

# CUSTOM ENGINEERING LEVEL I

# CUSTOM MODIFICATIONS

*What Likes to Take a Bath in Sulfuric Acid? A PFA Coated Probe from OMEGA!*

## A CASE IN POINT

A representative of a company which manufactures batteries is in need of a temperature probe that is electrically insulated and corrosion resistant to aqueous sulfuric acid.

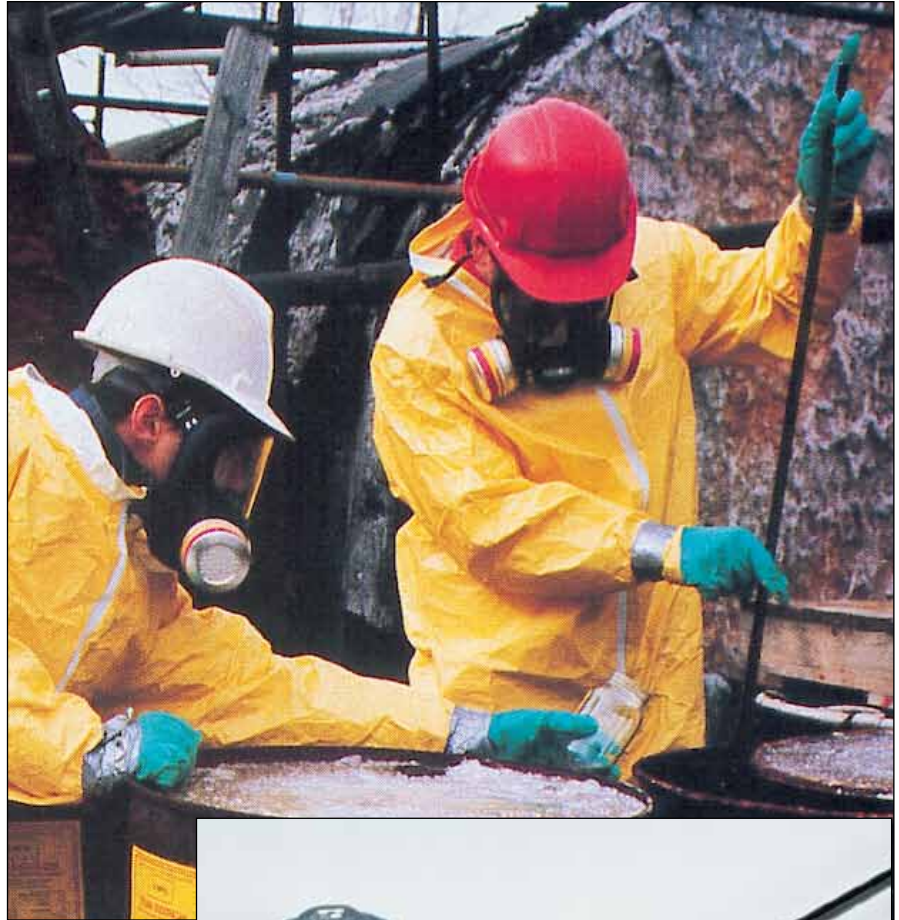
## PROBLEM

The customer must maintain the acid at room temperature, because, as the battery acid is heated, it gives off unwanted hydrogen gas. He also wants to continuously monitor the bath before it is emptied into the battery housing, and the control room is several hundred feet away. Does OMEGA have anything to help him? ...Yes! Read on!

## OMEGA® SOLUTION

OMEGA designs an industrial thermocouple with a cast iron protection head (Type NB1) with PFA coating over the stainless steel sheath, and a ½ NPT fitting. The probe can be permanently installed in the process; the PFA coating not only protects the thermocouple's sheath from the corrosive acid, but it also helps to insulate the probe electrically so the grounded junction can provide a fast response.

In addition, we supply a TX91 miniature transmitter installed in the protection head to convert the thermocouple output to a 4 to 20 mA signal. With regular copper wire, this signal can be transmitted over long distances so it reaches the customer's control room.



PFA Coated Industrial Probe with Transmitter Mounted in Head

## Other Examples of Custom Modifications...



PFA Coating Is an Alternative to Costly Alloy Thermowells



Temperature Sensors Can Be Supplied With a PFA Coating for Corrosion Resistance and Electrical Isolation



Protective PFA Coating Allows Use of RTD Accuracy in Corrosive Environments