



# Capacitive Humidity Sensors



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# Capacitive Humidity Sensors

## Harshest Environmental Testing

We test for chemical resistance by direct immersion into the solvent.

- ✓ Any sensitivity thus will be detected after hours
  - ✓ Any deterioration effect will surface
- This test of course is extremely nonlinear. On the other hand we see dependencies very soon.
- We compare this always with competitor products.



*„Pure HCl (hydrochloric acid) simply etches away the electrodes while the relative transfer function remains the same (smaller electrodes).“*

*„Rapid temperature cycling between 160°C motor oil and liquid nitrogen within seconds causes a 50% failure rate for our strongest competitor products, while ours survive“*



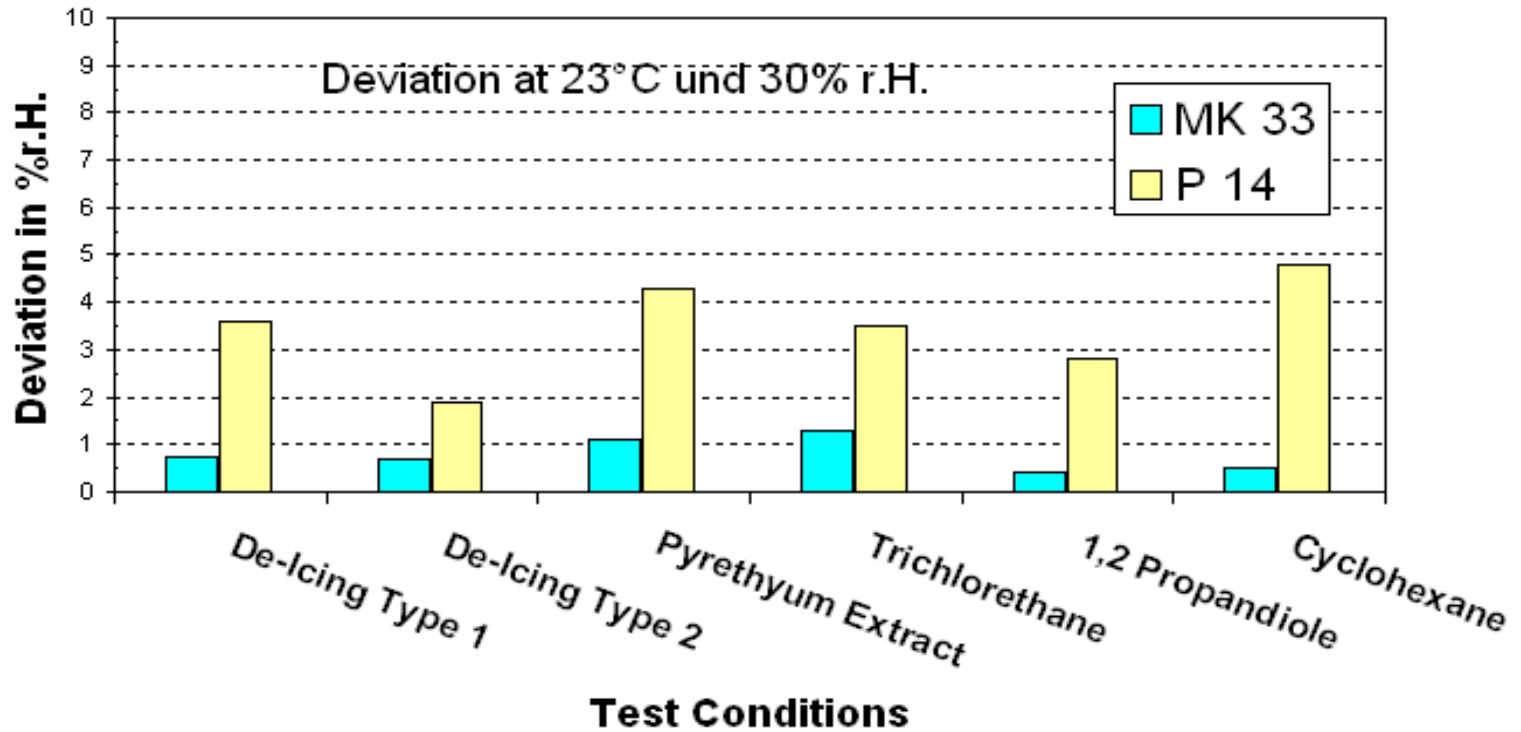
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# Capacitive Humidity Sensors

## Chemical Stress Test: 1 Hour Immersion into 100% Solution



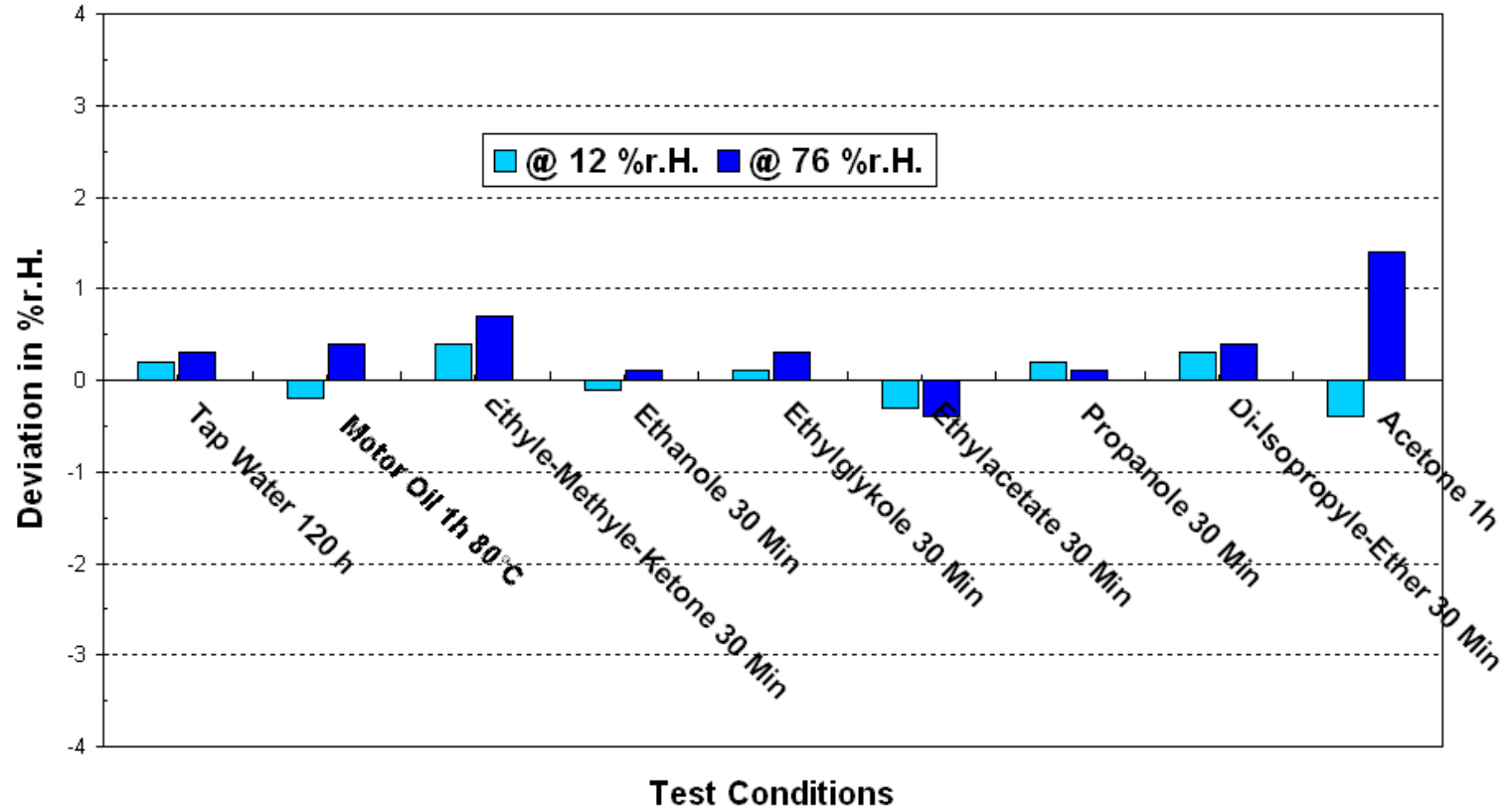
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# Capacitive Humidity Sensors

## Immersion Tests MK33



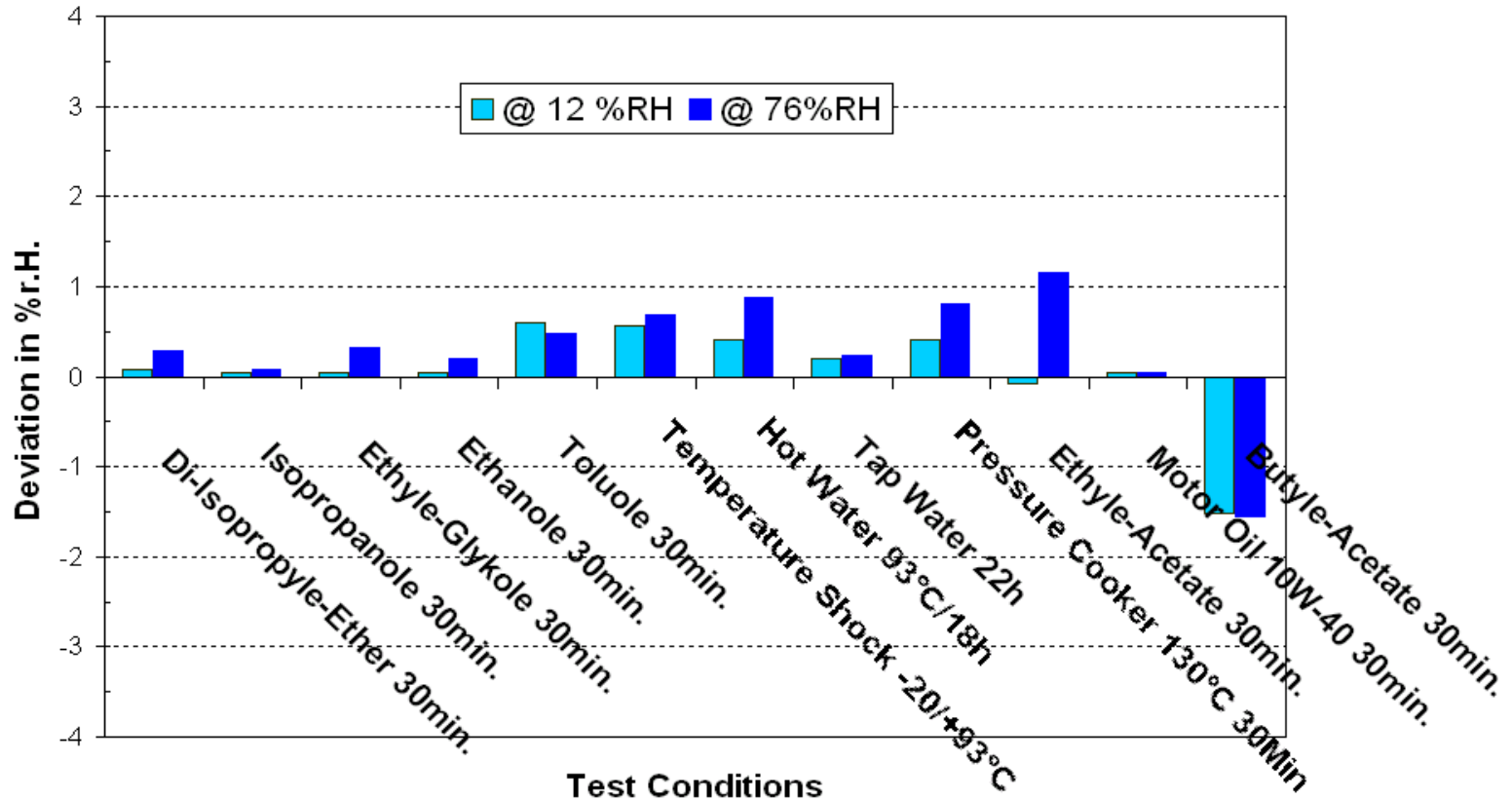
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# Capacitive Humidity Sensors

## Immersion Tests P-14



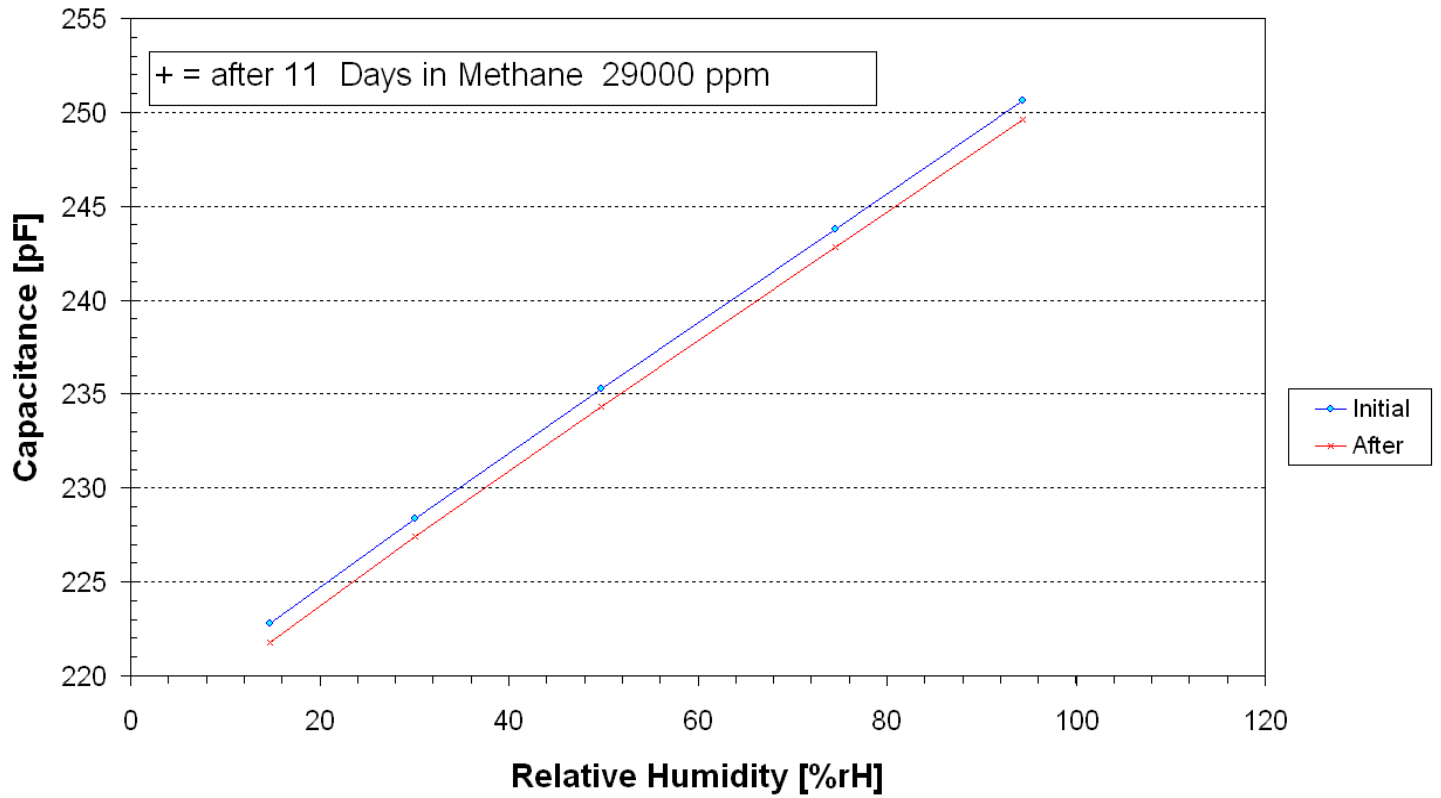
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# Capacitive Humidity Sensors

## GASTESTS MK33



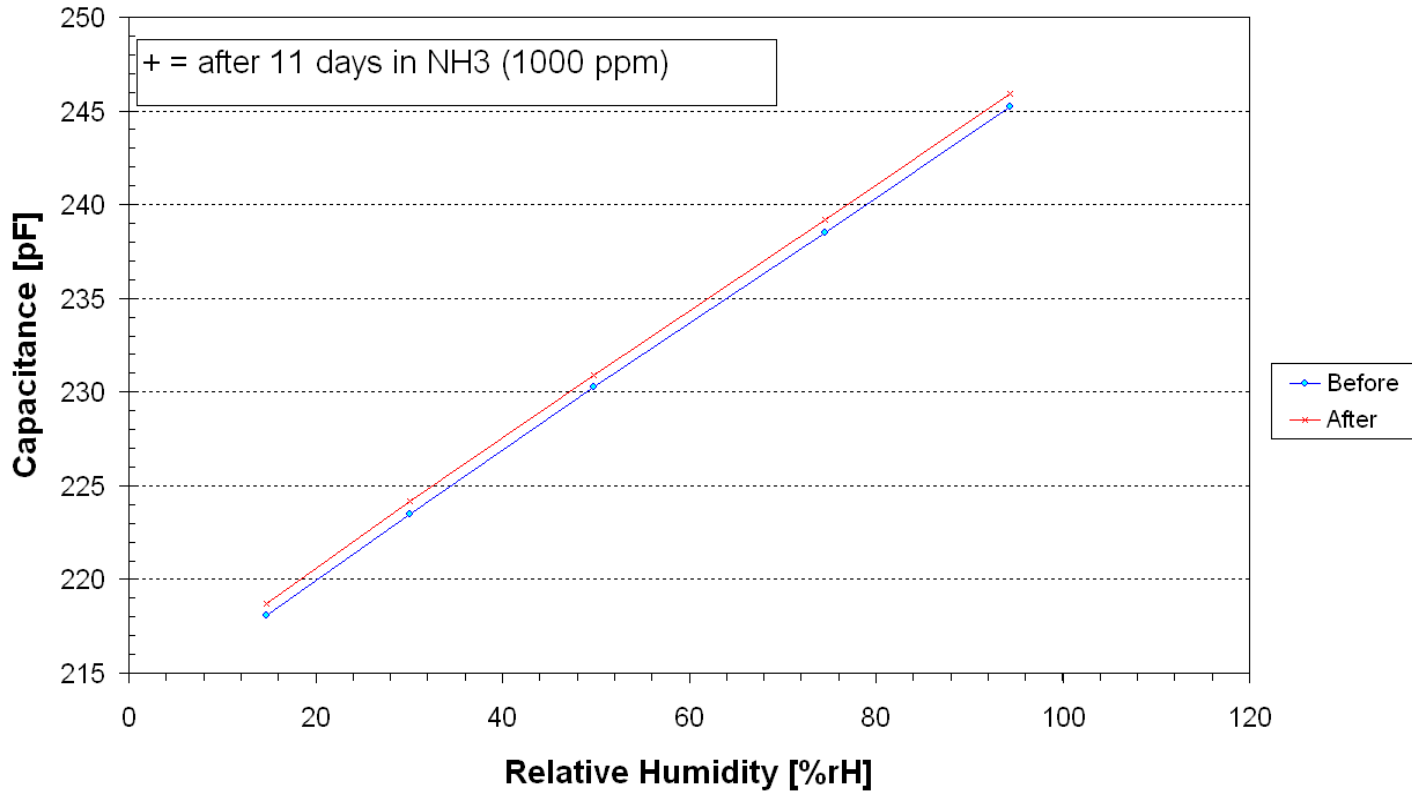
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# Capacitive Humidity Sensors

## GATESTES MK33



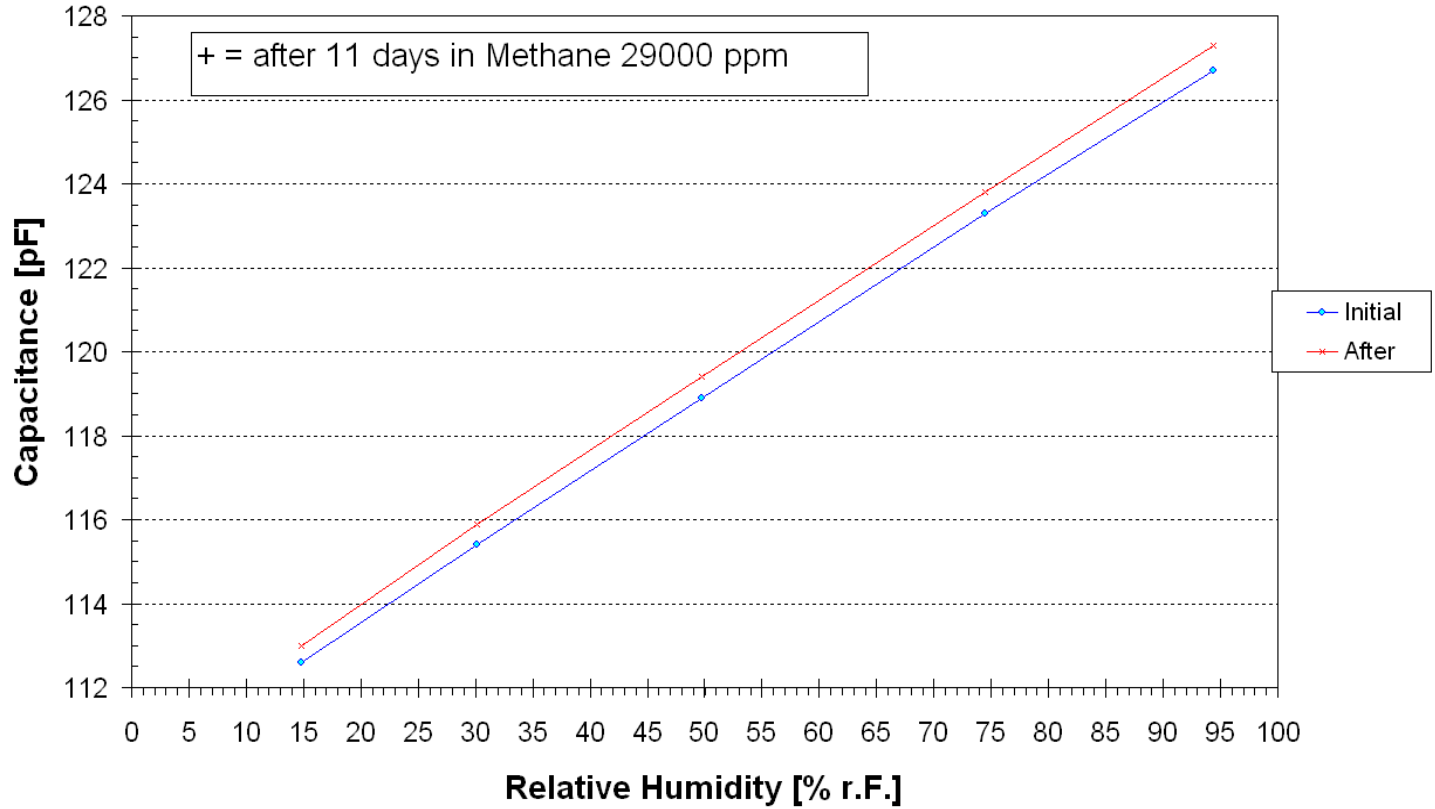
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# Capacitive Humidity Sensors

## GASTESTS P14



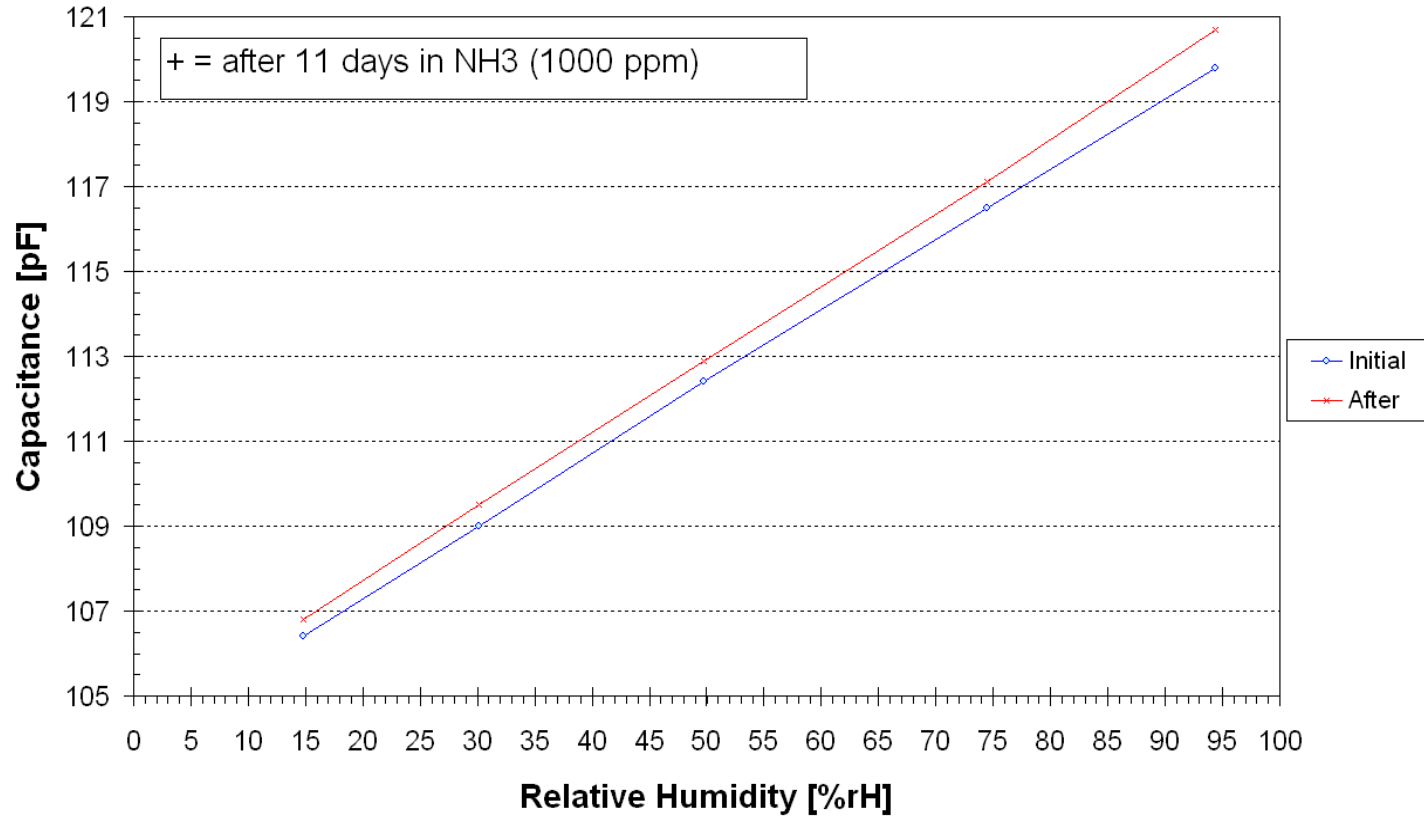
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# Capacitive Humidity Sensors

## GASTESTS P14



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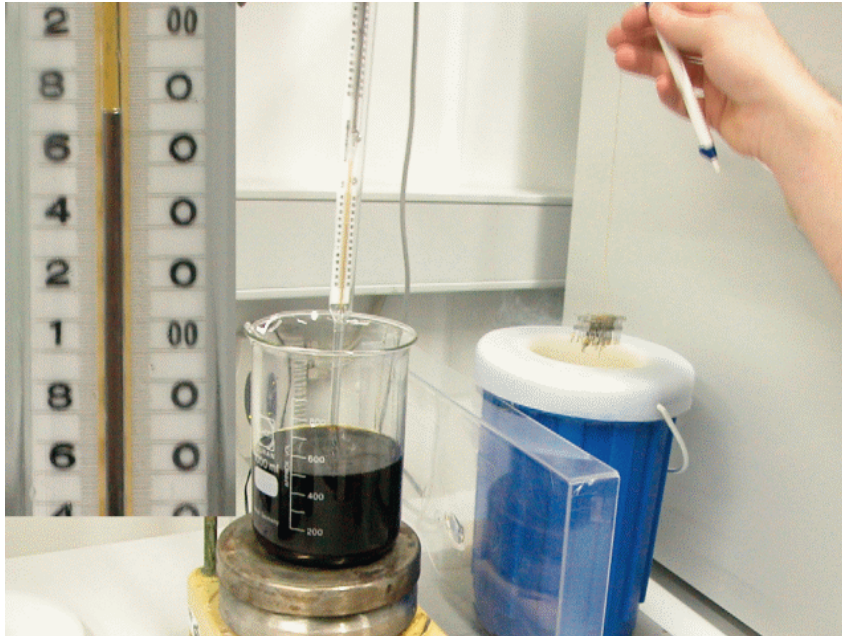




# Capacitive Humidity Sensors



## IST: Harshest Environmental Testing



Sensors are undergoing Environmental Stress Testing

Phase 1:

Hot motor oil at +160 °C

Phase 2:

Liquid Nitrogen at -195 °C

Phase 1 and Phase 2 are Repeated at least 10 times.

Phase 3:

Immersion into pure toluole for cleaning

Phase 4:

Re-measure in humidity generator



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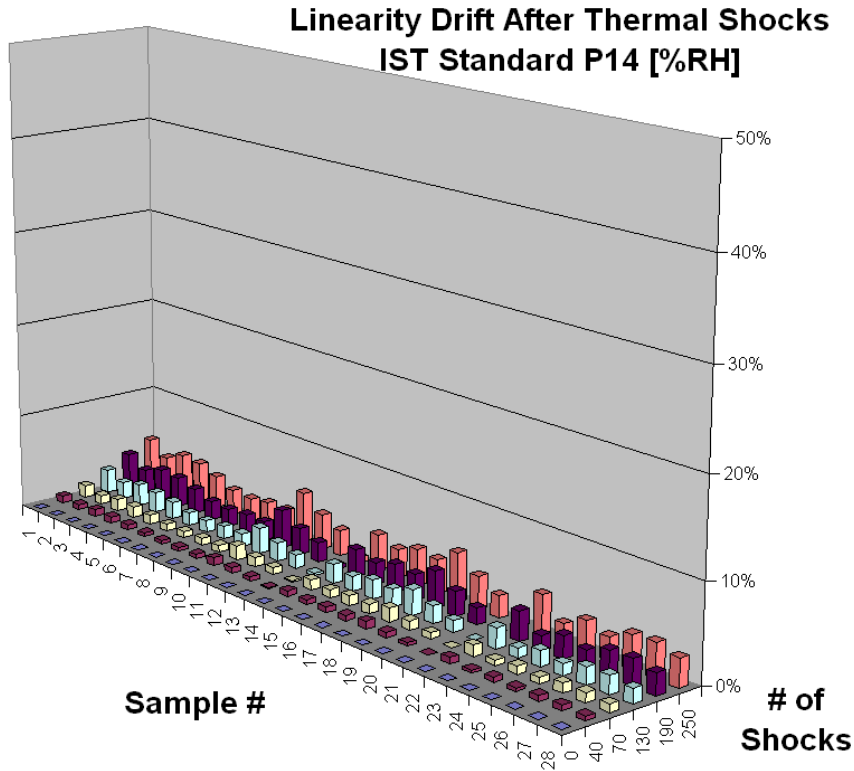


[www.ist-ag.com](http://www.ist-ag.com)



# Capacitive Humidity Sensors

## IST: Harshest Environmental Testing



Hot Motoroil to LN2  
Shock Cycling

+160°C



-195°C



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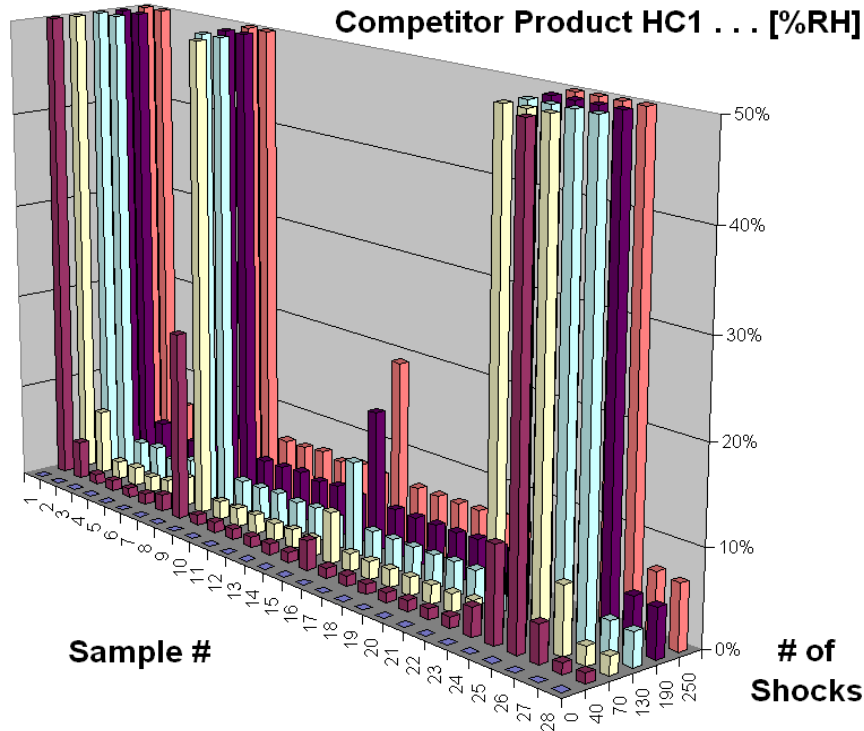




# Capacitive Humidity Sensors

## Strongest Competitor: Same Test

Linearity Drift After Thermal Shocks  
Competitor Product HC1 . . . [%RH]



Hot Motoroil to LN2  
Shock Cycling

+160°C



-195°C



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