

## Appendix: Photos of Scored Coupons

Updated: 10/01/2020

This photo library shows photos of scored copper coupons that were aged 28 days in the Met’s current Oddy test system (Method: 20190226\_OT\_1). This method involves the hanging of coupons from laser sintered nylon holders. The coupons are unfolded and flattened for scoring and photographing. Photographs of the coupons are taken separately with two different light sources—one is a diffuse lighting meant to distinguish colors and the other is a glancing angle light source meant to pick-up on surface textures. The light source techniques are abbreviated as “Si” for diffuse light and “GA” for glancing angle light. See table below for a key. “GA” photos are only displayed if they show more detail than “Si” photos. Coupon photos are labelled with the abbreviation of the light source that was used to capture the photo. If a glancing-angle-photo appears, it is shown next to its corresponding diffuse-lighting-photo.

Photo Lighting Set-up Abbreviation Key	
<b>Si</b>	Diffuse lighting meant to distinguish colors.
<b>GA</b>	Glancing angle light meant to pick-up on surface textures.

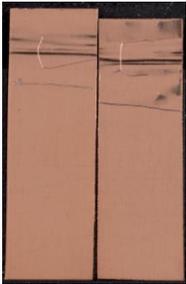
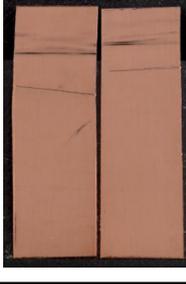
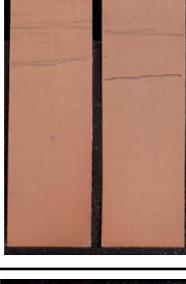
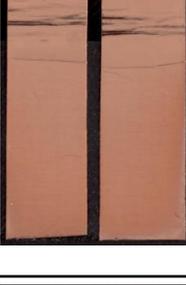
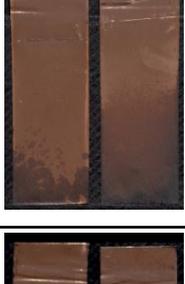
### The following ratings are used to assess non-control coupons:

**Permanent (P) rating:** The material tested may be used indefinitely in the presence of art.

**Temporary (T) rating:** The material is safe for use near but not in contact with art for up to six months.

**Unsuitable (U) rating:** The material should not be used in contact with or near art and another material should be found.

## Copper Corrosion Library:

Corrosion: Definition	Intensity	Rating	Side Angle (Si)	Glancing Angle (GA)	Comments
<b>Control</b>	N/A	N/A			Control coupons from jars without sample material – no visible corrosion
<b>Red Tarnish:</b> a change in color without the loss of reflectivity that results in a red hue	Very Slight	P			Very slight red tarnish at the bottom edges of the coupons; only noticeable when placed next to a control coupon
	Slight	T			Slight red tarnish on the bottom half of the coupons
	Moderate	T			This is the lower limit of moderate red tarnish; these coupons also have light haze at the bottom edge visible in the glancing angle view
					This is the upper limit for moderate red tarnish
	Extreme	T			Extreme red tarnish overall
<b>Rainbow Tarnish:</b> a change in color without the loss of reflectivity that results in a rainbow-like color gradient	N/A	T			Rainbow tarnish overall
<b>Haze:</b> surface alteration resulting in diffuse reflection of light  <b>-Light Haze:</b> visible at some angles  <b>-Heavy Haze:</b> visible at all angles	Light	T			Light haze in the center of the coupon, visible in the glancing angle view
	Heavy	U			Heavy haze on the lower half of the coupons, appears as matte purple
<b>Black Corrosion:</b> spots or areas of three dimensional black crystal growth	N/A	U			Black corrosion spots overall; also moderate red tarnish and heavy haze at the bottom edge