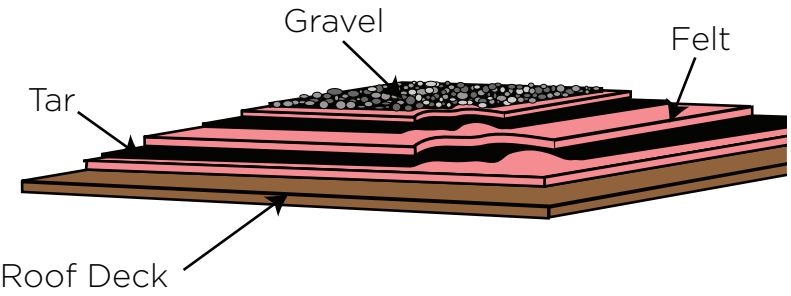
Built-up Roof

A built-up roof, sometimes called BUR or a tar-and-gravel roof, is the oldest and most common flat roofing system.



Components of a BUR

Asphalt – this tar-like material is the waterproofing component.

Roofing felt – like thick paper impregnated with asphalt; gives strength to the roof membrane, holding the BUR together.

Gravel– this is the protective topping material. This is the only part you can see on a completed built-up roof. In some areas, reflective paint is used instead of gravel. This works but needs maintenance and re-painting.

Building a BUR System

A roofer applies coats of hot asphalt to layers of roofing felt, embedding the felt into the asphalt while the asphalt is still hot, and continuing the process until the desired number of layers or plies is achieved. A residential home can have three to five plies, four being typical. A flood coat of asphalt is spread on top of the final felt ply, with gravel then raked into this still hot asphalt coat.

Purpose of the Gravel

Direct sunlight on asphalt will cause fast deterioration. Gravel reflects the sun's ultra-violet radiation. Gravel also helps spread rainwater across the roof, increasing surface area for faster evaporation.

Are BURs Leak Prone?

Flat roofs are not prone to leakage so much as they are prone to neglect. Since a flat roof is not visible from the ground, problems may go unnoticed until it is too late. A neglected flat roof is more likely to leak than a conventional sloped roof. A well-maintained flat roof, however, is reliable.

Maintenance is Key

Since a flat roof tends to collect debris, check it twice a year, clearing its surface, gutters and drains. Also ensure gravel covers all areas completely so the asphalt is protected from the sun.

With periodic maintenance, minor issues can be addressed before becoming major problems. Repairs to BURs are not a do-it-yourself project. Call a roofing contractor familiar with BUR.

Common BUR Defects

Blisters – bubbles that form under or between plies, usually as a result of moisture trapped between the plies. Blisters occur from exposure to the sun: heat transforms moisture into water vapor, which expands into a blister. Blisters can measure a few inches or feet. They expand and contract with the heat of the sun, prying the gravel from the asphalt, eventually breaking the roof apart at the blister. A competent roofer can repair a BUR that has a few blisters. If many blisters appear, consider resurfacing the roof.

Exposed asphalt – asphalt exposed to the sun will quickly deteriorate. A roofing contractor can add gravel to exposed areas.

Ponding – refers to a flat roof with standing water 48 hours after a rain. A little puddle of water remaining on the roof for a day after a rain is not a defective roof. A BUR may not have a sufficient slope towards a drain, or may have low spots that do not drain. Even a flat roof should slope towards a drain or the roof gutters. A BUR roof can be re-sloped during resurfacing. Occasionally, adding a drain at the low spot can solve a ponding problem. Before calling a contractor, clear debris from the roof drains.

Old – like any other roof, a BUR becomes unreliable as it ages. Over time, heat and ultra-violet radiation degrade the asphalt, making it shrink and become brittle, eventually cracking and exposing the felts. Water gets into the seams and between the plies, causing blisters. Eventually, the blisters will leak.

Leaks – leaks from a built-up roof can be difficult to trace because water does not always migrate into the home directly below the leak. Call a competent roofer to trace and repair the leak.

Flashing defects – flashings prevent water from leaking into the roof at roof joints and roof penetration points. Most roof leaks occur at the flashings. Flashing details on built-up roofs are complex. Leave analysis and repair to a competent roofing contractor.

A built-up roof is reliable when properly maintained. Since good maintenance is key to all the components of your home, a built-up roof should present no more of a worry than any other roof surface.