



Figure 1: 10 - 100%

## Humidity Indicator Strips *Technical Information (10/11)*

Humidity indicator strips provide a rough indication of whether a certain level of humidity has been reached, for example in a display case. They consist of special paper impregnated with different solutions of Cobalt-II-Chloride. The paper adjusts its moisture content, and consequently, the color of the impregnated areas changes according to the relative humidity (RH) of the surrounding air: shifting from blue to pink with increasing RH and from pink to blue with decreasing RH. The color change is reversible, meaning the moisture indicators can be used over an extended period if not damaged by dirt, chemicals, sunlight or excessive moisture.

### Reading the Measurement:

The color dot appearing most gray is read; i.e., when the specified RH is reached, the color dot appears neutral gray (at 20°C). At temperatures higher or lower than 20°C, there are variations in readings: above 20°C, the color change occurs later. Below 20°C, it occurs earlier. Deviations are approximately 2.5% per 5°C above or below 20°C. For example, at 0°C, the indication for 40% RH is only displayed when RH has dropped to 30%. Vice versa, at 40 °C, the 40% RH dot will be gray at an ambient RH of 50% RH.

### Display Accuracy:

Humidity indicators should not be expected to be as accurate as more expensive measuring devices. According to TL 6685-0003, the color change occurs with an allowable tolerance of  $\pm 5\%$  RH within 5 hours, at a temperature of 20°C.

### Further Literature:

Mielke, H.: "Moisture Indicator Cards for Monitoring Relative Humidity in Long-Term packing" in: Packing Review 11/1985 page 1250 ff.