



New Palo Alto Ordinance Prohibits Copper Roofing Materials

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Rain runoff from buildings and streets picks up copper and other pollutants. This runoff flows untreated into creeks and the Bay resulting in thousands of pounds of copper entering the Bay each year. The sources of copper include vehicle brake pads, automotive fluids, wash waters, and architectural building materials.

In 1999 and 2000, the City of Palo Alto's Regional Water Quality Control Plant (RWQCP) studied the impacts of architectural copper on stormwater pollution. The results are summarized in the document "*Architectural Uses of Copper: An Evaluation of Storm Water Pollution Loads and BMPs.*"¹

Some of the more important conclusions include:

- The amount of copper released per year from copper roofs in the RWQCP service area is estimated to be greater than the annual industrial copper discharges to the RWQCP.
- An incremental increase of 1000 square feet of copper roofing can lead to, by itself, a copper concentration in a creek during an average rainfall that equals the chronic toxicity criteria established by the U.S. Environmental Protection Agency.

Although it is difficult to predict the fate of copper in roof runoff, it is clear that copper in the runoff is in concentrations known to be toxic to aquatic life. Currently, there are no practical or effective ways to prevent copper from washing off of copper roofs or to remove copper from roof runoff. Therefore, in August 2002, the City of Palo Alto adopted an ordinance prohibiting the use of copper-containing roofing materials, shingles, and gutters in new buildings, and to prohibit their use for replacement of roofs except in historic buildings.

Ordinance Text (Municipal Code Section 16.09.160(b))²

(b) Copper roofing materials. On and after January 1, 2003, copper metal roofing, copper granule containing asphalt shingles and copper gutters shall not be permitted for use on any residential, commercial or industrial building for which a building permit is required. Copper flashing for use under tiles or slates and small copper ornaments are exempt from this prohibition. Replacement roofing and gutters on historic structures are exempt, provided that the roofing material used shall be prepatinated at the factory. For the purposes of this exemption, the definition of "historic" shall be limited to structures designated as Category 1 or Category 2 buildings in the current edition of the Palo Alto Historical and Architectural Resources Report and Inventory.

¹ Document available at www.city.palo-alto.ca.us/cleanbay/pdf/cuarchitect.pdf

² Palo Alto Municipal Ordinance is available at www.city.palo-alto.ca.us/government/municipalcode.html. Scroll down to Title 16. Chapter 16.09 is Sewer Use Ordinance. See Section 16.09.160(b) for this ordinance.

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