CamPure Corrosion Coupon

Passive Corrosivity Measurement

- Simple, reliable corrosivity measurement
- Easy to install
- Completely passive technique
- No electrical supply or air pumps required
- In accordance with ISA 71.04:2013
- Concise, easy to read reporting

Introduction

The simplest and most common method of determining corrosivity is to expose a prepared metal surface to the environment in question. After the exposure period, a laboratory analysis is used to measure the effect of the environment on the metal surface. The results are reported in terms of the corrosivity categories listed in the standard ISA 71.04:2013. (G1 - Mild, G2 - Moderate, G3 - Harsh, GX - Severe). CamPure Corrosion Coupons are intended for use in electrical control rooms in process industries, data centres and other locations where corrosion of metals and other materials is an issue. The coupons may be used to evaluate an environment prior to air treatment and after installation of molecular filtration to monitor the ongoing effectiveness of the equipment.

CamPure Corrosion Coupon

The device consists of 1 or 2 high purity metal strips (usually copper and silver) mounted on a plexi-glass holder. For meaningful results, it is important that the surface of the metals are prepared according to the specified procedure. The coupon is supplied in airtight packaging to protect the strips from contamination prior to use.

Use

The coupon must not be removed from the packaging prior to use. Care must be taken when opening the packaging and mounting the coupon. In particular, nothing must come into contact with the metal strips. The packaging should be retained to return the coupon to the laboratory. On installation, the data fields on device label should be filled-in (installation date, location reference etc.). The device should be mounted vertically in an open area with free air circulation within the space, but not directly adjacent to air vents, doors, windows. After a 30-day exposure period, the identification label should be completed with demounting date. The coupon should be sealed up in the packaging and returned to the laboratory. Care must be taken to avoid touching the metal strips.

Report

In the laboratory, the nature of the corrosion layers on the metal coupon surfaces is investigated by “electrolytic cathodic reduction”. This technique investigates the amount of different corrosion products on the surfaces of the 2 different metals. The observed thicknesses of the corrosion layers (measured in Angstroms) allow the corrosivity of the air in the enclosed space to be reported according to the classifications in the most commonly used standard; ISA 71.04 2013.