

Typical Roof Slopes and Expected Fire Ratings of Roofing Systems

Low-Slope (Hydrostatic) Membrane Roofing		ASTM E-108 Fire Ratings
Bituminous Asphalt BUR 4ply & Gravel	Minimum Slope new roofs 2% = 1/4 in/ft Aggregate limited to 25% = 3 in/ft Max slope Type 1 asphalt 2% Max slope Type 2 asphalt 8.3% Max slope Type 3 asphalt 25% Type 4 used for very hot climates	Class A on combustible and non-combustible decks
BUR & Cap Sheet	Min Slope 4% = 1/2 in/ft Max Slope 25% = 3 in/ft	Class A or B on noncombustible decks to 3 in/ft. A or B to 1" max on combustible.
Bituminous Coal Tar Pitch	Min Slope 1/8 in/ft Max Slope 1/4 in/ft	Class A on combustible and non-combustible decks.
Modified Bitumen Smooth surfaced	Minimum Slope 2% Torch or adhesive above 8.3% slope 1in/ft	With field-applied fire-resistant coatings, Class A or B on non-combustible decks to 1" slope A or B over combustible decks with fire-resistive underlayment to 0.5 in/ft.
Granular surface	Min slope 4%	FR cap sheets available
Single Ply EPDM Smooth Surfaced Mechanically Attached or Fully Adhered	Minimum Slope new roofs 2% = 1/4 in/ft	Class A on non-combustible decks with FR grades to 1 in/ft Class A or B with FR grades and underlayments.
EPDM Ballasted	Min Slope 2% = 1/4 in/ft Max Slope 8.3% = 2 in/ft due to ballast movement	Class A or B on noncombustible and combustible decks to 2 in/ft.
Reinforced PVC, CSPE, TPO	Min Slope 1/4 in/ft CSPE with water absorption > 3% requires min slope of 1/2 in/ft	Class A on combustible and non-combustible decks.
Metal Roofing includes Structural Standing Seam, Architectural Standing Seam and Lap-Seam Metal	Standing seam with factory-applied sealant has greatly reduced seam leakage. Min slope 4% (1/2 in/ft)	Acceptance based primarily upon wind uplift resistance. Architectural metal over combustible deck requires approved underlayment.
Steep (Hydrokinetic) Roofing Shingles		
Asphalt/glass fiber	Min Slope 33% (4 in/ft) With sealed underlayment, to 16.7% (2 in/ft)	Class A on slopes above 2 in/ft Field applied tab seal needed above 175% (21 in/ft).
Asphalt/organic	Min Slope 33% (4 in/ft) With sealed underlayment, to 16.7% (2 in/ft)	Class C on slopes above min Slope 33% (4 in/ft). Field applied tab seal needed above 175% (21 in/ft).
Shakes Wood	Min slope 4 in/ft	None are Class A, some Class B with special fire-resistive treatments and special underlayments.
Tiles-Cementitious, Clay, Metal	Generally min 4 in/ft	Some concrete, plastic and metal tiles cannot meet A or B over combustible decks. Clay is considered noncombustible. Some aluminum and steel products meet A when used with resistive underlayments.

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