

Roof Deck & Substrate Criteria

Certain warranty restrictions apply for projects with warranties greater than 15 YR. Refer to Table V "Re-Roofing Substrate Criteria" for warranty limitations in paragraph 1.05.

Acceptable Roof Deck/Substrate	EPDM Membrane		
	Adhered - Design "A"	Ballasted - Design "B"	Mechanically Fastened
NEW CONSTRUCTION			
Steel (min. 22 gauge)(1)(2)	Insulation	Insulation	Insulation
Structural Concrete (min. 3000 psi) or Gypsum	Direct Application (11)	Insulation	HP Protective Mat (10)
Plywood (min. 15/32" thick) or Oriented Strand Board (min. 7/16" thick)	Direct Application (11)	Insulation	Direct Application (11)
Wood Planks (minimum 3/4" thick)	Direct Application	Insulation	Direct Application (11)
Gypsum and Fibrous Cement	Insulation	Insulation	HP Protective Mat
Lightweight Insulating Concrete	Note 3 (10)	HP Protective Mat (10)	Direct Application (10)
RETROFIT / NO TEAR-OFF			
Existing Smooth Surface BUR or Mineral Surface Cap Sheet	Direct Application (4) (11)	Insulation	Direct Application (4) (11)
Gravel Surfaced BUR (5)	Insulation	Insulation	Insulation
Coal Tar Pitch (5)(6)	Insulation (9)	Insulation	Insulation
Modified Bitumen	Direct Application (8) (11)	Insulation	Direct Application (8) (11)
Existing Single-Ply	Insulation	Insulation (7)	Direct Application (7) (11)
Sprayed-in-place Urethane	Complete Tear-off Required	Insulation	Complete Tear-off Required
RETROFIT / TEAR-OFF			
Existing roof material removed (regardless of deck type)	Insulation	Insulation	Insulation

Notes:

- (1) Local codes must be consulted regarding thermal barrier requirements.
- (2) Mechanically Fastened Systems cannot be specified on steel decks less than 22 gauge or for corrugated steel decks, regardless of gauge.
- (3) The Design "A" Adhered Roofing System may be specified directly over a new approved cellular or perlite lightweight insulating concrete substrate with a minimum compressive strength of 225 psi. Except when the lightweight insulating concrete is poured over slotted steel decks, pressure relief vents must be specified at a minimum rate of 1 every 2000 square feet. Direct Application is not permitted where the lightweight concrete is poured over an existing roofing material. Refer to **Spec Supplement G-04-17 "Adhered Application Over Lightweight Insulating Concrete"**.
- (4) Sure-Seal (black) Adhered and Mechanically Fastened Systems may be applied directly to the substrate provided asphalt on existing smooth surfaced built-up roof has a softening point above 185°F (85°C). Sure-White (white-on-black) Adhered Roofing Systems are not recommended for direct application to the substrate due to possible staining of the membrane surface. For direct application over smooth BUR or granule surface BUR or in conjunction with HP Mat make sure substrate is clean and free of roofing cement and fresh asphalt to avoid sheet contamination and staining of white color membrane.
- (5) Loose gravel must be removed to avoid entrapment moisture.
- (6) Existing coal tar could drip back into the building, especially when new insulation does not provide sufficient thermal value to prevent the surface of the coal tar from softening.
- (7) An approved Insulation/underlayment is required over existing ballasted single-ply systems and PVC roofing systems of any type.
- (8) Direct application permitted over smooth surfaced modified bitumen. Membrane shall be positioned with length of sheets parallel to modified bitumen field seams. At end laps or other locations where EPDM splices intersect modified bitumen field seams, 6" wide Elastoform or Pressure-Sensitive Flashing must be applied over intersections.
- (9) If insulation is specified to be secured to an existing coal tar pitch roof with Carlisle FAST Adhesive or hot asphalt, minimum 1.5" thick Polyisocyanurate insulation is the required minimum thickness when Sure-Seal (black) EPDM is specified. Minimum 1.5" thick Polyisocyanurate is the required minimum thickness when Sure-White (white) EPDM is specified.
- (10) For direct application, membrane system warranties are limited to 15 YR unless specifically approved by Carlisle.
- (11) Maximum warranty available is 20 YR with 55 MPH warranty wind speed (72 MPH warranty wind speed over structural concrete, wood planks or plywood) Peak gust wind speed coverage. Carlisle may be contacted for other options.