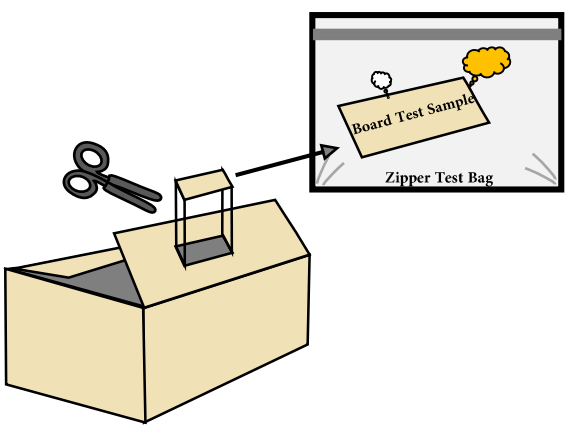
Proposal for the use of Silver Scale™ in logistics

Monitoring of outgassing from cardboard

Corrugated cardboard contains sulfur compounds, and corrosive gas is generated due to an increase in temperature. Products packaged in cardboard boxes are expected to be subjected to high temperatures and humidity when transported by ship, so there is a risk that the products will corrode.

Results of Analysis of Sulfur Compounds in Corrugated Cardboard



Analysis results of sulfur compounds Generated from corrugated cardboard

No.	Detected compound	Amount of gas generated [ng/cm²]1)
1	Hydrogen sulfide	0.045
2	Carbonyl sulfide	0.29
3	Carbon disulfide	1.3
4	Other sulfur compounds	0.043
5	Dimethyl disulfide	0.16

1) Amount generated per 1 cm² of corrugated cardboard

Ship Transportation Test Results

Means of Transport: By sea

Departing from Japan in Jan.→ Arriving in Singapore in Mar. →Arriving in Japan in May
Round trip between Singapore and Japan took in total 4 months

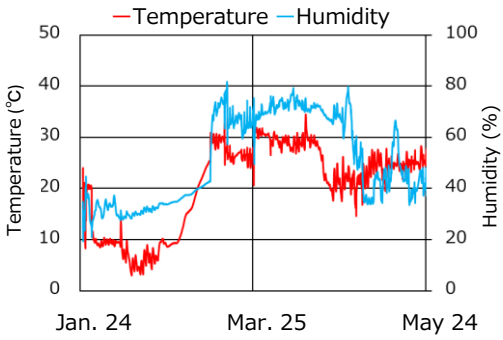
Sealed in a PE bag and installed in a cardboard box

Corrosion length L：0.2mm
Corrosive category：IC2

Installed in a cardboard box

Corrosion length L：2mm
Corrosive category：IC3

Temperature & humidity changes during ship transportation



* The corrosive category is specified in ISO11844-1.