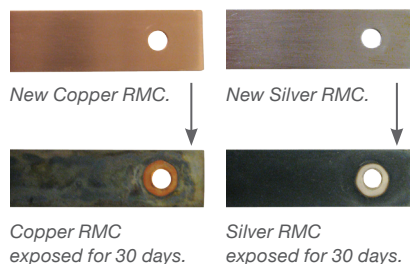


SAAF™ Reactivity Monitoring Coupons

- Investigative tool to gauge gas-phase filter performance
- Ideal for site assessment reports related to air reactivity
- Qualifies the presence or absence of gas types (sulfur compounds, chlorine compounds, compounds that form oxide films, and unknowns)
- Quantifies reactivity of environment per ISA-71.04-2013 and related coupon standards

AAF Flanders' Reactivity Monitoring Coupons (RMCs) consist of copper and silver coupons mounted on a plastic panel. RMCs measure corrosion by reacting with the environment (gases, relative humidity, and temperature) to form various corrosion films. The type and thickness of corrosion films formed on the coupon provide information about the environment. Metal RMCs are available for environments involving higher concentrations of corrosive gases, and Glass RMCs (composed of a metal coated glass substrate) are available for lower concentrations of corrosive gases.



Measuring Environmental Reactivity

RMCs determine environment reactivity through exposure in the environment and subsequent lab analysis. This technology is used to investigate the condition of control rooms or other protected environments housing electronic equipment in industrial facilities such as pulp and paper mills, petrochemical refineries, and chemical plants. RMCs are also used to investigate the condition of facilities storing sensitive materials such as museums and archives, data centers, and microelectronic production or storage areas. Additionally, mechanical equipment like compressors can be affected by reactive gases in the air and can be evaluated with RMCs. Various standards and classification schemes are in existence which correlate corrosion film amounts to reactivity classifications.

Where to Use Reactivity Monitoring Coupons (RMCs)

Typical on-site test locations for RMCs include protected or critical spaces near critical electronic equipment (Figure A) or sensitive materials, upstream and downstream of gas-phase filters, and outdoor air intakes (Figure B).

In addition to quantifying the reactivity of a particular environment, RMCs can be used as investigative tools to gauge the performance of gas-phase filter systems with respect to removal of gas types and the media replacement condition.

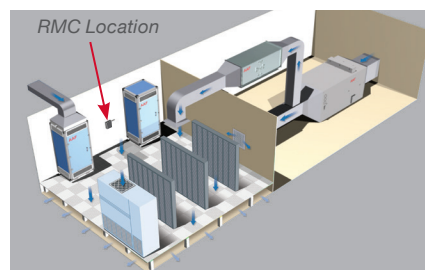


Figure A

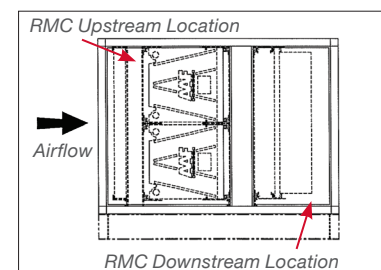


Figure B



Reactivity Monitoring Coupon – Metal p/n: 392-801-001



Reactivity Monitoring Coupon – Glass p/n: 392-801-000

SAAF™ Reactivity Monitoring Coupons

Reactivity Monitoring Coupon (RMC) Reports

AAF Flanders' Air Quality Analysis Report documents the findings from the analysis of the coupons. Included in the report are photographs of new coupons and exposed coupons for visual reference. Also included is a summary of the resulting environment classification, a sample electrolytic reduction curve, total corrosion formed on the coupons during installation, and individual corrosion film information to differentiate between types of contaminants.

Different industries and applications have unique reactivity level standards to define acceptability. Museums and archives, for example, require significantly lower reactivity levels than industrial facilities like pulp and paper mills. Therefore, AAF Flanders offers RMC reports in four different formats—each reflecting a different scale for characterizing the overall reactivity level. Formats include industrial, museums and archives, cleanroom, and compressor (or machinery) intake filter.



The table below shows the angstrom range, based on the Industrial format per ISA-71.04-2013

Classification	Angstroms /30 days		Reliability Statement
	Copper	Silver	
G1-Mild	< 300	<200	sufficiently well controlled, corrosion is not a factor
G2-Moderate	< 1000	<1000	effects of corrosion are measurable and may be a factor
G3-Harsh	< 2000	<2000	high probability that corrosive attack will occur
GX-Severe	> 2000	>2000	only specially designed and packaged equipment would be expected to survive

Directions and Specifications

RMCs are placed in the environment to be tested for an average of 30 days. An information label is provided on the front of the coupon to record the location tested and the "Date Installed" and "Date Removed." Please note that the dates installed and removed are required to calculate time in service which, in turn, is used to calculate the standardized final result of "angstroms per 30 days." Failure to provide this information will result in a delay in issuing the report. Upon completion of the testing period, the coupon should be returned to your regional AAF Flanders Air Quality Test Laboratory in a ziplock bag.

Accuracy (typical)

- +/- 25 Å of total corrosion standardized to 30 days

Dimensions

Metal: 5.25" L x 4.00" W

Glass: 4.50" L x 4.00" W

Exposure Time

- Typical recommendation = 30 days
- In harsh environments, two weeks may suffice if there is a color change. In clean environments, as long as 90 days may be needed to obtain enough corrosion films.

Purity of Metal

- Copper: >= 99.99%
- Silver: >= 99.99%

Storage and Shipping

Long term storage of RMCs is not recommended. For best results, RMCs should be utilized as soon after manufacturing as possible. RMCs being returned for analysis should be securely sealed in a ziplock bag.



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AAF Flanders has a policy of continuous product research and improvement and reserves the right to change design and specifications without notice.

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