FTR-MP 02/13

GENERAL GUIDE SPECIFICATION FOR INSTALLATION OF

FIBERTITE® MULTI-PLY ROOFING SYSTEM

FiberTite®
Seaman Corporation

INTELLIGENT
ROOFING SOLUTIONS

Seaman Corporation • 1000 Venture Blvd. Wooster, OH 44691 • Phone: 330.262.1111 • Fax: 330.263.6950
Toll-free: 800.927.8578 • Fax: 800.649.2737 • www.FiberTite.com • www.SeamanCorp.com

FIBERTITE ROOFING SYSTEMS

by Seaman Corporation

FTR-MP 02/13 is provided as a general foundation for the design and installation of a quality high performance FiberTite Multi-Ply Roofing System incorporating FiberTite Fleece Back Membranes and FiberTite SBS Base Plies.

TABLE OF CONTENTS

PART 1 | GENERAL

1.1 SUMMARY

A. Scope

1. Furnish and install a FiberTite Multi-Ply Roofing System as manufactured and supplied by:
2. Seaman Corporation
   1000 Venture Blvd.
   Wooster, Ohio 44691
   Phone: 800-927-8578
   Fax: 800-649-2737

B. Special Conditions

1. This specification is applicable to only those building roofs that have decking of sufficient structural integrity, capable of supporting a FiberTite Multi-Ply Roof System.
2. All applications and project specifications require review by FiberTite Technical Customer Services (FTCS) for acceptance prior to any commitment to provide a commercial warranty.
3. Seaman Corporation FiberTite Preinstallation Notice (FTR-PIN), must be completed, signed by an authorized roofing contractor, submitted to and approved by FTCS before any consideration for warranty and/or the release of any materials can be authorized.

C. Special Design Considerations

1. The building owner may be required to submit an engineering study, or Statement of Sound Roof Structure, to FTCS, indicating that the structure is able to accommodate additional live and/or dead loads including snow and water retention.
2. FiberTite Multi-Ply Roofing Systems are principally engineered for low slope ≤0.5:12 roof construction and require positive drainage.
3. FiberTite Multi-Ply Roofing Systems are applicable to new and/or reroofing projects that include the complete removal of existing roofing and preapproved recover construction.

D. Environmental Considerations

1. Severe environmental exposure [e.g. coastal or high wind area(s)].
2. Chemical discharge not listed on the Seaman Corporation/FiberTite chemical resistance publication.
3. Environmental conditions such as fog, dew, rain or snow and/or freezing temperatures can have a detrimental effect on the application and performance of adhesives.
4. Compliance with EPA and OSHA requirements as published by local, state and federal authorities.

5. All adhesives can be described as temperamental at best. The contractor must be aware of all potential environmental variables when installing adhered roofing systems.
6. Pay particular attention to and follow all adhesive storage and application precautions/guidelines.
7. Do not apply/use waterborne adhesives (FTR 390) if the ambient air temperature is expected to drop below 32°F (0°C) within 48 hours of application.

1.2 FIBERTITE ROOFING SYSTEMS REFERENCES

A. FTR GS 02/13 FiberTite General Guide Specification

B. FTR AD 02/13 Adhered General Guide Specifications

C. FiberTite Construction Details

D. FiberTite Foreman's Manual

1.3 QUALITY ASSURANCE

A. FiberTite Roofing Systems shall be installed only by a roofing contractor, authorized by Seaman Corporation to install FiberTite Roofing Systems prior to bid and/or contract award. Herein, the term Authorized FiberTite Roofing Contractor is synonymous with authorized, roofing contractor and/or contractor.

B. Roofing contractor's key personnel shall have received specialized training in the installation of FiberTite Roofing Systems.

C. FiberTite Roofing Systems shall be installed in accordance with the most current guide specifications and details as amended and/or authorized by FTCS for specific project requirements.

D. There shall be no deviations from approved contract specifications or shop drawings without prior written approval by the owner/owner representative and FTCS.

E. Unauthorized deviations may subject the roofing system to warranty ineligibility.

F. Any and all work found to be substandard or in violation of the Contract Documents or Manufacturer's Specifications shall be subject to rejection including complete removal and replacement with new materials at the expense of the contractor.

G. Upon completion and certification by the contractor that a quality installation has been completed in accordance with the approved contract specifications and all field welds have been probed and inspected, a quality assurance inspection of the roof system shall be performed by FTCS for acceptance and approval.

1.4 SUBMITTALS

A. The following information shall be submitted to FTCS for review before warranty consideration, material shipment or acceptance can be confirmed

B. Complete copy of project architectural specifications or roofing contractor's proposal outlining design parameters.

1. Complete list of accessories or materials not manufactured or expressly authorized for use in FiberTite literature.
2. Dimensioned outline of the roof indicating all FTR-Detail references.
3. Dimensioned shop drawings illustrating non-FiberTite details. Details that do not conform with standard FiberTite details shall be returned with appropriate recommendations.

C. At the time of contract award, the roofing contractor shall submit to the owner/owner's representative the following:

1. Most recent published technical literature and guide specifications issued by FTCS.
2. Roofing Contractor's approved copy of submittal form FTR-PIN.
3. Dimensioned shop drawings, including roof plan detailing perimeter enhancement, flashing methods, terminations and acceptance by FTCS.
4. Written approval from FTCS confirming any accessories submitted, not manufactured or expressly approved in FiberTite literature are acceptable and compatible with the proposed FiberTite Roofing System.
5. Material Safety Data Sheets (MSDS) relating to all products, chemicals and solvents.
6. Certification that the system specified complies with all identifiable building code and insurance requirements.

1.5 DELIVERY & STORAGE

A. Deliver all materials to the job site in the manufacturer's original, unopened containers, with legible labels and in sufficient quantity to allow for continuity of work.

B. Select and operate material handling equipment in a safe manner, guarding against damage to existing construction or newly applied roofing and conforming to manufacturer's recommendations of handling and storage.

C. All rolls of FiberTite and FiberTite-FB membrane shall be stored, lying down, elevated above the roof deck and completely protected from moisture with tarpaulins. Manufacturer's packaging is not considered adequate for outdoor storage.

D. Insulation and coverboard materials shall be elevated on pallets and fully protected from moisture with tarpaulins. Manufacturer's packaging is not considered adequate protection from moisture.

E. Adhesives and sealants shall be safely stored between 50°F and 80°F prior to use.

F. Flammable materials shall be stored in a cool, dry area away from sparks and open flames. Follow all precautions as outlined in manufacturer's Material Safety Data Sheets.

G. Materials, having been determined by the owner/owner's representative to be damaged, shall be immediately removed from the construction site and replaced at no cost to the owner.

1.6 JOB CONDITIONS

A. Safety

1. Take all necessary precautions regarding worker health and safety when using solvents and adhesives.
2. Worker and customer safety is paramount when working with hot asphalt and/or propane torches.
3. Comply with all OSHA requirements for hot work, construction and fall protection where required.
4. **Torch Safety (Where Required)**
   - **a.** Crew members handling torches shall be trained by an Authorized Certified Roofing Torch Applicator (CERTA) Trainer.
   - **b.** Be certified according to CERTA torch safety guidelines as published by the National Roofing Contractors Association (NRCA).
   - **c.** Designate one person on crew to perform a daily firewatch after roofing material application has been suspended for the day.
5. **Kettles and Tankers**
   - **a.** Kettles and tankers shall be equipped with accurate, fully readable thermometers.
   - **b.** Do not heat asphalt above its flash point.
   - **c.** Heating must be no more than 25°F below the EVT and no more than 25°F above the EVT.
   - **d.** If EVT information is not provided, maximum heating temperature shall be 525°F (246°C).
6. Store flammable liquid and materials away from open sparks, flames and extreme heat.
7. Take necessary precautions when using solvents and adhesives near fresh air intakes.
8. Daily site cleanup shall be performed to minimize debris and hazardous congestion.

B. Protection

1. Schedule installation sequence to limit access and utilization of the newly installed membrane for material storage, construction staging, mechanical and/or excessive foot traffic.
2. Provide proper protection on all newly completed roofing to avoid damage to the new roofing system.
3. Traffic should be minimized on a freshly laid roof.
4. Protect building walls, rooftop units, windows and other components during installation.

C. **Additional Precautions**

1. Adverse weather conditions (e.g. extreme temperature, high winds, high humidity and moisture) could have a detrimental effect on adhesives, general production efforts and/or the quality of the finished installation. Contact FTCS for recommendations and acceptable tolerances.
2. Daily production schedules of new roofing shall be limited to only that which can be made 100% watertight at the end of the day, including all flashing and night seals.
3. **Temperature Restrictions – Asphalt**
   a. At ambient temperatures of 40°F and below, special precautions must be taken to ensure that the specified Type III or IV asphalt maintains a minimum acceptable 400°F at the point of sheet application.
   b. The asphalt must not be overheated to compensate for cold conditions.
   c. The use of insulated handling equipment is required.
   d. Hot luggers, mop carts and kettle to roof supply lines shall be insulated.
4. All surfaces to receive the new roof system, including insulation and flashing, shall be free from all dirt, debris and be thoroughly dry.
5. Comply with local EPA requirements as published by local, state and federal authorities.
6. All construction debris shall be removed from the construction site and legally disposed of offsite.

1.7 COORDINATION

A. Prior to installation of materials, a preroofing conference shall be held with the roofing contractor, and owner/owner's representative(s) to discuss the specified roofing system, coordinate its proper application and the expectations of all parties involved. The authorized roofing contractor and the owner/owner's representative shall notify all parties a minimum of fourteen days prior to the meeting.

B. Plan and coordinate the installation of the roofing system with other trades in such a manner to avoid membrane damage, keeping the complete installation weather tight and in accordance with all approved details and warranty requirements.

C. FTCS shall be available to make recommendations necessary to ensure compliance with project specifications and specification alternatives due to unforeseen job conditions.

D. Field services are provided at the discretion of Seaman Corporation. A minimum two weeks notice is required to evaluate and coordinate any request for onsite technical assistance.

1.8 WARRANTY

A. Inspections

1. A FiberTite Technical Customer Service Representative shall inspect the completed FiberTite Multi-Ply Roof installation, and upon acceptance, Seaman Corporation shall issue the preauthorized warranty, subject to the terms and conditions of the sample warranty and contract documents.

B. Available Warranties

1. Seaman Corporation offers the following FiberTite Roofing System warranties:

   a. Material Warranty provides the building owner protection against the cost of repairing defects in the membrane only. This warranty is offered at no cost to the owner.

   b. Standard Warranty provides the building owner protection against the cost of repairing leaks as a direct result of either defects in the membrane or the workmanship involved in its installation for a period of 10 years. There is a nominal premium.

   c. Extended Warranty provides the building owner protection against the cost of repairing leaks as a direct result of either defects in the membrane or the workmanship involved in its installation beyond the 10 years. There is an additional premium.

C. Maintenance

1. Along with the issuance of the warranty, a set of instructions shall be included detailing preventative maintenance requirements on the part of the building owner and noting a list of harmful substances which may damage the FiberTite roofing membrane.

PART 2 | PRODUCTS

2.1 GENERAL

A. All products and components for the FiberTite Multi-Ply Roofing System shall be supplied by Seaman Corporation.

B. Components other than those manufactured and/or supplied by Seaman Corporation shall be submitted for review, prior to ordering. Any product(s) not specifically authorized in writing for the project by Seaman Corporation, shall be considered unacceptable and their performance excluded from the warranty.

C. FiberTite Roofing Systems may be installed over or directly to preapproved insulation, coverboard or composites thereof. Contact FTCS for additional information regarding compatible substrates.

2.2 MEMBRANE

A. FiberTite-FB Membrane
FiberTite is a nominal 36 mil ketone ethylene ester (KEE) membrane, reinforced with a 5.0 oz yd^2 knitted polyester fabric and a heat-bonded 4 oz. polyester backing, as manufactured by Seaman Corporation, under the trade name FiberTite-FB, conforming to the physical properties as outlined in the associated data sheet. FiberTite-FB exceeds all requirements outlined in ASTM D 6754 Standard Specification for Ketone Ethylene Ester (KEE) Sheet Roofing.

B. FiberTite-XT FB Membrane
FiberTite-XT FB is a nominal 50 mil ketone ethylene ester (KEE) membrane, reinforced with a 6.5 oz yd^2 knitted polyester fabric and a heat-bonded 4 oz. polyester backing, as manufactured by Seaman Corporation, under the trade name FiberTite-XT FB, conforming to the physical properties as outlined in the associated data sheet. FiberTite-XT FB greatly exceeds all requirements outlined ASTM D 6754 Standard Specification for Ketone Ethylene Ester (KEE) Sheet Roofing.

C. FiberTite-SM FB Membrane
FiberTite-SM FB is a nominal 45 mil ketone ethylene ester (KEE) membrane, reinforced with a 5.0 oz yd^2 knitted polyester fabric and a heat-bonded 4 oz. polyester backing, as manufactured by Seaman Corporation, under the trade name FiberTite-SM FB, conforming to the physical properties as outlined in the associated data sheet. FiberTite-SM FB exceeds the physical property requirements and the surface compound meets polymer content definitions as outlined in ASTM D 6754 Standard Specification for Ketone Ethylene Ester (KEE) Sheet Roofing.

D. FiberTite-XTreme FB Membrane
FiberTite-XTreme FB is a nominal 90 mil ketone ethylene ester (KEE), reinforced with a 12.5 oz yd^2 woven polyester mat and a heat-bonded 4 oz. polyester backing, as manufactured by Seaman Corporation, under the trade name FiberTite-XTreme FB, conforming to the physical properties as outlined in the associated data sheet. FiberTite-XTreme FB greatly exceeds the physical property requirements and the surface compound meets polymer content definitions as outlined in ASTM D 6754 Standard Specification for Ketone Ethylene Ester (KEE) Sheet Membranes.

E. Flashing Membrane
Nominal 36 mil FiberTite, 45 mil FiberTite-SM, 50 mil FiberTite-XT, or 45 mil FiberTite Brite membrane shall be used for all respective roofing system flashing requirements and field stripping where required to match the field membrane and warranty expectations selected for the roofing system.

F. FiberTite SBS Ply

1. **Fibertite-SBS Base:** A polyester reinforcement, Styrene-Styrene (SBS) modified asphalt coated sheet having an average weight of 62 lb per 100ft^2 for asphalt applications and 75 lb per 100ft^2 for touch grade.

2. **FiberTite SBS TG Base:** A polyester reinforcement, Styrene-Styrene (SBS) modified asphalt coated sheet having an average weight of 75 lb per 100ft^2 for torch application.
3. **FiberTite SBS 190 Base:** A non-woven polyester, Styrene-Styrene (SBS) modified asphalt coated sheet having an average weight of 92 lb per 100ft^2 for asphalt application.
4. **FiberTite SBS 190 TG Base:** A non-woven polyester, Styrene-Styrene (SBS) modified asphalt coated sheet having an average weight of 91 lb per 100ft^2 for torch application.

G. **Acceptable Substrate(s)**

1. Authorized rigid insulation or coverboard.
2. Structural Concrete, insulated
3. Insulated Steel Decking
4. Exterior grade plywood; insulated
5. Cementitious fiber or Gypsum, insulated or non-insulated
6. Authorized base sheet with an adhered insulation/coverboard assembly

2.3 RELATED MATERIALS BY "SEAMAN CORPORATION"

The following product(s)/material(s) shall be supplied by Seaman Corporation.

A. **FTR Fasteners**

1. **FiberTite MAGNUM Series**
   To secure FiberTite membrane to steel, wood and structural concrete decks at transitions. A #15-13, buttress threaded, #3 Phillips head fastener constructed of case hardened carbon steel with a reduced diameter drill point and corrosion resistant coating.
2. **FiberTite HD**
   To secure insulation to steel, wood and structural concrete decks. A #14-13, heavy duty threaded steel #3 Phillips truss, self tapping corrosion resistant fastener.
3. **FiberTite Peel Rivets**
   To secure insulation, base sheet and/or membrane to steel, wood, cement fiber, Tectum, fiberglass and lightweight plank decks. Thread less, high magnesium aluminum alloy fastener.

B. FTR Stress Plates

1. **FTR-MAGNUM Series Barbed Stress Plates**
   Used to anchor membrane at roof transitions are 2.5" x 1.5" rectangular in dimension with 0.75" radial corners, manufactured from 20-gauge AZ-50 galvalume steel with a 0.25" diameter hole in its center. The plate has a raised reinforcement area and eight barbs.

   Or

   Used to anchor membrane at roof transitions are 2.375" round steel plate manufactured from 20-gauge galvalume steel with a 0.25" diameter hole in its center. The plate has a raised reinforcement area and barbs.

2. **FTR 3" Metal Round Insulation Stress Plates**
   Finished with AZ50 gavalume and have a flat/flush profile for use on rigid board surfaces.

C. FTR Adhesives

Adhesives, supplied by Seaman Corporation have been specially formulated for FiberTite Roofing Systems.

NOTE: Solvent borne adhesives are not compatible with the FiberTite SBS Base Plies in a FiberTite Multi-Ply Roof System. Application technique and coverage rates will vary according to substrate and environmental conditions.

1. **FTR-390 Adhesive**
   A rubberized/asphalt water borne emulsion adhesive, VOC compliant, one side application (substrate only), designed for bonding FiberTite-FB (fleece back) membranes to properly prepared and preauthorized horizontal substrates.

2. **FTR-190e Bonding Adhesive**
   A VOC compliant solvent borne, contact (two-sided) bonding adhesive. May be used for bonding FiberTite membranes to properly prepared and preauthorized horizontal and vertical substrates.

3. **FiberTite CR-20**
   Dual component spatter applied urethane insulation adhesive. Adhesive is a non-solvent urethane adhesive designed for bonding FiberTite-FB (fleece back) membranes to properly prepared and preauthorized horizontal substrates.

4. **FTR-601**
   Dual component, single bead (ribbon applied) urethane insulation adhesive. Adhesive is a non-solvent, elastomeric urethane adhesive, specifically designed for bonding single or multiple layer of roof insulation and insulation composites and/or coverboards to structural roof decks and base sheets.

5. **FTR #201 Mastic**
   A trowel grade elastomeric adhesive/sealant used to adhere FiberTite flashing membranes to preapproved vertical substrates.

D. Additional Components

1. **FTR-101 Sealant** – A single component, gun-grade polyether sealant to seal flashing termination.

2. **FTR-SLS Sealant** – A single component, self-leveling polyether sealant for pitch pans.
3. **FiberClad Metal** – To fabricate metal flashing, 4’ x 10’ sheets of 24-gauge hot dipped G-90 steel, or 0.04 mil 3003H14 aluminum, laminated with a 0.02 mil polymeric coating.
4. **FTR-Premolded Flashing(s)** – Injection molded vent stack and inside/outside corner flashing using FiberTite KEE compound.
5. **FTR Non-Reinforced Membrane** – Field fabrication membrane, 60 mil non-reinforced KEE membrane.
6. **FTR-Tuff Track Walkway & Protection Pads** – High grade walkway/protection material with slip-resistant design.
7. **FTR-Termination Bar** – Membrane flashing(s) restraint/termination seals, nominal 0.125” x 1” x 10’ 6060-T5 extruded aluminum bar with punched slots, 8” on center.
8. **FiberTite Metal Fascia System** – Two piece snap-on preformed, architectural Kynar metal edge systems.
9. **FTR-Value Insulation** – Polyisocyanurate and extruded polystyrene flat or tapered insulation.
10. **FTR-Coverboard** – Gypsum or gypsum/cellulose core board. Surface treated Gypsum (Dens-Prime) or Gypsum/Cellulose core (SECUROCK®) board manufactured for use with adhered roofing system/applications.
11. **FTR T-Joint Covers** – Pre-cut 4” x 4” 60 mil non-reinforced membrane to reinforce areas where 3 overlapping sheets of membrane intersect.

2.4 RELATED MATERIALS

A. Wood Nailers

1. Wood Nailers are being tested to determine the effect preservatives on metal components. Borate treated lumber seem to be the less corrosive and is strongly recommended. Installation of other types of treated lumber should be verified with a design professional.
2. Wood shall be No. 2 or better construction grade lumber.
3. Creosote or asphaltic type preservatives are not acceptable.
4. Minimum top nailer thickness shall be 1.5” nominal.

B. Vapor Retarder

1. The decision regarding the inclusion of a vapor retarder within the roof system shall fall within the responsibility of the design professional. Consult N.R.C.A. or other technical resource for appropriate guidelines.
2. Vapor retarder for use in a roof system shall comply with identifiable code and/or insurance requirements.

3. The vapor retarder manufacturer shall certify, in writing, that the specified vapor retarder meets identifiable code requirements and is approved for its intended use.

C. Insulation

NOTE: For the purpose of this guide specification, unless explicitly defined otherwise, the term insulation is used interchangeably to refer to rigid insulation materials, tapered or flat, coverboard, thermal barriers and or multilayered composites.

1. Insulation shall be installed, where specified and/or required to provide a suitable surface for the FiberTite Multi-Ply Roofing System and/or meet desired thermal values.

    a. Approved Products

        i. FTR-Value Polyisocyanurate
        FM approved rigid insulation meeting Class A 1-90, for fire and wind
        UL Classification: Class A
        Density: 2.0 pcf. Minimum
        Meet requirements of ASTM C1289

        ii. Gypsum Core Coverboard
        FM approved meeting Class A 1-90, for fire and wind
        UL Classification: Class A Assembly
        Meet requirements of ASTM C 473
        Georgia-Pacific Gypsum LLC DensDeck® Prime
        United States Gypsum Company SECUROCK®

D. Adhesive(s) for Insulation Attachment

1. Insulation adhesive shall be supplied by Seaman Corporation and shall be listed and approved by Factory Mutual Approvals in conjunction with the specified insulation and specific substrate.
2. Insulation adhesive shall meet minimum roofing system design requirements as evidenced by testing in conjunction with the proposed substrate and or composite; under FM-Global requirements or acceptable third party laboratory.
3. Adhesive manufacturer shall provide written specifications regarding the safe handling, storage, and surface preparation for a quality application of the product. Material Warranty provides the building owner protection against the cost of repairing defects in the membrane only. This warranty is offered at no cost to the owner.
4. **Polyurethane**

    a. Adhesive shall be a dual component polyurethane adhesive, dispensed from a portable pressurized container of traditional foam equipment.

    b. Preapproved polyurethane products include:

        i. FTR-601

        ii. FiberTite CR-20

5. **Hot Asphalt**

   a. Asphalt shall be Type III or Type IV steep asphalt, according to ASTM D-312.

   b. Asphalt shall be applied within 25°F of the asphalt manufacturer's recommended Equiviscous Temperature (EVT). If the manufacturer does not supply the EVT Seaman Corporation recommends a temperature range of 425°F for mopping and 450°F for mechanical spreaders. Asphalt applied within 25°F of the EVT, under normal environmental conditions; will provide a nominal 23-25 lbs of asphalt per 100ft^2.

   c. The roofing contractor is responsible for maintaining the temperature tolerances at the kettle as well as the rooftop at all times.

   d. Cold weather application can cause significant drops in the temperature of the asphalt during transport to the roof and points of application. Insulated equipment is recommended during cold weather applications.

E. Base Sheets

1. Preapproved base sheet shall be installed, where specified and/or required, to provide a suitable surface for adhering the insulation.
2. Acceptable products must be preapproved or approved in writing by Seaman Corporation and comply with the following minimal characteristics and classification(s).

   a. FM approved, Class 1-90, wind uplift

   b. ASTM D 4601 Type II Asphalt Coated Glass-Fiber Base Sheet

   c. ASTM D 4897 Type II Asphalt Coated Glass-Fiber Venting Base Sheet

   d. Foil/Kraft Laminate w/min tensile of 54 lbs/1" according to ASTM D 828

PART 3 | EXECUTION

3.1 GENERAL

A. The authorized roofing contractor shall ensure strict compliance with FTR-MP 02/13 General Guide Specification and specified references for the Installation of FiberTite Roofing System.

B. The roofing contractor shall provide a suitable substrate surface for the proper installation of the FiberTite Roofing System, roof insulation and specified components.

C. Application of Seaman Corporation/FiberTite materials constitutes an agreement that the roofing contractor has inspected and found the substrate suitable for the installation of the FiberTite Roofing System.

D. The roofing contractor shall coordinate the installation to ensure that the system remains watertight at the end of each working day.

3.2 SUBSTRATE PREPARATION

A. The roofing contractor shall verify that the deck condition and/or existing roof construction is suitable for the specified installation of the FiberTite Multi-Ply Roofing System.

B. Seaman Corporation requires fastener withdrawal values (pull out tests) on all reroofing projects to verify the suitability of decking to accept a mechanically fastened insulation system.

C. Examine surfaces for inadequate anchorage, low areas that will not drain properly, foreign material, ice, wet insulation, unevenness or any other defect which would prevent the proper execution and quality application of the FiberTite Multi-Ply Roofing System as specified.

D. Prepared substrate shall be smooth, dry, and free of debris and/or any other irregularities which would interfere with the proper installation of the FiberTite Multi-Ply Roofing System.

E. Do not proceed with any part of the application until all defects and preparation work have been corrected and complete.

F. Adhesives will not bond to wet, damp or inadequately cured lightweight insulating concrete or poured structural concrete.

3.3 SUBSTRATE PREPARATION (NEW CONSTRUCTION)

A. Steel Deck

1. Steel decking shall conform to Factory Mutual (FM) guidelines for Class-1 insulated steel deck construction.
2. Steel decking shall be constructed of a minimum 22-gauge cold rolled steel sheets with factory G-90 galvanized coating.
3. Panel profiles, (ribs) shall be formed to minimize deflection and provide suitable strength and integrity to support anticipated structural live and dead loads.
4. Steel decking shall be installed in compliance with specified design criteria and local building code requirements.
5. Steel decking that is less than 22-gauge will be considered for application by Seaman Corporation. Fastener withdrawal tests shall be performed on all “Non-FM Approved” steel decking, (decking less than 22-gauge) to determine suitability and appropriate fastener patterns and densities for mechanical attachment of the new components of the FiberTite Multi-Ply Roofing System.

B. Structural Concrete (Poured and/or Precast)

1. Decking shall be installed in strict conformance with industry standards, practices and/or precast panel manufacturer’s installation requirements.
2. Decking shall be installed to provide positive slope and subsequent positive drainage of the new FiberTite Multi-Ply Roofing System.

3. Finished decking shall be properly cured and dry, prior to the installation of approved insulation.
4. Finished surface(s) to receive a new roof system shall be smooth and level without significant surface depressions or irregularities. Camber differentials greater than 0.1875 of an inch must be leveled using a cementitious grout.
5. Finished surfaces shall be free of moisture, dust, loose debris and any other irregularity that may hinder the proper performance of the new FiberTite Multi-Ply Roofing System.

C. Wood

1. Wood decking shall conform to Factory Mutual (FM) guidelines for Class-1 impregnated wood decking. FM Class-1 decking consists of a minimum 2" thick wood plank or minimum ¾" plywood.
2. Wood decking that is less than 0.75" will be considered for application by Seaman Corporation. Fastener withdrawal tests shall be performed on all "Non-FM Approved" wood decking (wood plank less than 2" thick or plywood less than 0.75" thick) to determine suitability and appropriate fastener patterns for the components of the new FiberTite Multi-Ply Roofing System.
3. Wood decking shall be sound, well seasoned or kiln dried and of proper thickness to accommodate design loads (including wind up-lift) according to specified design criteria and/or local building code requirements.
4. Wood decking should be installed to provide positive slope and subsequent positive drainage of the new FiberTite Multi-Ply Roofing System.

3.4 SUBSTRATE PREPARATION (REROOFING)

A. General

1. Roofing Contractor shall inform the building owner/owner representative of any issues in regard to the condition and structural integrity of the existing decking.
2. The building owner/owner representative shall make and be responsible for the determination as to the proper method of treatment and/or replacement.
3. Reroofing applications require fastener withdrawal tests to substantiate proposed attachment patterns for the new mechanically fastened insulation systems and/or membranes.
4. Reroofing applications that require modification to the deck and/or insulation system should be installed to provide positive slope and subsequent positive drainage of the new FiberTite Multi-Ply Roofing System.
5. All terminations of the FiberTite Multi-Ply Roofing System must be constructed to prevent water from penetrating behind or beneath the new FiberTite Multi-Ply Roofing System. This includes water from above, beside, below and beneath the new system.

B. **Removal of Existing Roof System(s)**

1. Remove all existing roofing material(s), insulation, flashing, metal and deteriorated wood blocking and legally dispose of off site.
2. Remove only enough roofing to accommodate the day's work and ensure the exposed area can be made 100% watertight at the end of the day or first sign of inclement weather.

C. **Recover of Existing Roof Systems**

1. Remove all loose aggregate, granules or debris by power brooming and/or vacuum and legally dispose offsite.
2. Remove and replace all wet or deteriorated insulation and wood blocking.
3. Clean all exposed metal surfaces such as pipes, pipe sleeves, drains, duct work, etc., by removing loose paint, rust and any asphalt or coal tar pitch of any kind. Remove and discard lead sleeves at soil stacks.

D. **Steel and Wood Decks**

1. All rotted and/or deteriorated decking shall be removed and replaced with like kind.
2. Areas of structurally acceptable steel decking exhibiting slight surface rust shall be properly cleaned, primed and painted prior to installing the approved insulation.
3. All decking shall be inspected for proper attachment and excessive deflection that would compromise the uplift performance of the new FiberTite Multi-Ply Roofing System.
4. Attachment and deflection deficiencies shall be repaired and brought into compliance with current, local building code requirements.

E. **Concrete**

1. Deteriorated decking shall be repaired and/or replaced with appropriate materials according to standard industry regulations and practices
2. Repair any depressions and/or areas where reinforcing has become exposed.
3. When new insulation system is to be installed using an approved adhesive:
4. Cracks and or camber differentials greater than 0.1875 of an inch shall be repaired using an appropriate cementitious grout or fill, and feathered to promote a smooth transition.
5. Where insulation is to be bonded in hot asphalt or approved adhesive, all surface irregularities shall be leveled to ensure full contact with the decking.
6. Where insulation is to be mechanically attached, camber differentials and/or surface irregularities of up to 0.5" shall be acceptable.

3.5 WOOD NAILERS

A. Install treated lumber at the same heights as insulation layer or adjacent construction ± 0.25". Continuous treated wood nailers are to be installed at all perimeters, around roof projections and penetrations as shown in approved details.

B. Where wood nailers are installed directly on the substrate, the substrate shall be carefully examined to confirm that the entire area provides a suitable fastening surface. All defects shall be repaired by the appropriate trade prior to installation.

C. Nailers shall be at least 3.5" wide and 0.5" high and installed and anchored in such a manner to resist a force of 250 lbs per linear foot of wood blocking.

D. Nailers along parapets, curbs and expansion joints are recommended for insulated decking. Consult FiberTite Construction Details or FiberTite Technical Customer Services for optional/alternate membrane termination/securement methods.

3.6 BASE SHEET

A. General

1. Approved base sheet, when required or specified, shall be applied only to properly prepared and preapproved substrates.
2. Install no more than can be covered or made 100% water tight during the same working day.
3. Field pull-out tests must be performed for mechanically attached base sheets to determine fastener withdrawal performance.
4. Base sheets shall be installed starting at the low point of the roof deck.
5. Base sheet shall be side lapped, a minimum of 3", and properly shingled to shed water.

B. Mechanically Attached Insulation for Adhered Roofing Systems

1. All base ply fasteners and stress plates for the mechanical attachment of base sheets shall be provided by Seaman Corporation.
2. For 1-90 attachment, approved base sheet is secured to the deck in the field of the roof, with FiberTite Fasteners, spaced a maximum of 7" on center through the minimum 3" side laps and staggered at a maximum 7" on center in two rows within the field of the sheet.
3. The number of fasteners securing the base sheet shall be increased over the field spacing by 70% in the perimeter and 160% in the corners of the roof area.
4. Fastening increases can be obtained by adding rows of fasteners and/or additional fasteners along each row.

3.7 ROOF INSULATION

A. General

1. Roof insulation shall be installed where by the long dimension of the board(s) run in parallel alignment and the short dimensions are staggered a minimum 12".
2. Insulation shall be installed with minimum joint dimensions and shall be tightly butted where possible. Maximum joint widths shall be 0.375 of an inch. Damaged corners shall be cut out and replaced with an insulation piece a minimum of 12" x 12". Pieces that are cut from larger panels and are smaller than one square foot are not acceptable.

3. Install no more than can be covered during the same working day.
4. Taper roof insulation to drain sumps using tapered edge strips. If an insulation layer is 1.5" or less, taper 12" from the drain bowl. If insulation thickness exceeds 1.5", taper 18" from the drain bowl. All taper boards or pieces must be adhered or mechanically fastened with a minimum of two fasteners per board.
5. When a coverboard and/or multiple layers are installed each layer shall be offset from the previous layer a minimum of 1".
6. At the end of each working day, provide a watertight cover on all unused insulation as to avoid moisture penetration.

B. Mechanically Attached Insulation for Adhered Roofing System

1. Insulation shall be applied to and installed over properly prepared and preapproved substrates, free of any debris, dirt, grease, oil or moisture.
2. All fasteners and stress plates for the mechanical attachment of insulation and/or coverboard materials shall be FTR Fasteners as provided by Seaman Corporation.
3. All fasteners and stress plates shall be Factory Mutual Research approved for mechanical attachment of insulation and comply with FM Standard 4470 for corrosion resistance.
4. 1-90 attachment for insulation/coverboard in the field of the roof requires 1 fastener and stress plate per 2ft^2 of insulation, when the top layer is <2" thick and the membrane is adhered.
5. Perimeter areas require a 50% increase in the fastener density.
6. Corner areas require a 100% increase in the fastener density.
7. 1-90 attachment for insulation/coverboard in the field of the roof requires 1 fastener and stress plate per 4ft^2 of insulation, when the top layer is ≥ 2" thick and the membrane is adhered.
8. Perimeter areas require a 50% increase in the fastener density.
9. Corner areas require a 100% increase in the fastener density.
10. Roof insulation shall be fastened in accordance with the roof insulation manufacturer's recommendations and must be approved by the FTCS.
11. Adhered roof systems incorporating mechanically attached insulations and coverboards may require mechanically fastened perimeter and corner membranes systems to comply with guidelines articulated in FM LPD 1-29.
12. Fasteners shall be installed in accordance with manufacturer's recommendations, complying with minimum penetration requirements for specific deck types.
13. Fasteners shall be installed using depth sensing tool attachments to ensure proper installation.

C. Adhered Insulation

Approvals for the attachment of the base insulation layer(s) using adhesives in adhered roofing systems are restricted to non-steel deck projects. The insulation/coverboard manufacturer must recommend and approve the specific board and adhesive combination in writing prior to Seaman Corporation granting approval for this method of securement for steel deck applications.

1. Hot Asphalt

a. Hot asphalt shall be applied only to properly prepared and preapproved substrates, free of any debris, dirt, grease, oil or moisture.

b. Insulation shall be set into a continuous flood coat of hot Type III or IV steep asphalt applied to compatible substrate or properly attached base sheet/vapor retarder at a minimum application rate of 25 lbs per 100ft^2.

c. Insulation shall be fully bonded to the substrate with a maximum board size of 4'x4'.

d. Insulation shall be laid in such a manner to avoid squeezing hot asphalt between insulation joints.

e. Adhered insulation application may require mechanical enhancement of exterior perimeter and/or corner areas as outlined in FM LPD 1-29.

2. Urethane or Polyurethane

a. Adhesive shall be applied only to properly prepared and preapproved substrates, free of any debris, dirt, grease, oil or moisture.

b. The minimum product temperature at time of application shall be 70°F.

c. Adhesives shall not be applied when surface or ambient temperatures are below 40°F or above 110°F.

d. Insulation shall be fully bonded to the substrate with a maximum board size of 4'x4'.

e. Insulation shall be set into a continuous 0.5" bead of adhesive at a minimum rate of one linear foot of adhesive for every one square foot of insulation board.

f. Adhesive rates are to be increased in roof perimeter and corner zones according to specific project requirements and manufacturer's design recommendations.

g. Place the boards onto the adhesive beads and walk on the boards, spreading the adhesive for maximum contact.

h. A second walking may be required after 10 minutes to ensure maximum contact and bond strength.

3.8 INSTALLATION OF FIBERTITE® MULTI-PLY MEMBRANE(S)

A. Quality Control

1. It will be the responsibility of the roofing contractor to initiate and maintain a Quality Control program to govern all aspects of the installation of the FiberTite Multi-Ply Roofing System.
2. The project foreman and or supervisor will be responsible for the daily execution of the Quality Control program which will include but is not limited to the supervision, inspection and probing of all heat welding incorporated within the FiberTite Multi-Ply Roofing System.
3. If inconsistencies in the quality of the application of the composite, membrane and/or welds are found, all work shall cease until corrective actions are taken to ensure the continuity of the installation.

B. General

1. Work shall be coordinated to ensure that sequencing of the installation promotes a 100% watertight installation at the end of each day.
2. All FiberTite Multi-Ply Roofing Systems or sections shall be designed utilizing and in compliance with the procedures outlined within the current publication of ASCE Standard 7. Alternative designs may be determined using the criteria within Factory Mutual Research Loss Prevention Data.
3. A FiberTite Multi-Ply Roofing System shall utilize conventional roll goods.
4. Restrictions regarding outside ambient air temperature are relative only to the exposure limits of the workers and/or adhesives.
5. When using adhesives outside ambient air temperature shall be above 40°F. Curing or drying time of the adhesive will be affected by ambient temperatures and must be taken into consideration.
6. Humidity can affect the drying time of solvent borne adhesives and/or cause condensation to form on the newly applied adhesive.
7. No moisture may be present on the adhesive(s) prior to mating or application of FiberTite Multi-Ply membranes.
8. FiberTite Multi-Ply Roofing Systems shall only be installed over properly prepared and sound substrates, free from excessive surface roughness, dirt, debris and moisture.

C. Adhered FiberTite Multi-Ply Roofing Systems

1. The authorized roofing contractor shall assume full responsibility for any and all irregularities, defects or quality issues that arise due to failure to follow published installation guidelines for the proper installation of the adhered FiberTite Multi-Ply membrane roofing systems.
2. **FiberTite-SBS Base Ply**

   a. Fully bond the base ply to the prepared substrate.

b. Utilize a minimum 3" side and end laps.

c. Apply directly behind the (asphalt or torch) applicator.

d. Cut a dog ear angle at the end laps on overlapping selvage edges.

e. Using a clean trowel, apply pressure to top seal T-Laps immediately following base ply application.

f. Stagger end laps a minimum of 3'.

g. Fully bond the second base ply (if applicable) in the same manner as the first ply.

h. Stagger side laps of the second base ply a minimum 12" from the side laps of the underlying base ply.

i. Stagger end laps a minimum 3' from the end laps of the underlying base ply.

3. FiberTite-FB Membrane Adhered with Hot Asphalt

a. For all FB membranes, unroll approximately 30' of the FiberTite-FB membrane and position the roll over the properly installed/prepared substrate. Pull the tail back over the roll to expose a workable area (approximate 30') of substrate.

b. Apply a 100% continuous coat of adhesive to the substrate.

c. Correct Equiviscous Temperature (EVT) must be maintained at point of application. Type III steep asphalt shall be applied within 25°F of the asphalt manufacturer's recommended EVT. If the manufacturer does not supply the EVT, Seaman Corporation recommends a temperature of 425°F for mopping and 450°F for mechanical spreaders.

d. Asphalt is to be applied by either mopping or mechanical spreaders.

e. Asphalt must be spread to ensure a smooth, even 100% coverage of the substrate with no voids, skips, globs, puddles, or similar irregularities.

f. Do not allow asphalt to contaminate the lap seam areas of the membrane. Contaminated areas will inhibit proper welding of the seams.

g. Carefully maneuver the membrane into the adhesive on the substrate surface, avoiding any wrinkles or air pockets.

h. Broom the adhered portion of the membrane to ensure full contact and complete the bonding process by firmly pressing the bonded membrane into place with a weighted, foam-covered, lawn roller.

i. Repeat the process for the remaining unbounded portion of the membrane, lapping subsequent, adjacent rolls of membrane a minimum of 3", ensuring proper shingling of the membrane to shed water along the laps.

j. No adhesive shall be applied to the lap seam areas of the membrane. Areas contaminated with adhesive are difficult to clean, will impair proper welding of the seams and require a membrane patch.

4. FiberTite-FB Membrane Adhered with FiberTite CR-20

a. For all FB membranes, unroll and position two rolls of FiberTite FB over the properly installed/prepared substrate.

b. Ensure rolls are straight and the minimum 3" overlap between rolls is maintained.

c. Peel (butterfly) the rolls back in the long direction, half way each upon themselves to expose the substrate and underlying polyester fleece backing.

d. Apply spatter pattern of FiberTite CR-20 adhesive to the substrate; dispensing the adhesive in a spattered pop corn spray pattern.

e. Spatter pattern shall achieve a nominal 80% coverage of textured coating at approximately 0.25" nominal thickness. The balance of the substrate will get coated as the adhesive spreads during the brooming and rolling process.

f. Avoid spattering the back of the FB membrane.

g. Do not allow adhesive to contaminate membrane overlaps. Use a sheet of insulation board to mask the spray area if required to keep alignment straight and smooth along adjoining membrane areas.

h. Overspray may be cleaned immediately with acetone while the adhesive is still wet.

i. Fold/maneuver the FB membrane into the wet adhesive, (approximate open time for the adhesive is 5 to 10 minutes depending on environmental conditions) avoiding any wrinkles or air pockets in the FB membrane.

j. Broom the membrane into the wet adhesive and complete the bonding process by firmly pressing the bonded membrane into place with a weighted, foam-covered, lawn roller.

k. Repeat the process for the remaining unbounded portion of the membrane, lapping subsequent, adjacent rolls of membrane a minimum of 3", ensuring proper shingling of the membrane to shed water along the laps.

l. No adhesive shall be applied to the lap seam areas of the membrane. Areas contaminated with adhesive are difficult to clean, may impair proper welding of the seams and may require a membrane patch.

m. FiberTite CR-20 adhesive is designed for use only when the substrate and ambient temperatures are a minimum 40°F and rising and the chemical cylinders are at least 70°F.

5. FiberTite-FB Membrane Adhered with FTR-390 Adhesive

a. For all FB membranes, uroll approximately 30' of the FiberTite-FB membrane and position the roll over the properly installed/prepared substrate. Pull the tail back over the roll to expose a workable (approximate 30') of substrate.

b. Apply a 100% continuous coat of the FTR-390 adhesive to the substrate.

c. The amount of substrate that can be coated with adhesive will be determined by the porosity and texture of the substrate, application method, ambient temperature, humidity.

d. To ensure proper application and curing of the adhesive, the outside air temperature shall be 40°F and rising with no chance of dropping below freezing during the subsequent 48 hour time period.

e. FTR-390 adhesive may be applied by using a heavy, ⅜" nap roller or brush. Do not dump adhesive or pour from the cans.

f. Roll or brush a smooth, even coat of adhesive over the substrate, ensuring 100% coverage of the substrate with no voids, skips, globs, puddles or similar irregularities.

g. Allow the adhesive to become sticky but still wet to the touch. Do not allow a film to develop on the adhesive or allow the adhesive to dry out.

h. Adhesive coverage should average 60ft^2 per gallon (± 10%) of applied adhesive.

i. Roll/maneuver the membrane onto the glued substrate, avoiding any wrinkles or air pockets.

j. Broom the adhered portion of the membrane to ensure full contact and complete the bonding process by firmly pressing the bonded membrane into place with a weighted, foam-covered, lawn roller.

k. Repeat the process for the remaining unbonded portion of the membrane, lapping subsequent, adjacent rolls of membrane a minimum of 3"; aligning the top leading edge of membrane to the top finished edge of the bottom section of membrane, ensuring proper shingling of the membrane to shed water along the laps.

l. No adhesive shall be applied to the lap seam areas of the membrane. Contaminated areas will inhibit proper welding of the seams requiring a membrane patch.

m. Water borne adhesives (FTR-390) can be directly affected by moisture. Water based adhesives should not to be installed over/on substrates that are moist or wet or on systems or substrates that have residual moisture.

n. Do not use bad or marginal adhesives. Contact FTCS if the quality of the adhesive is suspect.

D. Peel Stops for Adhered FiberTite Multi-Ply Roofing Systems

1. Seaman Corporation's standard Terms and Conditions for commercial warranties list 60-mph wind velocity as the first exclusion for wind events. Perimeter assurance or restraint must be provided for any modification to the standard commercial warranty.
2. Assurance or restraint is accomplished using rows of fasteners, installed parallel to exterior roof edges at a prescribed interval and fastener spacing to create a peel stop during a significant wind event.
3. Peel stops must be mechanically attached into or through the structural decking with rows of Magnum stress plates and fasteners, (or authorized alternate) at 12" on center. The peel stop is sealed by heat welding a nominal 6" strip of membrane over the fasteners.
4. Lightweight insulating concrete is generally not considered a structural component and peel stop fastening must penetrate through the lightweight into the structural component.

5. Peel Stop(s) are only required by Seaman Corporation on adhered projects requiring peak gust wind speed warranties greater than the default 60-mph articulated in the standard commercial warranty.
6. Although not required for standard commercial warranties, it is recommended that projects subject to the possibility of an significant wind event (hurricanes) should incorporate the use of peel stops in the roof system design.
7. The following are general guidelines for the use and inclusion of peel stops in adhered FiberTite-FB Roofing Systems. Peel stop intervals are based upon the field pressure and are as follows;
   a. Buildings with Design Velocity Pressure less than: -45 psf (FM 1-90): No peel stop.
   b. Buildings with Design Velocity Pressure greater than: -45 psf (FM 1-90) but less than or equal to -52.5 (FM 1-1050): One peel stop at 18" from all edges.
   c. Buildings with Design Velocity Pressure greater than: -52.5 (FM 1-105) but less than or equal to -60 psf (FM 1-120) : One peel stop at 18" from all edges and the second peel stop at 3' from all edges.
   d. Buildings with Design Velocity Pressure greater than: -60 (FM 1-120 but less than or equal to -67.5 psf (FM 1-135) : One peel stop at 18" from all edges and the second peel stop at 3' from all edges and the third peel stop at 6' from all edges.
   e. Buildings with Non Class 1 decking, (i.e. lightweight, wood, gypsum, and cementitious wood fiber) do not default to the above requirements and require additional evaluation and engineering review by FTCS.

E. Hot Air Welding

1. General

a. All field seams exceeding 10' in length shall be welded with an approved automatic welder.

b. All field seams must be clean and dry prior to initiating any field welding.

c. Remove foreign materials from the seams (dirt, oils, etc.) with Acetone or authorized alternative.

d. Use CLEAN WHITE COTTON cloths and allow approximately five minutes for solvents to dissipate before initiating the automatic welder. Do not use denim or synthetic rags for cleaning.

e. All welding shall be performed only by qualified personnel to ensure the quality and continuity of the weld.

f. Contaminated areas within a seam will inhibit proper welding and will require a membrane patch or strip.

2. Hand Welding

a. The lap or seam area of the membrane may be intermittently tack welded to hold the membrane in place.

b. The back interior edge of the membrane shall be welded first, with a thin, continuous weld to concentrate heat along the exterior edge of the lap during the final welding pass.

c. The nozzle of the hand held hot air welder shall be inserted into the lap at a 45° angle to the lap. Once the polymer on the material begins to flow, a hand roller shall be use to apply pressure at a right angle to the tip of the hand welder. Properly welded seams shall utilize a 1.5" wide nozzle, to create a homogeneous weld, a minimum of 1.5" in width.

d. Smaller nozzles may be used for corners, and other field detailing, maintaining a minimum 1" weld.

3. **Automatic Machine Welding**

a. Proper welding of the FiberTite Membrane can be achieved with a variety of automatic welding equipment.

b. Follow all manufacturers' instructions for the safe operation of the automatic welder.

c. Follow local code requirements for electric supply, grounding and surge protection.

d. The use of a dedicated, portable generator is highly recommended to ensure a consistent electrical supply, without fluctuations that can interfere with weld consistency.

e. Properly welded seams shall utilize a 1.5" wide nozzle, to create a homogeneous weld, a minimum of 1.5" in width.

F. Inspection

1. The job foreman and/or supervisor shall initiate daily inspections of all completed work which shall include, but is not limited to the probing of all field welding with a dull pointed instrument to assure the quality of the application and ensure that any equipment or operator deficiencies are immediately resolved.

2. Ensure that all aspects of the installation (sheet layout, attachment, welding, flashing details, etc.) are in strict accordance with the most current FiberTite Roofing Systems Specifications and Details.

3. Excessive patching of field seams because of inexperienced or poor workmanship will not be accepted at time of FINAL INSPECTION FOR WARRANTY ACCEPTANCE.

4. Any deviation from preapproved specifications and/or details requires written authorization from the FTCS prior to application to avoid any warranty disqualification.

5. It is the contractor's, job foreman's, supervisor's and/or quality control personnel's responsibility to perform a final self inspection on all seams prior to requesting the inspection for warranty issuance by the FTCS.

G. T-Joint Cover Installation

1. Installation of T-Joint Covers is mandatory on all FiberTite Membrane Systems greater than nominal 50 mil, vegetated roofs, ballast roofs or where T-Joints have not been properly sealed to exhibit a minimum 1.5" definedcrease along the T-Joint.
2. Install T-Joint Covers, centered and aligned so edges are parallel to roof system seams.
3. The T-Joint Cover shall be 100% welded.

3.9 FLASHING

A. Clean all vents, pipes, conduits, tubes, walls, and stacks to bare metal. All protrusions must be properly secured to the roof deck with approved fasteners. Remove and discard all lead, pipe and drain flashing. Flash all penetrations according to approved details.

B. Remove all loose and/or deteriorated cant strips and flashings.

C. Flash all curbs, parapets and interior walls in strict accordance with approved FiberTite details.

D. All flashing shall be adhered to properly prepared, approved substrate(s).

E. The base flange of all membrane flashing shall extend out on to the plane of the deck, beyond the wood nailers to a maximum width of 8".

F. Vertical flashing shall be terminated no less than 8" above the plane of the deck with approved termination bar and counter-flashing or metal cap flashing.

G. When using FTR-201 as the adhesive, vertical wall flashing termination shall not exceed 40" without supplemental mechanical attachment of the flashing between the deck and the termination point of the flashing.

H. Complete all inside and outside corner flashing details with FiberTite preformed corners or an approved field fabrication detail.

I. Probe all seams with a dull, pointed probe to ensure the weld has created a homogeneous bond.

J. Install penetration accessories in strict accordance with approved details. Ensure penetration accessories have not impeded in any way the working specification. (Refer to the related trade for the technical specification.)

3.10 METAL FLASHING

A. All perimeter edge details are to be fabricated from FiberClad Metal or utilize a prefabricated FiberTite Fascia System.

B. Ensure all fascia extend a minimum of 2" below the bottom of the wood nailers.

C. Fasten all metal flashing to wood nailers or approved substrate with approved fasteners 8" on center.

D. Break and install FiberClad metal in accordance with approved details, ensuring proper attachment, maintaining 0.5" expansion joints and the installation of a minimum 2" bond breaker tape prior to sealing the joint.

E. Solidly weld FiberClad expansion joints with a 6" strip of FiberTite membrane welded to the FiberClad, covering the bond breaker tape (cover plates are optional).

F. Roof Drains

1. Flash all roof drains in accordance with FiberTite roof drain details.
2. Replace all worn or broken parts that may cut the FiberTite membrane or prevent a watertight seal. This includes the clamping ring and strainer basket.
3. Replace all drain bolts or clamps used to hold the drain compression ring to the drain bowl.
4. FiberTite non-reinforced 60 mil membrane shall be used for flashing the drain assembly. Drain assemblies and basins or sumps must be free of any asphalt or coal tar pitch residue prior to installation.
5. The drain target sheet should be sized and installed to provide for a minimum of 12" of exposed 60 mil on all sides of the drain.

G. Pitch Pans

1. EVERY REASONABLE effort shall be made to eliminate the need for pitch pans including the removal of all existing pans. Contact FTCS for specific design alternatives and recommendations.
2. In the event of no alternative, fabricate pitch pans from FiberClad metal, installed in accordance with FiberTite details, ensuring proper attachment, maintaining a minimum of 2" clearance around the penetration.
3. Pitch Pans shall be filled with non-shrinking grout to within 1" of the top of the pan. Allow the grout to dry and fill remainder of the pan with FTR-SLS pourable sealant.
4. Pitch Pans and the sealant will require periodic maintenance by the building owner's maintenance personnel.

3.11 EXPANSION JOINTS

A. Flash all expansion joints in accordance with authorized details. Fasten all expansion joint material according to FiberTite specifications. Ensure the expansion material has sufficient material to expand to the widest point without causing undue stress on the expansion joint material.

B. If the expansion joint is a preformed system, the manufacturer, description and a drawing illustrating the method of installation must be included when the (FTR-PIN) is submitted.

3.12 SEALANTS

A. Apply authorized sealant(s) to all surface mounted reglets and per project requirements. Sealant(s) are to shed water. Follow all manufacturer's instructions and installation guides.

B. Use primer when recommended by the manufacturer.

C. Sealants will require periodic maintenance by the building owner's maintenance personnel.

3.13 TEMPORARY SEALS

A. At the end of each working day or at the sign of rain, install temporary, 100% watertight seal(s) where the completed new roofing adjoins the uncovered deck or existing roof surface.

B. The authorized roofing contractor shall create and maintain the temporary seal in such a manner to prevent water from traveling beneath the new and/or existing roof system.

C. The use of plastic roofing cement is permissible when sealing to an existing built up roof.

D. If water is allowed to enter beneath the newly completed roofing, the affected area(s) shall be removed and replaced at no additional expense to the building owner.

E. Prior to the commencement of work, cut out and remove all contaminated membrane, insulation, roof cement or sealant and properly dispose off site.

3.14 WALKWAYS

A. FiberTite walkways and protection pads shall be installed at staging areas for roof top equipment maintenance or areas subject to regular foot traffic.

B. Walkway Installation

1. Roofing membrane to receive walkway material shall be clean and dry.
2. Cut and position the FiberTite walkway material as directed by the specifications or agreement.
3. Hot air weld the entire perimeter of the walkway to the previously cleaned FiberTite roofing membrane. Avoid excessive heating of the walkway material to prevent scorching the underlying roofing membrane.

3.15 LIGHTNING PROTECTION

A. The installation of lightning protection must be coordinated with the authorized FiberTite roofing contractor, certified lightning contractor and the building owner.

B. The lightning protection must be installed in such a manner that base plates, air terminals and cables do not penetrate the roofing membrane without the use of preapproved flashing details.

C. Cables and air terminals may be attached to the membrane using base plates and an approved construction adhesive or by welding intermittent strips of FiberTite membrane over the base plates and cables to the FiberTite roofing. Contact FTCS for specific adhesive recommendations.

D. Recommendations regarding the selection of adhesives or alternative affixing of lightning protection systems to the FiberTite membrane does not in any way imply a warranty covering their performance or ability of the adhesives to remain affixed to the FiberTite membrane.

3.16 COMPLETION

A. Remove any and all debris, excess materials and scrap of any kind from the roof and surrounding premises prior to demobilization.

B. Inspect all field welds, detailing and terminations to ensure a 100% the watertight installation.

3.17 WARRANTY INSPECTION

A. Upon completion of the project, the authorized roofing contractor shall complete and submit the FiberTite Notice of Completion to FTCS.

B. Upon receipt of the notice of completion, a FTCS representative will schedule an inspection with a representative of the authorized roofing contractor to thoroughly review the installation and verify compliance with Seaman Corporation specifications.

C. Any corrections or modifications necessary for compliance with the specifications and acceptance for warranty (punch list) will be noted on the Final Inspection for Warranty Form.

D. Upon completion of all punch list items and final acceptance of the installation, a warranty as authorized by the approved Seaman Corporation/FiberTite Preinstallation Notice will be issued.

END of SECTION FTR-MP 02/13

FiberTite

Seaman Corporation

INTELLIGENT
ROOFING SOLUTIONS

Seaman Corporation • 1000 Venture Blvd. Wooster, OH 44691 • Phone: 330.262.1111 • Fax: 330.263.6950

Toll-free: 800.927.8578 • Fax: 800.649.2737 • www.FiberTite.com • www.SeamanCorp.com