

## Roof Deck & Substrate Criteria

TPO Membrane		Acceptable Roof Deck/Substrate	PVC / KEE HP PVC Membrane	
Adhered	Mechanically Fastened	<b>NEW CONSTRUCTION</b>	Mechanically Fastened	Adhered
Insulation	Insulation	Steel (min. 22 gauge)(1)(2), Wood Plank (3/4" min.), or Fibrous Cement	Insulation	Insulation
Direct Application	Insulation	Structural Concrete (min. 3000 psi ) or Gypsum	Insulation	Direct Application
Direct Application(5)	Direct Application(5)	Plywood (min. 15/32" thick) or Oriented Strand Board (min. 7/16" thick)	Direct Application(5)	Direct Application(5)
Direct Application (5)(10)	Direct Application(5)	Lightweight Insulating Concrete	Insulation	Direct Application(5)(10)
Adhered	Mechanically Fastened	<b>RETROFIT / NO TEAR-OFF</b>	Mechanically Fastened	Adhered
Direct Application (9) (11)	Direct Application (9) (11)	Existing Smooth Surface BUR (3)(8) or Mineral Surface Cap Sheet	Insulation	Insulation
Insulation	Insulation	Gravel Surfaced BUR (3)(4) or Coal Tar Pitch (3)(4)(12)	Insulation	Insulation
Direct Application (7)(9)	Direct Application (7)(9)	Modified Bitumen (11)	Insulation	Insulation
Insulation	Direct Application (6)	Existing Single-Ply (11)	Direct Application (6)	Insulation
Complete Tear-off Required	Complete Tear-off Required	Sprayed-in-place Urethane	Complete Tear-off Required	Complete Tear-off Required
Adhered	Mechanically Fastened	<b>RETROFIT / TEAR-OFF</b>	Mechanically Fastened	Adhered
Insulation	Insulation	Existing roof material removed (regardless of deck type)	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. Refer to the Metal Retrofit Roofing System Specification, published separately, for installation options.
- (3) Loose gravel must be removed to avoid entrapment of moisture.
- (4) 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.
- (5) Maximum Warranty Duration of 15 Years.
- (6) An approved underlayment is required over existing ballasted (ballast removed) single-ply systems and PVC roofing systems of any type.
- (7) Direct application permitted over smooth surfaced modified bitumen. To reduce the probability of cold welds, membrane shall be positioned with length of sheets parallel to modified bitumen field seams. At end laps or other locations where splices intersect modified bitumen field seams, 6" wide Sure-Weld or Sure-Flex Flashing must be heat welded over intersections.
- (8) Existing Type III or IV smooth asphalt BUR Only.
- (9) Possible staining/discoloration of the membrane may result when installing this system directly over existing smooth surfaced BUR or modified bitumen. If aesthetics are critical, an approved insulation should be specified beneath the membrane.
- (10) New approved cellular lightweight insulating concrete must have a minimum compressive strength of 200 psi. Except when the lightweight concrete is poured over slotted steel decks, pressure relief vents must be installed every 2,000 square feet. Direct application is not permitted where lightweight concrete is poured over an existing roofing material. Equilibrium moisture content after hydration/curing shall not exceed 12%.
- (11) Maximum warranty available 20 YR with 55 MPH peak gust wind speed coverage. Carlisle may be contacted for other warranty options.
- (12) 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 is the required minimum thickness when white membrane is specified.