

## Finishes - Chemical Colouring

Because of the time required for copper to weather to the ultimate blue-green or gray-green patina, men have sought for centuries to hasten the process by chemical means.

Colouring however is an art, mainly a matter of craftsmanship and experience. Chemical colouring techniques depend upon time, temperature, surface preparation, humidity and other variables which influence the ultimate result. A wide range of coloured finishes may be produced on architectural copper-base alloys by conversion coatings that are chemical in nature. The purpose is to hasten the natural weathered effect that generally results from exposure to the elements.



Several conversion treatments are in general use which produce the patinas (verde antiques) and statuary (oxidized) finishes.

Patinas are primarily developed using acid chloride treatments or acid sulphate treatments. Because of the number of variables involved, chemically induced patinas are prone to such problems as lack of adhesion, excessive staining of adjacent materials and inability to achieve reasonable color uniformity over large surface areas. These potential shortcomings should be considered when specifying such treatments. Due to the large number of requests for historical chemical applications CDA has compiled the most frequently used chemical processes.

Because production of an artificial patina on copper is dependent upon a number of variables, including temperature, humidity, wind velocity, surface condition of the copper and method of application, wide variations in the result achieved have been experienced. Reliability of all present methods can, at best, be considered only fair to poor.

The following treatments have exhibited some degree of success:

### Statuary Finishes:

- A. Ammonium Sulphide base.
- B. Potassium Sulphide base.

### Green Patina Finish:

- A. Ammonium Sulphate base.
- B. Ammonium Chloride base.
- C. Cuprous Chloride/Hydrochloric Acid base.

For specific solution specifications and application procedures contact Austral Wright Metals for an Application Data Sheet - **How to Apply Statuary and Patina Finishes**.

Factory applied pre-patinated sheet is also available for architectural projects. Contact Austral Wright Metals for more information.

