

1.0 QUALITY ASSURANCE

- A. Installer Qualifications: Engage a qualified roofing/waterproofing contractor who employs skilled workers who are qualified to supervise the handling and installation of roofing and waterproofing materials. **Firm must have been in business a minimum of 5 continuous years and have a successful record of prior performance.**

2.0 PRODUCTS

A. **SBS Styrene-Butadiene-Styrene Modified Bituminous Roof:**

Base Sheet: ASTM D4601, Type II, nonperforated, asphalt-impregnated and coated, glass fiber sheet, dusted with fine mineral surfacing both sides.

Field: ASTM D2178, Two (2) Type IV asphalt impregnated glass fiber felts.

Roofing Membrane Cap Sheet: ASTM D6162 , Type III, Grade G, SBS Styrene-Butadiene-Styrene, granular surfaced; rubber modified roofing membrane asphalt sheet; with fire retardant characteristics and reinforced with a dual fiberglass scrim and polyester mat; minimum 135 mil thick.; (White, if nonvisible). (Tan, if visible).

Properties (Finished Membrane):

Tensile Strength (ASTM D5147)

2 in/min @ 73.4 ± 3.6 °F MD 450 lbf/in

Tear Strength (ASTM D5147)

2 in/min @ 73.4 ± 3.6 °F MD 900 lbf/in

Elongation at Maximum Tensile (ASTM D5147)

2 in/min @ 73.4 ± 3.6 °F MD 6.0%

Low Temperature Flexibility (ASTM D5147)

Passes -30 °F (-34 °C)

Facility Design Information

Roofing and Waterproofing

Flashing Underlayment: SBS modified membrane with woven fiberglass scrim reinforcement with the following minimum performance requirements according to ASTM D5147; minimum 60 mil thickness:

Properties (Finished Membrane):

Tensile Strength (ASTM D5147)

2 in/min @ 73.4 ± 3.6°F MD 215 lbf/in

Tear Strength (ASTM D5147)

2 in/min @ 73.4 ± 3.6°F MD 275 lbf/in

Elongation at Maximum Tensile (ASTM D5147)

2 in/min @ 73.4 ± 3.6°F MD 4.5%

- B. Insulation: Minimum R-Value 18.0 (Polyisocyanurate is preferred over extruded polystyrene), FM I-90, 3.0 sq. ft., 1 fastener per 3 sq. ft. works out to 11 fasteners per 4 x 8 insulation board.

Type and Thickness	R-Value
3" Polyisocyanurate	18.00
1/2" Perlitic protection board	1.39
BUR Membrane	0.24

- C. Interply: ASTM D312, Type IV special steep asphalt having the following characteristics (25 lbs. per 100 ft² ± 25%):

Softening Point	210°F-225°F (99°C-107°C)
Flash Point	500°F (260°C)
Penetration @ 77°F	15-25 units
Ductility @77°F	1.5 cm

D. Design Considerations:

Provide crickets behind all HVAC and Heavy Equipment units that are greater than two feet in each dimension.

Use faced pitch pans around every penetration (i.e., gas lines, conduits, equipment stands and condenser unit pipes, etc.)

Use two piece reglet flashing system suitable for future roof replacement.

Interior, protruding walls shall be covered with modified membrane and/or metal wall panels.

Flashing laps shall be sealed with a strip of torch grade membrane that extends 6" beyond center of the lap.

All new roof systems shall have a minimum roof slope of 1/2" : 12". Preferably a structure roof slope.

Flashing height shall be a minimum of 8": (including perimeter and base flashing).

All roof system assemblies shall have a Class A fire rating.

The reflectivity of the membrane shall be a minimum of 60% or higher as rated by the Cool Roof Rating Council.

E. Submittals:

Product data, description of product(s)

Physical samples

Roofing System Manufacturer's Certification Form, listing the following:

Underwriters Laboratories, or approved third party testing facility in accordance with ASTM E108, Class A for external fire and meets edition of IBC Code.

Certification that all materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.

Written certification from the roofing system manufacturer certifying that the applicator is currently authorized for the installation of the specified roof system.

Provide copies of all proposed roof materials to UTEP for review and approval by Dept. of Planning and Construction.

FMI-90 Certification, UL Class A Certification.

Independent Test Data according to ASTM D5147.

Unexecuted copy of specified Manufacturer's/Installers Warranties.

Written letter from a company executive stating that a manufacturer's representative will be on site a minimum of three (3) times a week from inception to completion of the project, monitoring the installation and provide weekly status report to UTEP and annual inspections for five (5) years at no expense to UTEP.

F. Approved Manufacturers:

Garland Co., Inc.
U. S. Intec, Inc.
TAMKO Roofing Products, Inc.