

“Eco Checker II” Operation Manual

Thank you for purchasing Eco Checker II, a corrosive gas measuring kit. Before starting measurement, please read this instruction manual and use this kit properly.

◇ What does “Eco Checker II” estimate?

Electronics devices sometimes fall in troubles due to metal corrosion caused by corrosive gasses in the atmosphere. By using “Eco Checker II”, you are able to assess the corrosive attack from environment, such as the level of corrosion and the metals tend to corrode. You can also estimate the kinds and quantities of corrosive gasses, though they are not absolute concentration.

◇ Estimation of corrosive gasses

After 30 days of Eco Checker II exposure, you can estimate the kinds and quantities of corrosive gasses by comparing the colors of metal pieces with color samples. The color samples and estimation method are posted on our Home Pages below,

<https://www.eurofins.co.jp/efql/english>

To evaluate the effects of corrosive gases quantitatively, you need to request the X-ray fluorescence analysis.

◇ Specification

Detectable gasses	Sulfurous acid gas, Hydrogen sulfide gas, Chlorinated gas *Any particles that may cause the corrosion can be detected as correspondent gases, such as; Sulfur => hydrogen sulfide, Sea salt => chlorinated gas
Location to exposure	Indoors, under eaves (when outside) Suspend the case with the string. Exposing outside, keep the case from rain surely.
Duration	30 days, or 14 days (for XRF analysis only)

◇ Accessories

The package encloses an Eco Checker II kit, this manual, the following accessories:

(1) Hanging string (2) Poly-ethylene bag (3) Sticker (4) Color sample

◇ Usage

① Quantitative diagnosis of corrosive gases in the atmosphere

※It is recommended that the transparent cover remains to be mounted and the kit is exposed where the wind is weak.

- Please take out the Eco Checker from a bag just before exposure. Please do not remove the cover.
- Please tie the attached string firmly to the hole on the case.
- Please fill “Measurement Point” and “Start date” in the attached sticker, then put it into the string, as shown in Fig. 1.
- Please expose the kit in 14 or 30 days to the point where you want to measure.
- After exposure, pick up the kit and fill “End date” in the sticker.
- Compare the color of test pieces with color sample as soon as possible.

When you need several days from picking up to comparing, keep the kit in the provided Poly-ethylene bag.

② In situ diagnosis of corrosion rate

※It is recommended that the transparent cover would be removed, you need not to care the wind.

- Please take out the Eco Checker from a bag just before exposure.
- Please snap the fixing part shown in Fig. 2 (one place).
(Please be careful that you do not get hurt.)
- The transparent cover can be removed by shifting the cover as shown in Fig.3.

[Note] · **Please do not discard the transparent cover.**

It is used as a protective cover of the test pieces during transporting the kit.

· **After the cover removal, never touch the surface of the test pieces.**

The surface of the metal pieces were cleaned with special handling.

If you touch the surface, you will not be able to get correct diagnose due to the influence of the human body oil.

- Please fill “Measurement Point” and “Start date” in the attached sticker.
 - Please exposing the kit in 14 or 30 days to the point where you want to measure.
※As shown in Fig. 4, please fix the kit not to rotate.
 - After exposure, pick up the kit and fill “End date” in the sticker.
 - Compare the color of test pieces with color sample as soon as possible.
- When you need several days from picking up to comparing, keep the kit in provided Poly-ethylene bag.

③ Quantitative analysis of corrosion degree of metal test pieces by XRF analysis.

We can report the quantity of the corrosion degree as “Estimated concentration”, “Sulfide corrosion rate of silver” by analysis of the test pieces with X-ray fluorescence analysis.

- “Estimated concentration” is the value that is obtained by converting the amount of corrosion into the corrosive gas concentration in the atmosphere.
(It is not the actual absolute value of the gas concentration.)
- “Sulfide corrosion rate of silver” is the value that is obtained from the correspondence between the cathodic reduction analysis and X-ray fluorescence intensity.

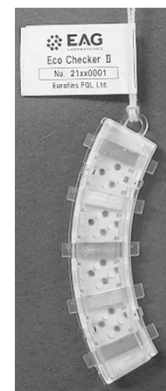


Fig.1

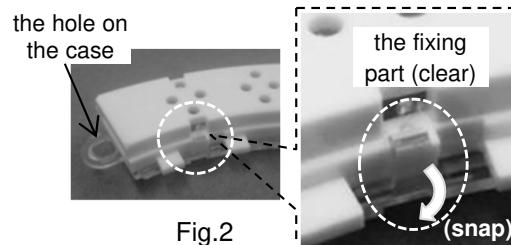


Fig.2

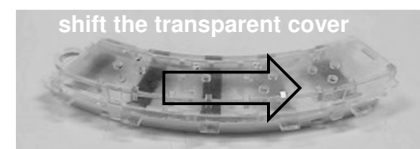


Fig.3



Attached to the wall with double-sticked tape

Held in the clamp

Fig.4