

BY JIM BENNETTE

Beware Coal Tar Pitch

Have you ever been asked to cut a new curb into an existing built-up roof, say on an older home or a small commercial structure? Maybe you've been asked to do a complete tear-off? If so, during the demolition, did your eyes start to burn from the demo dust permeating the air? Or worse yet, after you labored in the sun for a while demoing the roofing, did your skin turn a horrible red color? If these symptoms sound familiar, it's likely that you were handling coal-tar-pitch roofing.

Two types of BUR. Coal tar pitch is a by-product of converting coal into coke for steel manufacturing—and, way back when, of gasifying coal to make illuminating gas—whereas asphalt is a by-product of refining petroleum. Visually they're similar, but chemically they are much different. In general, the built-up roofing (BUR) industry has been declining since the 1970s, with the advent of reliable single-ply membranes, though asphalt BUR is still installed today. New coal-tar-pitch roof installations, however, are extremely rare.

Because of the different properties of asphalt and coal tar pitch, roofers were careful not to mix the two materials on the same project. Application tools—such as melting kettles, mops, and mop carts—needed to be dedicated to either pitch or asphalt. Also, each had its own specific felt membranes and mastic products: pitch paper and mastic for pitch roofs, and asphalt paper and mastic for asphalt roofs.

BURs with PAHs. Coal-tar-pitch roofing is particularly pungent and contains a slew of harmful chemical compounds (asphalt roofing is relatively benign compared with pitch).

These include carcinogens such as benzene and polycyclic aromatic hydrocarbons (PAHs). Chemical irritants in the dust are the primary cause of burning eyes and red skin—red skin being a phototoxic response to these chemicals and subsequent exposure to the sun.

Health risks aside, coal tar pitch has proven to be one of the most resilient roofing products ever. Its low melting point—lower than asphalt—allows it to “self-heal.” There are pitch roofs out there that are 50 years old or even older. As a result, we frequently run into them today. In most cases, we try to leave pitch roofing in place (if the deck's in good shape). We remove any loose gravel from its top coat, then install the new roofing over it.

Pitch initiation. When I started out as a union roofer in the 1980s, you weren't considered a real roofer until you ripped your first pitch roof—“getting the burn,” they called it. Seasoned roofers laughed off the pain and told you to toughen up: “Drink a beer, kid, and forget about it.” That was the attitude. A lot of fledgling roofing careers were cut short by this “pitch initiation.” I can remember jobs where we went to lunch, and some guys didn't come back. They were gone. Some didn't even come back for their paychecks.

Today, topical pitch creams and gels are available (as well as protective “pitch” hoods—pull-over hoods made from Dacron) to help combat “the burn.” Tear-off crews typically now wear respirators and safety goggles—a far cry from the old tar-and-gravel crews back in the day.

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There are two types of built-up roofing (BUR): asphalt and pitch. Here, a tear-off crew begins work on a circa 1950s “pitch” roof. The inset photo shows a tar-and-gravel crew installing a pitch roof. There were three main guys on an install crew: a mop man, a paper setter, and a kettle man. The mop man ran the roof and skillfully glided the mop (pitch mops were twice as heavy as asphalt mops); the paper setter followed his lead; and the kettle man arrived on site early to start the kettle and kept it full during the day. Apprentices lugged the “hot” from the kettle to the carts.

Photos: Color photo, Jim Bennette; inset, James McCawley, Roofing, Estimating, Applying, Repairing