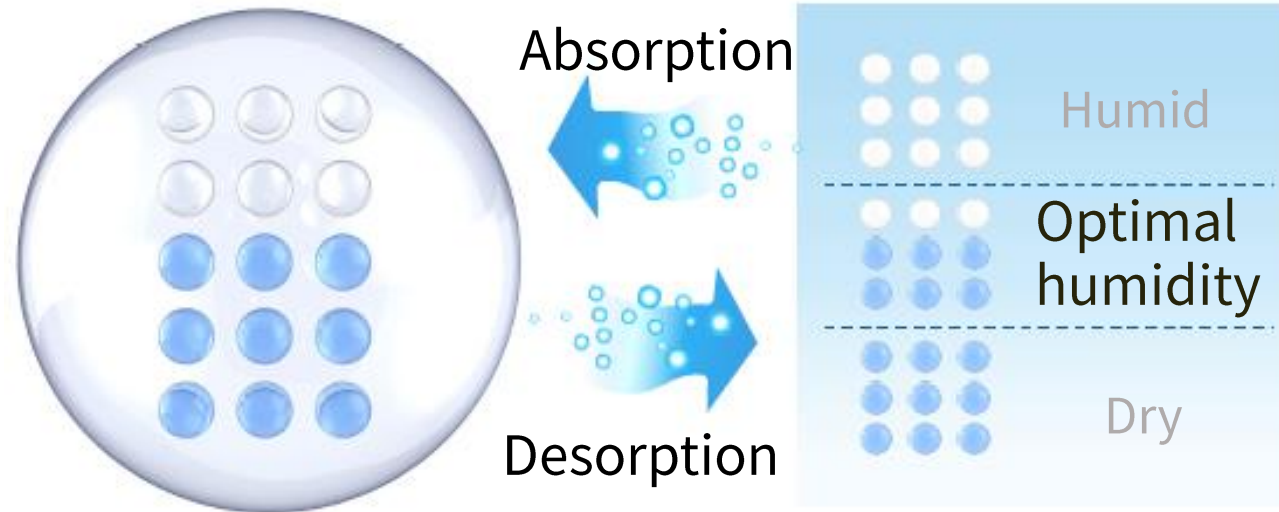
However, conventional humidity control materials often result in excessive drying or humidification, making it challenging to maintain the optimal humidity. Therefore, we explored the possibility of a material that could easily regulate humidity, leading to the development of a new humidity control material called “TEKIjun”.

Impregnating our uniquely developed moisture control material in resin※

※ Patent applied

Adjust to the "optimal humidity" by balancing the amount of water vapor in a closed space

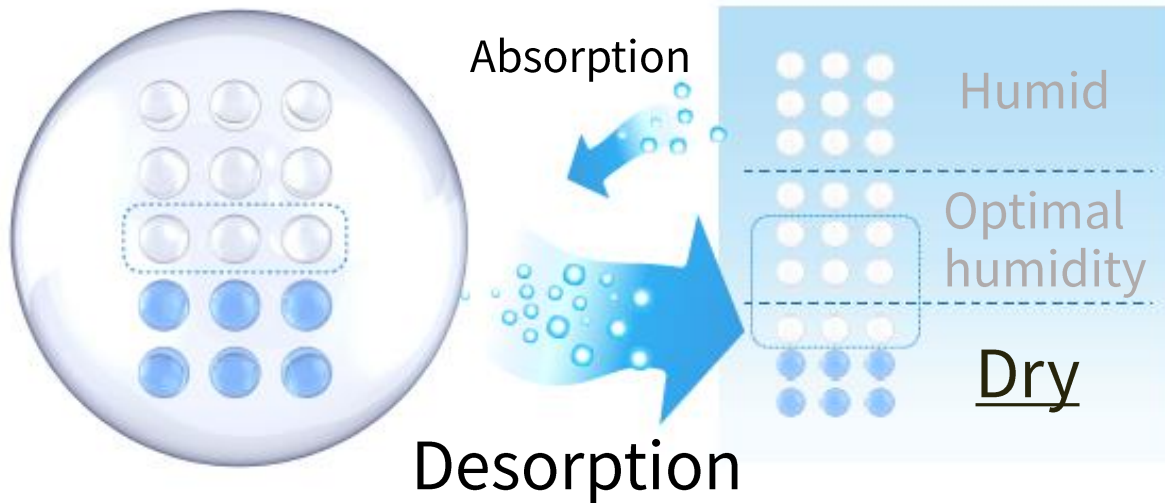
Moisture control material in resin



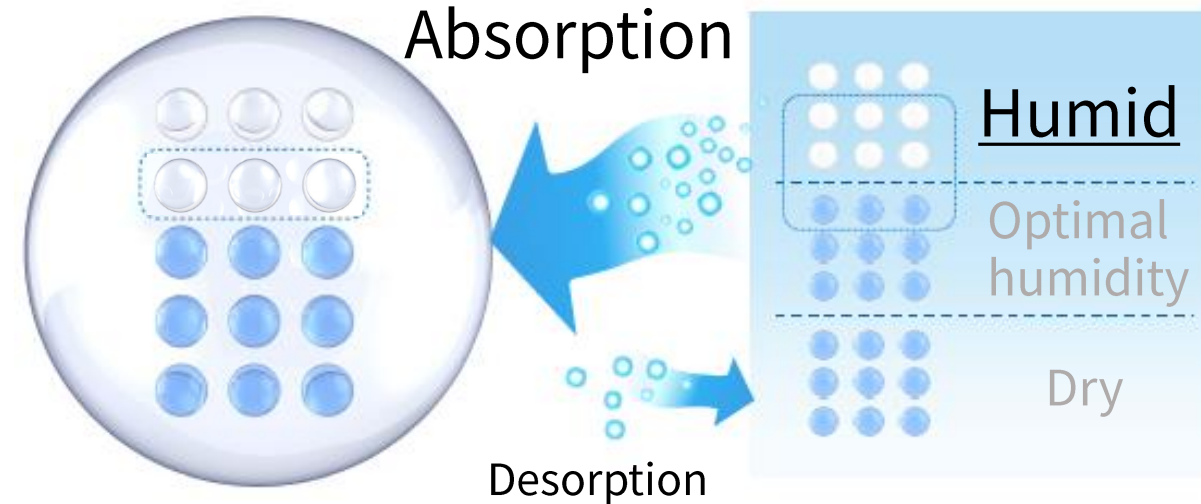
※The image is a representation of the water content.

TEKIJuN is a novel material created by embedding a humidity control material into resin. This humidity control material balances the amount of water vapor in a closed space to maintain the optimal humidity level.

In dry environment
Release water and increase humidity



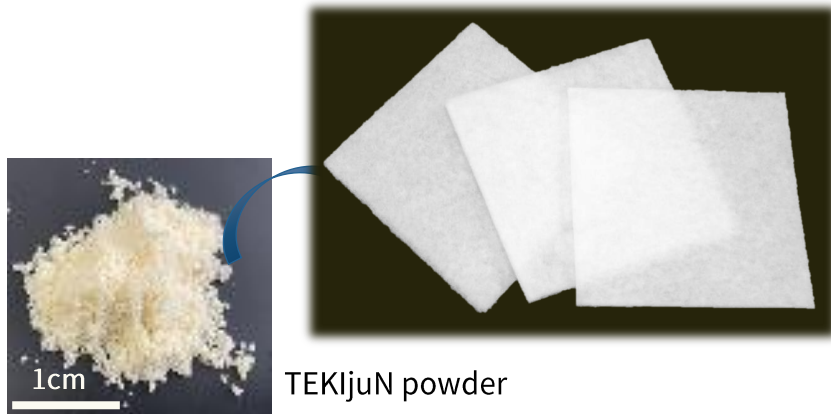
In humid environment
Absorb water and decrease humidity



In a dry environment, TEKIJuN releases the moisture it holds, thus increasing the surrounding humidity. On the other hand, in humid environments, TEKIJuN absorbs moisture, resulting in a decrease in the surrounding humidity. This enables precise adjustment of the humidity level inside the closed space to the optimum level.

Sheet type

Contains fine-grained TEKIJuN powder into non-woven fabric.



Rapidly absorbs moisture in high humidity, releases and regenerates moisture in low humidity, preventing excessive dryness and humidity.

Bead type

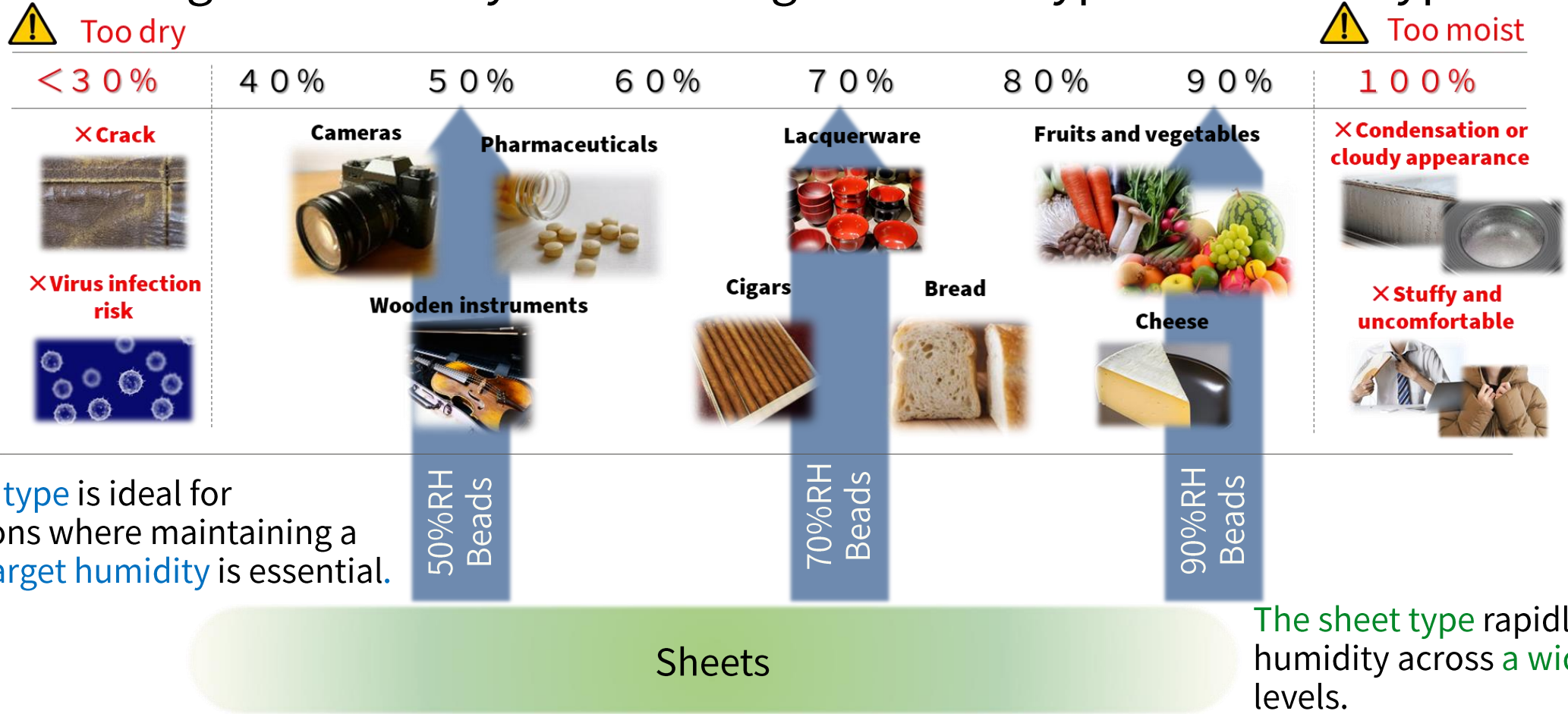
The resin is thoroughly impregnated with a liquid humidity control material with a target humidity.



By packing objects together in a closed space, you can accurately adjust the "target humidity" and maintain it for a long time.

There are two available types of TEKIJuN: the sheet type and the bead type. The sheet type contains fine-grained TEKIJuN powder within a non-woven fabric, facilitating rapid absorption and release of moisture. On the other hand, the bead type consists of resin impregnated with a liquid humidity control material that targets a specific humidity level, allowing for precise adjustment.

Image of humidity control range for bead type and sheet type



The bead type is ideal for applications where maintaining a specific target humidity is essential.

The sheet type rapidly adjusts humidity across a wide range of levels.

The bead type is particularly suitable for applications that require maintaining a specific humidity level. The sheet type, on the other hand, rapidly adjusts the humidity over a wide range.

Sheet type



Bead type

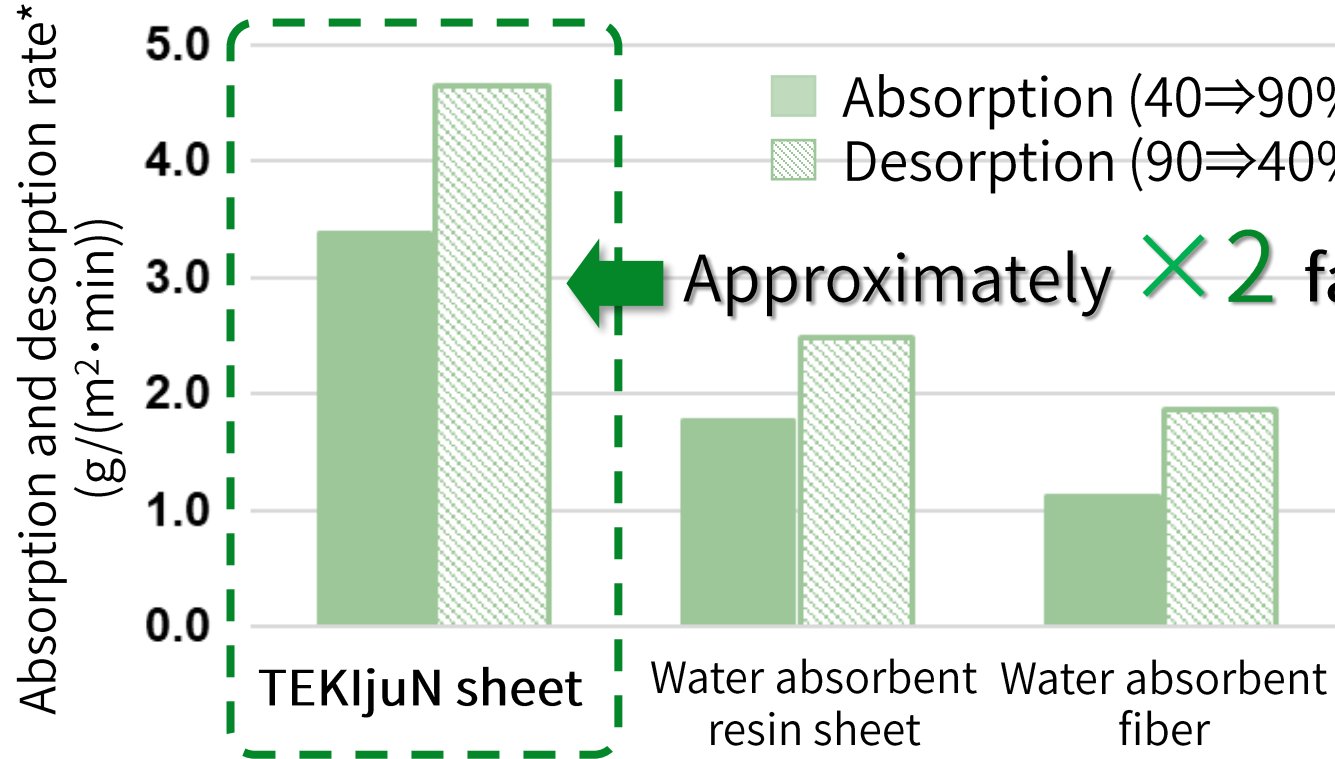


Now, let's discuss the features of each type in detail, starting with the sheet type.

POINT

1

Rapid Moisture Absorption/Desorption



Approximately **×2** faster than other materials

*Absorption rate : Calculated from the weight change per area after 10 minutes when a sheet in equilibrium at 23°C and 40%RH is left standing at the same temperature and 90%RH.

Desorption rate : Calculated from the weight change per area after 10 minutes when a sheet in equilibrium at 23°C and 90%RH is left standing at the same temperature and 40%RH.

The first feature is the quick absorption and desorption of moisture by the TEKIJuN sheet.

Its rapid response to changes in humidity makes it effective in preventing dew condensation and stuffiness inside clothing items such as shoes and bags.

POINT

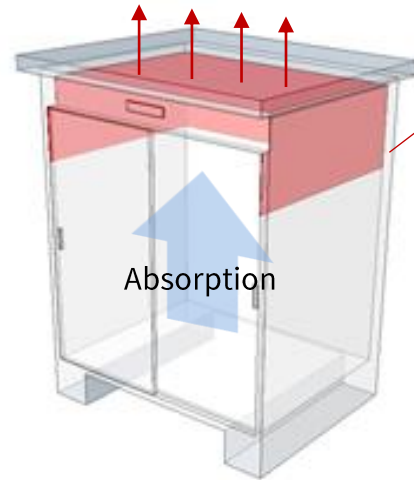
2

Natural Releasing of Moisture

Night

Increase in relative humidity
with the decrease in temp.

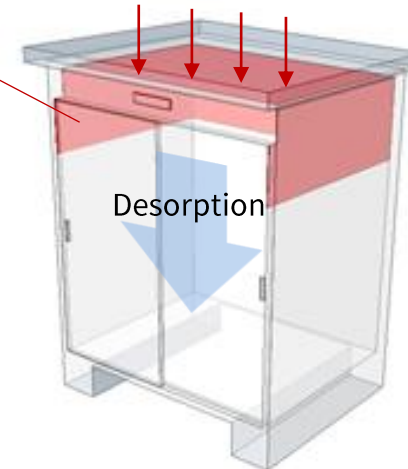
Rapid moisture absorption
⇒ Reduces condensation

TEKIJuN
sheets

Daytime

Decrease in relative humidity
with the increase in temp.

Rapid moisture desorption
⇒ Regeneration with the sheet installed



The second feature is its reusability through natural regeneration. After absorbing moisture during high humidity periods, it naturally releases moisture during low humidity periods, eliminating the need for removal and drying.

POINT

3

Thin, light and soft



Width ≒ 1m
Length ≒ 300m

The third feature is its thin, light, and soft nature. With a thickness of only 0.9mm and minimal powder shedding, it can be easily cut into any desired shape and installed by pasting, rolling, or bending.

Sheet type



Bead type



Next, we will explain the features of the bead type.

POINT
1

Precise Humidity Control in Any Environment

Put in a closed space



Conventional desiccants and humidifiers can only dry or humidify

Humid environment



Dry environment



Adjust to target humidity by moisture absorption

Outside : 80%RH



Desorption
Absorption

2-3 hours later

Adjust to target humidity by moisture desorption

Outside : 20%RH



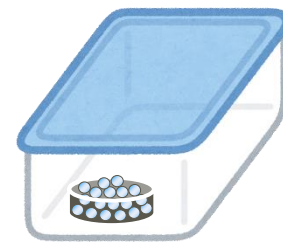
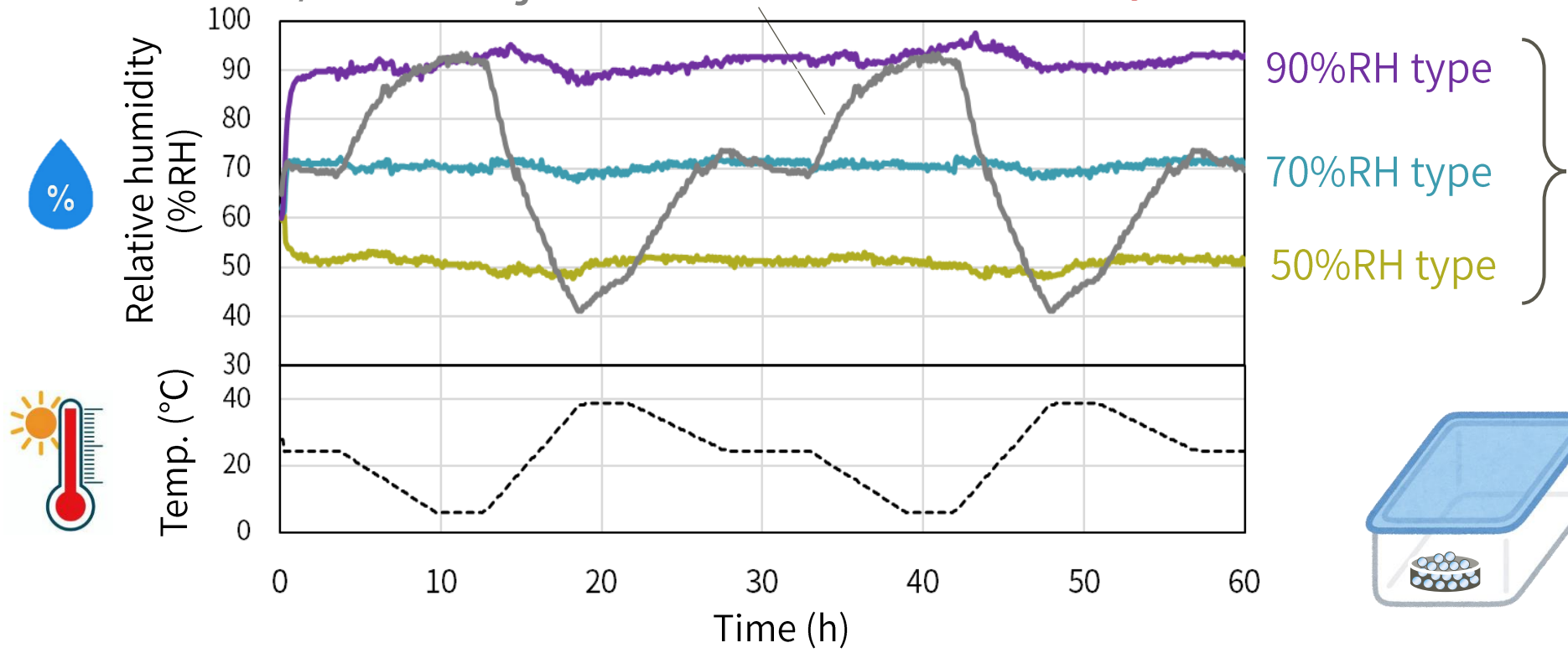
Absorption
Desorption

The first feature is its ability to adjust the humidity of closed spaces to the target level. Whether in high-humidity or low-humidity environments, it can regulate the humidity inside a closed space to the desired level by absorbing or desorbing moisture.

POINT
2

Consistent Humidity Maintenance

w/o TEKIjuN bead → Humidity fluctuates.

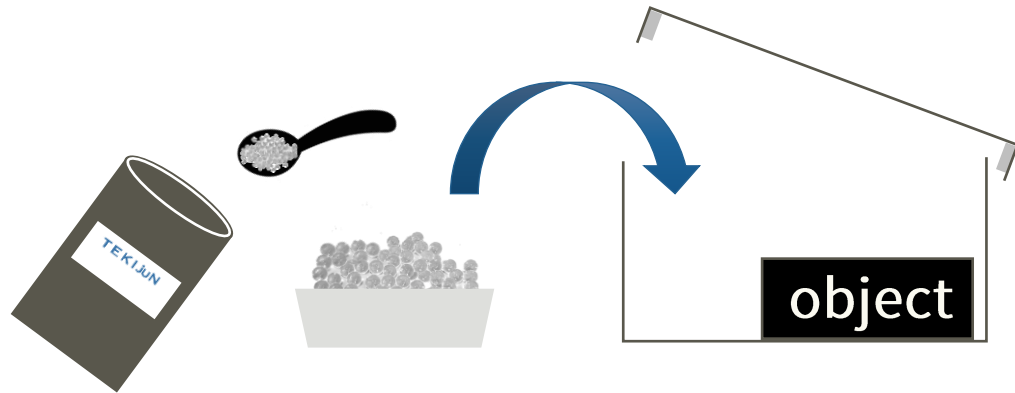


※ Measurement data when 11g of TEKIjuN beads were placed in a 5.5L container. If there are large temperature changes, humidity control may become poor.

The second feature is its capability to maintain the target humidity even when there are temperature changes. While relative humidity in a closed space increases with decreasing temperature and decreases with increasing temperature, the beads within the closed space ensure that the target humidity is maintained.

POINT
3

Convenient and Easy to Use



The recommended amount to use is 1-2g per liter.
Estimated usage is up to a volume of several 100 liters.

<Conventional method>



Liquid humidity control materials must be packaged in special packaging material that allows water vapor to pass through but not water. There is a risk of liquid leakage due to puncture or abrasion of the packaging material.

The third feature is the bead shape, which allows for precise adjustment of the amount of material used. Simply take out the desired amount, place it on a flat plate or within non-woven packs, and use it immediately. Since it is not in liquid form, there is no need to worry about liquid leakage, providing a reliable and convenient solution.

Concept

Unlike conventional desiccants and humidifiers, the new humidity control material "TEKIjuN" provides a moderately humid environment that is neither excessively dry nor excessively moist, ensuring **comfort for people** while preserving the **quality and condition of objects**.

The logo for TEKIjuN is displayed in white, bold, uppercase letters within a solid blue rectangular background. The letters 'T', 'E', 'K', and 'I' are in a standard sans-serif font, while 'j' is lowercase and 'U', 'N' are uppercase. The 'j' has a small dot above it.

“TEKIjuN” means “appropriate moisture” in Japanese.

Finally, I would like to share the concept behind the TEKIjuN logo.
Thank you very much for watching.