


**Built up Roofing, cost updated February 2108**

Often mistakenly referred to as flat roofs or tar and gravel roofs, the most common roof still found on single story concrete tilt up buildings in the bay area is the "California Built Up Roof". Typically these roofs are neither flat (they have a minimum slope of 1/4" per running foot) nor are they gravel, but rather a composite membrane; each course (layer) adhered to ones preceding. These built up roofs are commonly finished with a heavy (fiber reinforced roll of coal tar) capsheet protected by embedded sand like granules much smaller than the 3/8" rock used in the traditional gravel surfaced roof.

The 4 ply system is the current standard for traditional Built Up Roofs. In addition I am including descriptions and pricing for **TPO Membrane** and **Fluid Applied Reinforced Roofs** that are gaining in popularity due to attractive pricing and their improving reputations.



**4 PLY BUILT UP ROOF** Built up roof membranes, referred to by the acronym BUR, have been in use in the U.S. for more than 100 years. These roof systems are commonly referred to as "tar and gravel" roofs. BUR systems generally are composed of alternating layers of bitumen and reinforcing fabrics that create a finished membrane. The number of plies in a cross section is the number of plies on a roof: The term "4 plies" in denotes a four ply roof membrane construction. Often a base sheet, used as the bottommost ply, is mechanically fastened to the roof or rigid insulation. Built up roofs generally are considered to be fully adhered if applied directly to roof decks or insulation.



Informational client bulletin prepared by TiCon Commercial Inspection - Specializing in commercial property inspections, for the tenants, buyers, brokers and managers of commercial and industrial properties in the San Francisco Bay Area and Central Valley.

**4 PLY ROOF (BUR) 14- 22 YEARS**

- 1 Tear off existing roofing (one layer -non asbestos)
- 2 Remove and reset rooftop AC equipment
- 3 New 4 ply roofing, installed

Total by roof size

Unit type	Roof Size in S.F. and Cost		
	5,000 - 20,000	20,001 - 50,000	50,001 - UP
S.F.	\$0.55	\$0.55	\$0.45
S.F.	\$0.50 - \$1.00	\$0.50 - \$1.00	\$0.50 - \$1.00
S.F.	\$3.70	\$3.50	\$3.10
S.F.	<b>\$5.00</b>	<b>\$4.80</b>	<b>\$4.80</b>

The reinforcing fabrics also are called roofing felts or ply sheets. Roofing felts are reinforced with either glass-fiber mats or organic mats. Felts are produced in a standard width of 36 inches and metric width of about one meter. The bitumen typically used in BUR roof systems is asphalt, coal tar or cold-applied adhesive. The asphalt or coal tar is heated in a kettle or tanker and then applied by mop or mechanical spreader. Asphalt is a petroleum product refined from crude oil; coal tar is derived from the distillation of coal. Cold-applied adhesives typically are solvent-based asphalts that don't have to be heated in a kettle or tanker. Surfaces for built up roof systems include aggregate (such as gravel, slag or mineral granules), glass-fiber or mineral surfaced cap sheets, hot asphalt mopped over the entire surface, aluminum coatings or elastomeric coatings.

**Trade Contributor: Above All Roofing,**

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Diligence is the Mother of Good Fortune -Ben Franklin

Sam Burkhouse

TiCon Commercial Inspection

Sample report and other data available at [www.ticon.com](http://www.ticon.com)