Montague Township School District

Roof Planning
and
Roof Management Strategy

Date: 1/10/22

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North New Jersey Tremco Team

Personal Philosophy

"Our customers achieve less leaks, longer roof like, lower life-cycle costs, and most importantly peace of mind."

Simply put, we help our clients keep their buildings dry, and by spending the fewest dollars per square foot per year. We use thorough roof assessments and careful planning to help our clients maximize the effectiveness of every dollar they spend on roofing. Through a combination of repair and restoration, we try to minimize the frequency of costly and disruptive roof replacement projects. Then, when replacement finally becomes necessary, we help find the best solution available to maximize roof longevity and durability, while minimizing facility disruption and meeting budget requirements.

Expert Qualifications

- More than 20 years of experience – in and around construction for 24 years.
- 1984 Graduate of Temple University – B.S. in k-12 Health Education.
  Temple University Baseball four-year letterman, Team Captain 2002. Atlantic 10 Championship.
- Successfully managed over 500 roofing projects totaling more than 5 million square feet with contract values over $100 million.
- Successfully created roof asset management plans for schools, businesses, healthcare, and government agencies.
- Employed with Tremco for 17 years.

Important Facts:

- Tremco Roofing and Building Maintenance New Jersey Area Manager.
- New Jersey Association of School Board Officials (NJASBO).
- AIA Accredited Presenter of 30 approved presentations.
- Educational Service Commission of New Jersey Approved Vendor since 2013.
- Work with Weatherproofing Technologies Inc- Over 40 service technicians to service clients.

Industries Served: Anyone benefitting from PROACTIVE roof management.

- K-12 Schools
- Universities
- Healthcare and Hospitals
- Architects and Engineers
- Federal, State, & Local Government
- Property Management and Large Corporate Businesses
- Manufacturing
- National and International Corporate Business. Large Portfolio Specialists.

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Timothy M. Noon

Roof Advisor/Sales Associate

Yaro Gorban

Senior Construction Manager

Peter C. Leiser, CSI

Architectural Assistant

Greggory Gosnell

Patch and Repair Supervisor.

Michael Jones

Job Site Inspection Maintenance Supervisor.

Steven M. Vitiello

Sweppenhiser Team Roofing Advisor

Drew Chisler

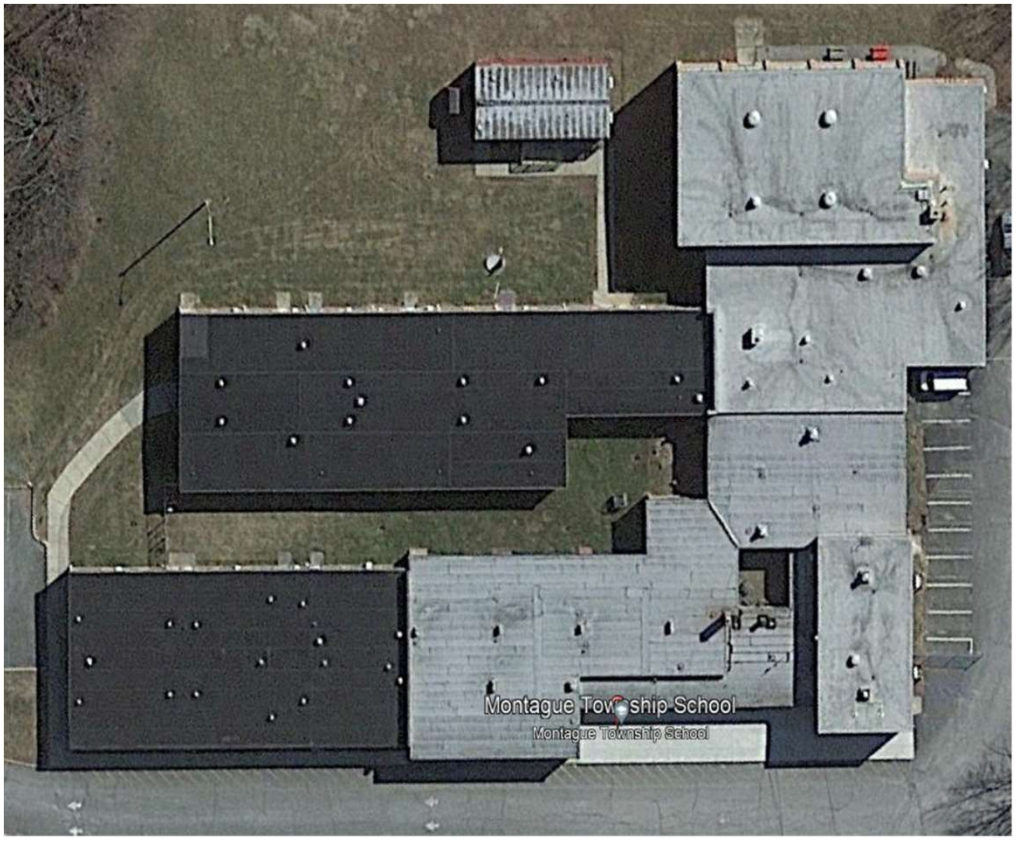
Rahul Telawane

John Slusar

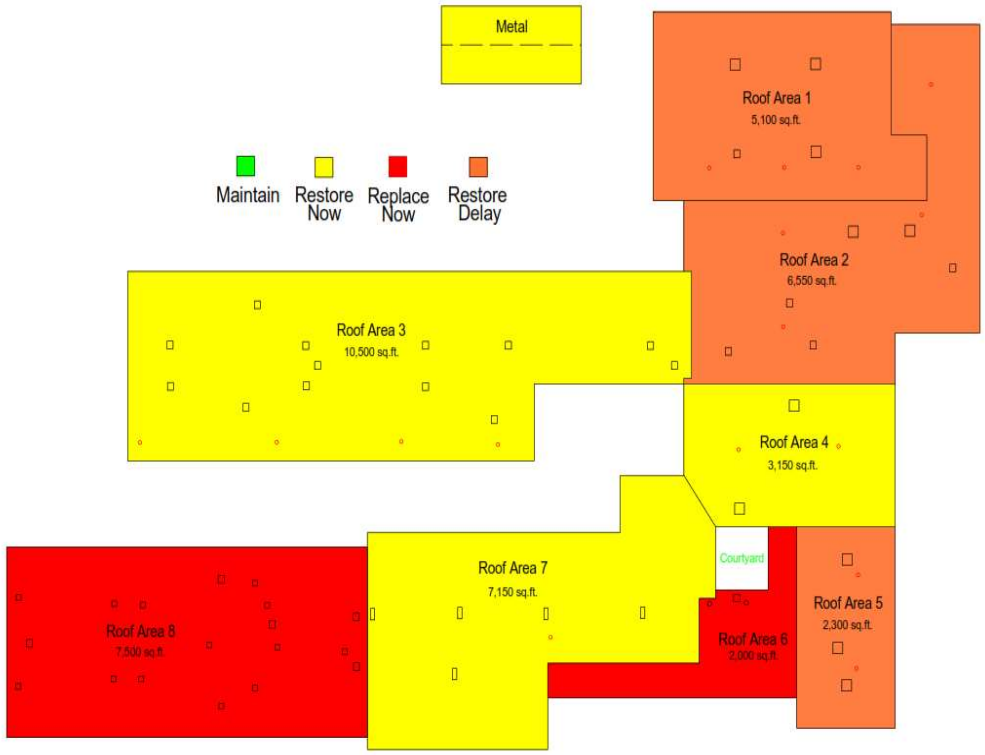
Methodology to Extend Asset Life

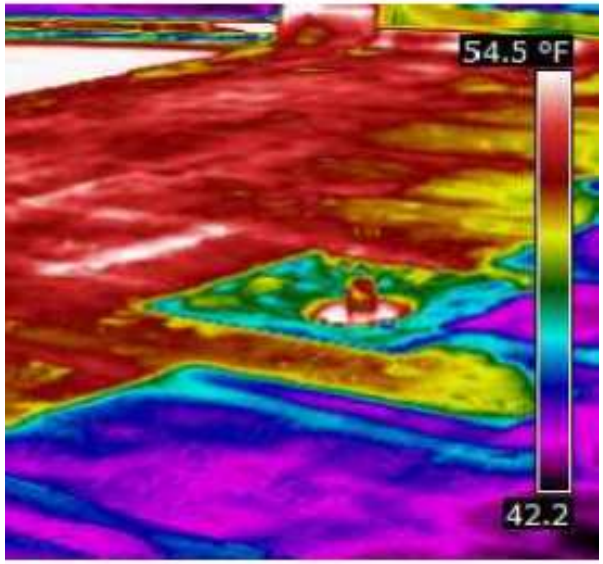
- Triage what you have
  - Maintain the "good"
  - Restore the "marginal"
  - Replace only the "failed"
- Use this data to protect what you have by planning maintenance, repairs, and/or restoration in time to avoid replacement of roofs that can still be saved

Satellite Image



Roof Management Plan





Picture of roofing system layers: Asphalt Membrane/reinforced felts, coverboard, tapered insulation & vapor barrier.

Field Survey - Leak Investigation Diagnostics

Draft 1

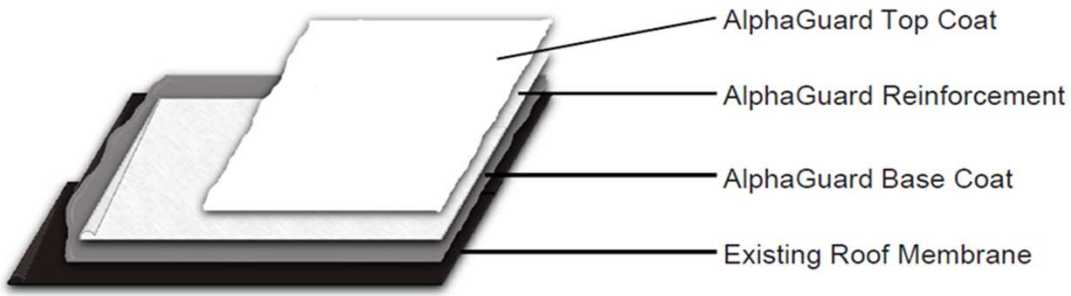
Montague Elementary School
Roof Management Plan

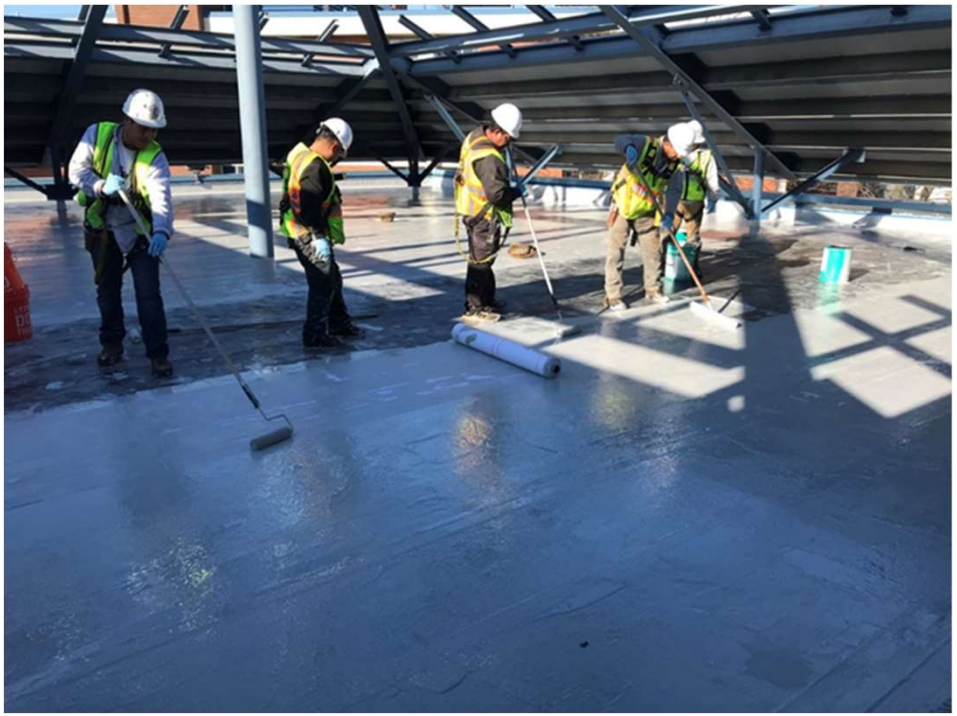
Tremco, Inc.

Roof Level/Condition	Sq. Ft.	Year Install	Warr. Term	Roof System	2022	2023	2024	2025	2026	3-Jan-22 Comments
❑ **Category 1 - Replace Early**										
Roof 6	2,000	Unk	No	Modified Bitumen	$90,000.00					Replacement: 25 Year Warranty
Roof 8	7,500	Unk	No	FA EPDM	$285,000.00					Replacement: 25 Year Warranty
❑ **Category 2 - Replace Delay**										
None										
❑ **Category 3 - Restore Early**										
Roof 3	10,500	Unk	No	FA EPDM	$235,000.00					Roof Restoration: 25 Year Warranty
Roof 4	3,150	Unk	No	Modified Bitumen	$68,000.00					Roof Restoration: 25 Year Warranty
Roof 7	7,150	Unk	No	Modified Bitumen	$160,000.00					Roof Restoration: 25 Year Warranty
Metal Roof/Building	1,500			Metal	$13,000.00					
❑ **Category 4 - Restore Delay**										
Roof 1	5,100	Unk	No	BUR			$135,000.00			Roof Restoration: 10 Year Warranty
Roof 2	6,550	Unk	No	BUR			$165,000.00			Roof Restoration:10 Year Warrnaty
Roof 5	2,300	Unk	No	BUR			$45,000.00			Roof Restoration: 10 Year Warranty
❑ **Category 5 - Repairs Required**										
Roof 1: Wet Insulation Removal and Repairs				BUR	$14,000.00					Repairs and Maintenance/ Investigation
Roof Areas 2,5				BUR	$8,700.00					Roof Repair and Maintenance
❑ **Category 6 - Good Condition**										
Preventative Maintenance/Diagnostics										
Yearly Maintenance Estimate (All Roof Areas)					$5,000.00	→	→	→	→	One Documented Inspection Per Year.
Totals	45,750				**$878,700.00**	**$0.00**	**$345,000.00**	**$0.00**	**$0.00**	


Thank You

AlphaGuard Restoration System





Commonly Used Co-Op Purchasing By NJ Public Schools

Competed and Bid State Wide

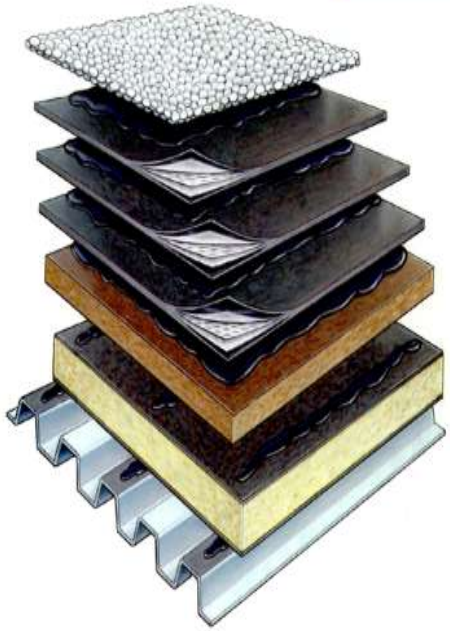
NEW JERSEY PREVAILING WAGE / DAVIS-BACON WAGE 1.28 MULTIPLIER

No.	Description	Unit of Measure	NJ PREVAILING WAGE
1	**Water Resistant Roofing**		
2	Pressure cleaning, vertical walls	SF	$ 0.18
3	Pressure cleaning, horizontal surfaces	SF	$ 0.38
4	Roof scanning to identify wet or substandard room components to be removed	SF	$ 0.01
5	Asphalt emulsion coating, waterproofing, brush applied, per coat	SF	$ 0.10
6	Rubberized coating waterproofing, brush applied, per coat	SF	$ 0.18
7	Vinyl/acrylic resin, dampproofing, brush applied per coat.	SF	$ 0.17
8	Non-pigmented synthetic resin, waterproofing, one coat sprayed on	SF	$ 0.17
9	Caulking: remove existing, clean and prime joint	LF	$ 1.10
10	Caulking, epoxied urethane compound, 2 component, 1/4" x 1/4", in place	LF	$ 1.00
11	Caulking, polyurethane, 1 component, 1/4" x 1/4", in place	LF	$ 1.29
12	Caulking, polyurethane, 1 component, 1/2" x 1/2", in place	LF	$ 1.25
13	Caulking, silicone rubber, 1 component, 1/4" x 1/4", in place	LF	$ 1.06
14	Caulking, epoxied urethane compound, 2 component, 1/4" x 1/4", in place	LF	$ 1.77
15	Caulking, silicone rubber, 1 component, 3/4" x 3/8", in place	LF	$ 1.25
16	Backer rod, polyethylene, 3/8" diameter, installed in prepared opening	LF	$ 0.24
17	Backer rod, polyethylene, 1/2" diameter, installed in prepared opening	LF	$ 0.40
18	Backer rod, polyethylene, 3/4" diameter, installed in prepared opening	LF	$ 0.42
19	Backer rod, polyethylene, 1" diameter, installed in prepared opening	LF	$ 0.50
20	Building paper, asphalt felt sheathing paper, 1 ply, 15#, in place	SF	$ 0.23
21	Building paper, asphalt felt sheathing paper, 1 ply, 40#, in place	SF	$ 0.12
22	Building paper, red rosin paper, 5 square rolls, 4#, in place	SF	$ 0.13
23	Vapor retarder adhered, 2 ply inorganic, glass Type 15, applied in Type IV (or appropriate type) asphalt, in place	SF	$ 0.26
24	Vapor retarder, 2 ply organic, Type 15 pound, applied in Type IV asphalt (or appropriate type), in place	SF	$ 0.24
25	Vapor retarder; 2-ply inorganic, glass, Type IV, applied in cold adhesive to 4' x 8' x 1/4" glass-mat embedded, water resistant gypsum core panel mechanically fastened	SF	$ 0.61
26	**Insulation**		
27	Demolition of roof insulation, per inch of depth	SF	$ 0.46
28	Demolition of lightweight cementitious fills, per inch of depth	SF	$ 0.35
29	Roof deck insulation, Isocyanurate in 4' x 4' or 4' x 8' sheets with fiberglass facers, 1" thick, R-6.6, applied Type IV (or appropriate) asphalt	SF	$ 0.49
30	Roof deck insulation, Isocyanurate in 4' x 4' or 4' x 8' sheets with fiberglass facers, 1 1/2" thick, R-10.0, applied Type IV (or appropriate) asphalt	SF	$ 0.73
31	Roof deck insulation, Isocyanurate in 4' x 4' or 4' x 8' sheets, 1" thick, R-6.6, mechanically fastened	SF	$ 0.38
32	Roof deck insulation, Isocyanurate in 4' x 4' or 4' x 8' sheets with fiberglass facers, 1 1/2" thick, R-10.0, mechanically fastened	SF	$ 0.83
33	Roof deck insulation, fiberboard in 4' x 4' sheets, 1/2" thick, R-1.39, applied Type IV (or appropriate) asphalt	SF	$ 1.05
34	Roof deck insulation, fiberboard in 4' x 8' sheets, 25/32" thick, R-2.4, installed hot/cold or mechanically attached coated six sides	SF	$ 0.36
35	Roof deck insulation, fiberboard in 4' x 4', 1" thick, R-2.78, applied Type IV asphalt (or appropriate asphalt), coated six sides	SF	$ 0.51
36	Roof deck insulation, fiberboard in 4' x 4' sheets, 1/2" thick, R-1.39, mechanically fastened, coated six sides	SF	$ 0.56
37	Roof deck insulation, fiberboard in 4' x 4', 1" thick, R-2.78, mechanically fastened, coated six sides	SF	$ 0.33
38	Roof deck insulation, lightweight cellular wire reinforced concrete fill, R-value depending on thickness, per inch of depth	SF	$ 0.54

Roofing & Building Envelope
Educational Services Commission of New Jersey
NJ State Approved Co-op #65MCESCCPS
Bid #ESCNJ/AEPA-21D

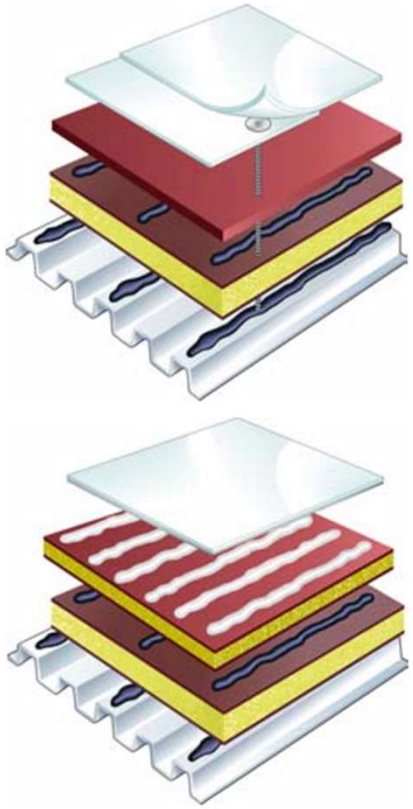
39	Roof deck insulation, vermiculite at 1/8:12, R-value depending on thickness, per inch of depth	SF	$ 1.38
40	Roof deck insulation, vermiculite at 1/4:12, R-value depending on thickness, per inch of depth	SF	$ 1.56
41	Roof deck insulation, gypsum panels, 3" thick	SF	$ 2.53
42	Roof deck insulation, Isocyanurate (black facer only), tapered, 1/8" per foot slope, Type IV asphalt, per inch of depth	SF	$ 0.68
43	Roof deck insulation, Isocyanurate (black facer only), tapered, 1/4" per foot slope, Type IV asphalt, per inch of depth	SF	$ 1.08
44	Cold insulation adhesive	SF	$ 1.00
45	CDX Gypsum, 1/4" x 4' x 8' - Mechanically attached	SF	$ 0.91
46	CDX Gypsum, 1/4" x 4' x 8' - Set into adhesive	SF	$ 1.47
47	CDX Gypsum, 1/2" x 4' x 8' - Mechanically attached	SF	$ 1.24
48	CDX Gypsum, 1/2" x 4' x 8' - Set into adhesive	SF	$ 1.82
49	CDX Gypsum with fiberglass, facer: 1/4" x 4' x 8' - Mechanically attached	SF	$ 0.47
50	CDX Gypsum with fiberglass, facer: 1/4" x 4' x 8' - Set into adhesive	SF	$ 0.74
51	CDX Gypsum with fiberglass facer: 1/2" x 4' x 8' - Mechanically attached	SF	$ 0.60
52	CDX Gypsum with fiberglass facer: 1/2" x 4' x 8' - Set into adhesive	SF	$ 0.90
53	**Roof Tiles and Shingles**		
54	Remove composition shingles and felts to decking (test for removal of asbestos prior to removal)	SF	$ 0.81
55	Remove clay, concrete, or slate roof tiles to decking	SF	$ 0.87
56	Remove wood shingles and felts to decking	SF	$ 0.31
57	Shingles, fiberglass, Class A, 25-year strip shingles, slopes 3:12 or greater	SF	$ 1.56
58	Shingles, fiberglass, Class A, 30-year, premium laminated multilayered shingles, slopes 3:12 or greater	SF	$ 2.36
59	Replace clay or concrete roof tiles	Each	$ 4.33
60	Self-adhering ice and water shield membrane for shingles, tiles, metal waterways, penetrations, valleys, ridges, edges, etc.	SF	$ 2.32
61	**Roofing and Roof Restoration**		
62	Remove built-up roof, multi-ply aggregate, non-asbestos, 1 " thick or less	SF	$ 0.95
63	Remove single-ply roof: ballast, and membrane only	SF	$ 1.11
64	Remove single-ply roof, membrane partially or fully adhered	SF	$ 1.23
65	Remove single-ply roof, membrane mechanically attached	SF	$ 1.33
66	Remove copper sheet roofing	SF	$ 0.32
67	Base sheet, 3-ply fiberglass, Type IV (or appropriate type) asphalt (17 year roof)	SF	$ 1.83
68	Base sheet, 4-ply fiberglass, mechanically attached (17-year roof)	SF	$ 1.31
69	Fiberglass cap finishing membrane	SF	$ 0.44
70	Base sheet with 2 ply, fiberglass felts, Type IV asphalt (or appropriate type)	SF	$ 1.70
71	Base sheet with 3 ply, fiberglass felts, Type IV asphalt (or appropriate type)	SF	$ 2.18
72	Base sheet mechanically attached with 4 ply, Type VI fiberglass felts, Type IV (or appropriate type) asphalt	SF	$ 1.47
73	Nail base sheet, 3 ply Type VI fiberglass felts, fiberglass cap, Type IV (or appropriate type) asphalt.	SF	$ 1.52
74	Base sheet with 4 ply; 2 polyester and 2 fiberglass felts, Type IV (or appropriate type) asphalt (20 year roof)	SF	$ 1.74
75	Built-up roof, base sheet with 3 ply polyester roofing sheet, Type IV (or appropriate type) asphalt (20 year roof)	SF	$ 1.31
76	Built-up roof, base sheet with 3 ply Type GS fiberglass, cold process adhesive (20 year roof)	SF	$ 3.37
77	Built-up roof base sheet plus 4 ply Type G2 fiberglass, cold process adhesive (30 year roof)	SF	$ 2.28
78	Built-up roof, base sheet, 1 ply Type VI fiberglass, 1 ply modified bitumen sheet, fire rated, Type IV asphalt (15 year roof)	SF	$ 3.32
79	Built-up roof, base sheet, 2 ply polyester roofing sheet, 1 ply modified bitumen sheet, fire rated, Type IV asphalt (or appropriate type) (20 year roof)	SF	$ 1.89
80	Built-up roof, base sheet, G-2, 33 lb., mechanically attached	SF	$ 0.67
81	Built-up roof, base sheet, G-2, 33 lb., Type IV asphalt	SF	$ 0.76
82	Built-up roof, premium asphalt, added cost per ply per square foot	SF	$ 0.10
83	Built-up roof, modified bitumen adhesive, added cost per ply per squre foot	SF	$ 0.26
84	Built-up roof, surface with cold asphaltic surfacing adhesive and gravel	SF	$ 2.83
85	Built-up roof, surface with emulsion and granules	SF	$ 0.77
86	Built-up roof, surface with emulsion and aluminum coating	SF	$ 1.04
87	Built-up roof, surface with emulsion and white elastomericcoating	SF	$ 1.09

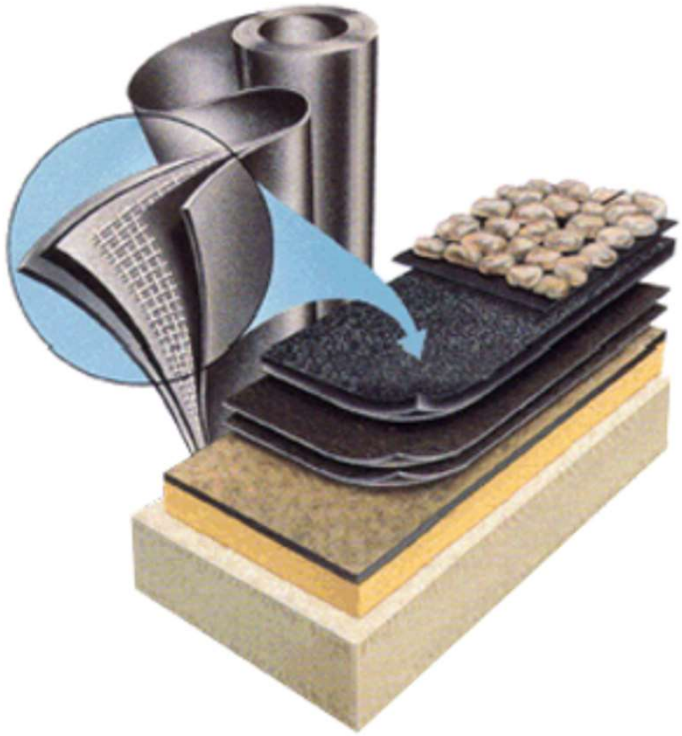
OPTION 1



BUILT-UP ROOFING (BUR)

- Traditional layered roofing
- Plies-bitumen-surfacing
- Hot or cold systems





Roof Types