

Case Study #2

Providing a solution to monitor stability of multiple electrode components during shelf-life of electrode

Overview

Intelesens was approached by a customer who required a solution for monitoring their product whilst in storage. The investigation was to take into consideration multiple material reactivity, robust conductive properties over the product shelf life and cost effectiveness.

The result was a solution in which a common material was selected from the current product. The material could be manipulated to enable continuous monitoring without additional research into material stability. The solution was also simpler than the proposed concept from the customer.

CHALLENGE

Impedance measurement between two similar components of the product to assess their condition over the shelf-life period of the product. This was to ensure that the product was in a suitable condition for use when required. The current method required an additional customised component of a new material to be procured by the user and used to press the two adhesive assemblies together to maintain an electrical pathway.

ACTION TAKEN

- Using the same material as used in the product conductor, an alternative bridge was designed to contact both adhesive parts and enable a permanent electrical pathway.
- Intelesens redesigned the separator used to hold the two adhesive assemblies during storage.
- This enabled a more robust product – product connection with the conductive bridge.
- Our superior solution removed the introduction of a new foreign material which was likely to require a material stability assessment.

RESULT

- The testing of the solution was successful and was proposed to the customer for review.
- The solution was significantly more cost effective and less cumbersome than that originally proposed by the customer.

Key Observations

- Minimising the introduction of new materials into the current products reduced the need to assess material reactivity as the common material has already been assessed for performance and chemical assessment in accordance with the ISO standards.
- Our expertise in materials and electrode performance allowed us to provide a far more cost effective and simpler solution for the client.



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