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**What is rosin paper?
That is a surprisingly
difficult question
to answer.**

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The Mysterious Red Rosin Paper

Rosin paper—also sometimes referred to as building paper, red rosin paper, or slip sheet paper—is a common underlayment component that has been used in building construction since the nineteenth century. In the construction industry, rosin paper is so commonplace that it is often taken for granted. But what is rosin paper, really? That is a surprisingly difficult question to answer.

The name “rosin paper” comes from the fact that, for decades, rosin was used to size this type of paper.¹ Sizing refers to the practice of treating paper to reduce its ability to absorb liquid. In the eighteenth and early nineteenth centuries, most paper sizing was accomplished using a combination of gelatin and alum (aluminum sulfate). Rosin-alum size was discovered later in the nineteenth century and quickly became the most common sizing agent because it was less expensive than gelatin-alum sizing. The purpose of the alum in rosin-alum size was to facilitate bonding of the rosin to the paper pulp. The drawback was that alum greatly increased the paper’s acidity, which, over time, led to the chemical breakdown of cellulose fibers and degradation of the paper. By the late 1980s, alum-rosin size had largely been replaced with new alkaline-sizing agents made from synthetic polymers.² Rosin and alum may still be used in sizing agents for some types of paper, but they are not nearly as common as they once were.

The composition of the paper itself is another feature that has changed throughout history. Prior to the nineteenth century, most paper was made of “rag stock,” in which cellulose was derived from cotton, hemp, or linen. During the nineteenth century, cellulose began to be derived instead from a variety of other plants. Eventually, wood became the most popular source. Today’s rosin paper is often



Rosin paper directly below new copper batten seam roofing.

made from recycled paper. Although the paper’s natural color is brown, many manufacturers dye it red, presumably because red is the color most commonly associated with rosin paper. Advertisements and *Sweet’s Catalog* entries dating back to the early 1900s indicate that, even then, rosin paper was commonly red, though the reason is unknown.

Weight, too, has changed, most likely in an effort to reduce the cost of production. Historically, rosin paper weighed between four and twelve pounds per one hundred square feet.³ Many current design publications as well as numerous outline specifications available online still state that rosin paper should weigh between four and six pounds per one hundred square feet. According to current product data

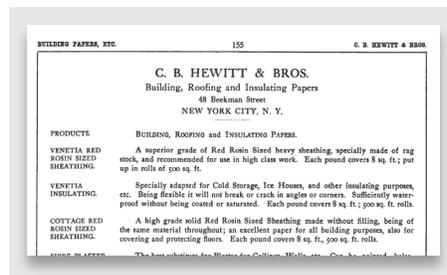
Red Rosin Paper (CONTINUED)

from manufacturers of rosin paper, however, the actual weight consistently falls between 3.0 and 3.4 pounds per one hundred square feet.

For unknown reasons, the ASTM Test Method for Rosin in Paper and Paperboard was withdrawn in 1993.

Today and throughout history, one common use for rosin paper is as a slip sheet between felt underlayment and metal roofing, like flat seam or standing seam copper. Roofing felt is impregnated with asphalt and can become sticky when it heats up or comes in contact with a heated surface (like the underside of a copper roof on a sunny day). The purpose of the slip sheet is to prevent the copper roofing from sticking to the felt and inhibiting necessary thermal movement of the copper. In other words, rosin paper allows the copper to “slip” over the felt as it moves—hence the term “slip sheet.”⁴

While information about the history and development of rosin paper is hard to come by and imparts an air of mystery to the material, don't stop specifying and using it below metal roofing and gutter liners!



An excerpt from a 1906 entry in Sweet's Catalogue of Building Construction advertises red rosin paper manufactured by C.B. Hewitt & Bros.

¹ Rosin is a solid form of pine tree resin that has been heated to remove turpentine. This is the same substance used to increase friction or establish a better grip by string instrument players, archers, baseball pitchers, ballet dancers, gymnasts, rock climbers, weightlifters, bull riders, and bowlers.

² Thurn, Jim. "History, Chemistry, and Long-Term Effects of Alum-Rosin Size in Paper." <https://pacer.ischool.utexas.edu/html/2081/1396/j-thurn-03-alum.html>. Dec. 2003. Synthetic polymers include alkyl ketene dimer (AKD) and alkenyl succinic anhydride (ASA).

³ ASTM Special Technical Publication No. 60-B. *Paper and Paperboard Characteristics, Nomenclature, and Significance of Tests*. Philadelphia, 1963

⁴ Whether rosin paper is required as a slip sheet atop synthetic underlayments depends on the specific properties of the synthetic material. If soldering is to take place, it may be necessary to install felt and rosin paper above the synthetic underlayment to help protect it from charring and burning.

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