

Dehumidifying Sheet "DryKeeper"

1. INTRODUCTION

Many engineers are supposedly being annoyed by the dew condensation phenomenon inside the cabinet for electrical facilities installed outdoors. Inside-dew condensation can occur in tightly sealed cabinets. For example, if the door of a cabinet is sealed in an ambient atmosphere of 25°C, 60 % RH, the dew point is reached when the temperature drops by 8.3°C to 16.7°C, and dew condensation occurs below this temperature. Thus, however effectively a cabinet may be sealed, inside-dew condensation can not be prevented if the temperature and humidity of the atmosphere are high at the time of door closing.

Moreover, cabinets usually have led-in cables and the like making it difficult to completely seal their feed-throughs, and thus leaving air circulation in a greater or

less degree. Air circulation sometimes permits entry of moisture causing inside-dew condensation.

2. WHAT IS DRYKEEPER?

DryKeeper is a dehumidifying sheet that absorbs moisture and prevents occurrence of inside-dew condensation for a long period, thereby suppressing rusting. It has the following features:

- 1) It efficiently absorbs moisture and reduces atmospheric humidity, suppressing inside-dew condensation.
- 2) It absorbs moisture in a high-humidity atmosphere and discharges moisture in a low-humidity atmosphere in a reversible manner. See Figure 1.
- 3) Because of its reversibility, it can be used continuously for a long time.

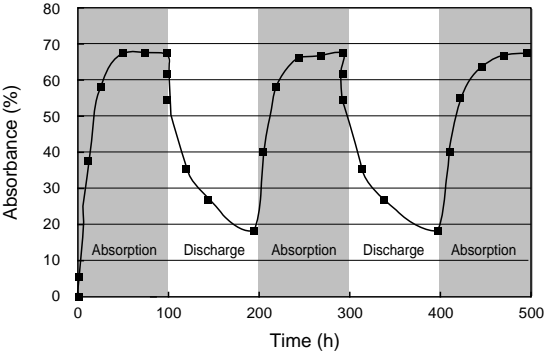


Figure 1 Moisture absorbing and discharging characteristics of DryKeeper.

3. SPECIFICATIONS OF DRYKEEPER

Table 1 shows the specifications of DryKeeper.

Table 1 Specifications of DryKeeper.

Product No.	KS-A4
Size	A4 size, 2-mm thickness
Maximum absorption	About 100 cc per sheet (about 70 % of own weight)
Structure	



Photo 1 Field test of DryKeeper in a cabinet for high-voltage use.

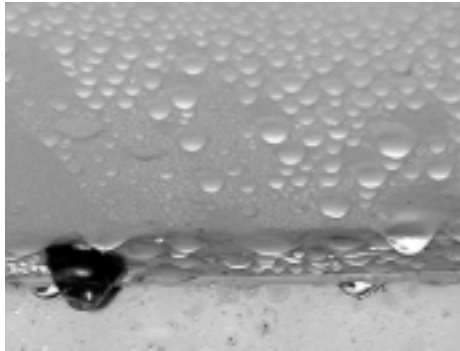


Photo 2 Dew condensation before installation of DryKeeper.



Photo 3 Dew condensation eliminated after installation of DryKeeper.

4. APPLICATION EXAMPLE OF DRYKEEPER

We have been carrying out, in collaboration with Tokyo Electric Power Co., field tests to see how far DryKeeper is effective in actual cabinets installed outdoors. Figure 1 shows the cabinet used for the field tests and the test results are summarized as follows:

- 1) The cabinet's inside before the application of DryKeeper
 Inside-dew condensation was seen and the humidity was nearly 100 %. See Photo 2 and Figure 2.

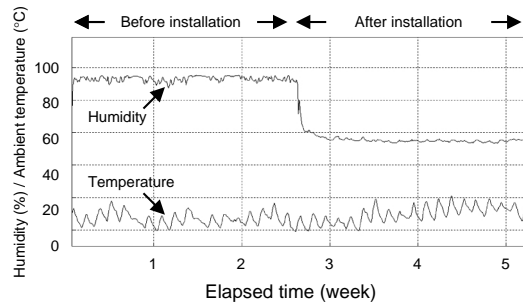


Figure 2 Transition of cabinet humidity before and after installation of DryKeeper.

- 2) The cabinet's inside after the application of DryKeeper
 Inside-dew condensation was eliminated and the humidity dropped to around 60 %. See Photo 3 and Figure 2.

3) Long-term sustainability

Tests have been continuing since October 2000, demonstrating the long-term sustainability of the product.

More than one year has passed since DryKeeper was installed in the cabinet, and yet no dew condensation can be seen, achieving satisfactory results.

5. IN CONCLUSION

It has been demonstrated that, as a new type of dehumidifying sheet, DryKeeper is effective in suppressing the inside-dew condensation in electrical facilities installed outdoors having a high degree of sealing. We would like to recommend the product to those who are annoyed by inside-dew condensation.

For more information, please contact:

Functional Products Development Group, Insulated Wire Production Department, Power Cables Division
 TEL: +81-463-21-8289
 FAX: +81-463-21-8292