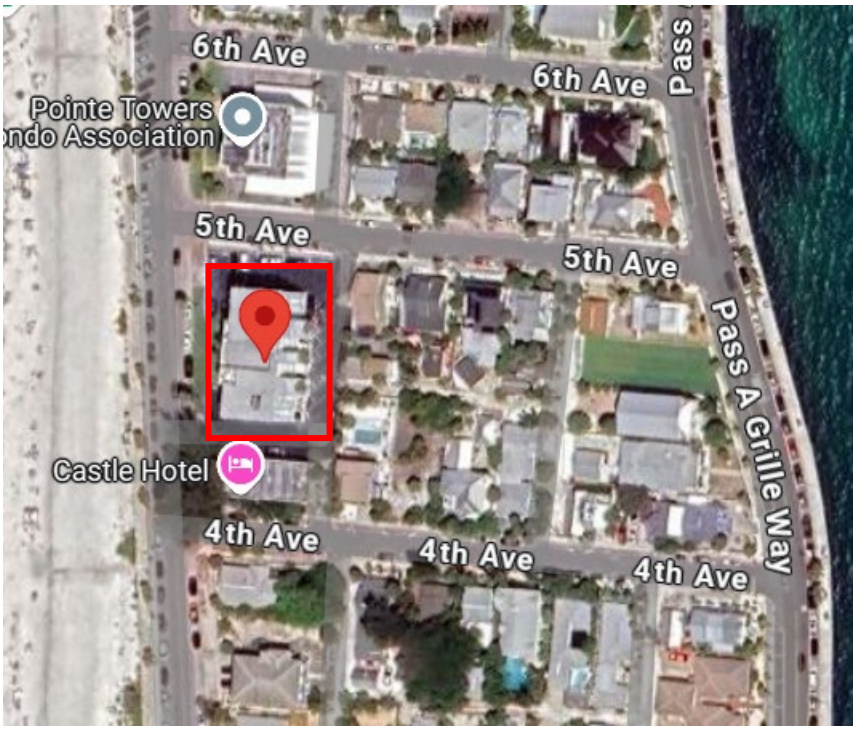
PRESCOTT ENGINEERING, LLC



Roof Replacement Project
Beach House Condo
403 Gulf Way
St Pete Beach, Florida 33706

April 8, 2025

Prescott Engineering, LLC
State of Florida Certificate of Authorization No. 31922

Not For Construction, For Bidding Purposes Only

_____
Clayton Prescott PE, SE, RRC
Principal Engineer
Florida P.E. No. 70985

111 2nd Ave NE, Ste 360, St. Petersburg, Florida 33701
www.prescott-engineering.com
727.637.6062

Beach House Condo
403 Gulf Way
St Pete Beach, Florida 33706

General Notes

Building Codes and Specifications

1. Florida Building Code: 8th Edition, Latest Updates
2. Minimum Design Loads for Buildings and Other Structures ASCE 7-22

Design Loads

1. Dead Loads:
    a. Minimum Design Loads for Buildings and Other Structures ASCE 7-22

2. Live Loads:
    a. Roof – 20 psf

3. Wind Load – ASCE 7-22
    a. Design Wind Speed – 148 mph
    b. Exposure Category – D
    c. Importance Factor – 1.00
    d. Occupancy Classification – Residential Group R-2
    e. Internal Pressure Coeffecients - +/-0.18
    f. Enclosure Classification – Enclosed
    g. Roof Pressures – Allowable Loads
        i. Flat Roof Pressures
            1. Zone 1’ (Interior Field) = -40.5 psf
            2. Zone 1 (Field) = -70.4 psf
            3. Zone 2 (Edge) = -92.9 psf
            4. Zone 3 (Corner) = -126.6 psf
            5. Edge Zone Width = 24 feet

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SECTION 00100 INVITATION TO BID

PART 1 – GENERAL

1.1 Project

a. Beach House Condo – Roof Replacement

b. Description: The project consists of roof membrane replacement on the flat roof of the building as well as equipment stand installation, mechanical work, and any necessary plywood replacement.

1.2 Owner/Owner's Representative

a. Owner:

Beach House Condo

403 Gulf Way, St Pete Beach,
Florida 33706

b. Owner's Representative:

Ms. Christy Knight

403 Gulf Way
Pass-A-Grille, Florida

christyknight@live.com

1.3 Engineer

a. Prescott Engineering, LLC
Clayton L. Prescott, PE
111 2nd Ave NE, Ste 360
St. Petersburg, FL 33701

(727) 637-6062
clayton@prescott-engineering.com

1.4 Qualifications

a. By submitting a bid, the contractor has reviewed the scope of work in entirety and visited the site to verify any onsite conflicts that may be present and confirms that at the time of the submission of the bid the bidding contractor is qualified to complete the scope of work and meets the requirements outlined in section 00200 of these construction documents.

1.5 Pre-bid Meeting

a. A mandatory pre-bid meeting shall be held. Attendance by the bidding contractor is required for submission of a bid and consideration for the project.

b. The pre-bid meeting date and time is as follows:

i. Date and Time: **April 16, 2025 at 1:00 pm**

Address: 403 Gulf Way,
St Pete Beach, Florida 33706

ii. Copies of the contract documents and bid documents will be delivered electronically to the bidding contractors prior to the pre-bid meeting.

1.6 Bid Due Date

Bids shall be submitted in electronic format to Ms. Christy Knight, christyknight@live.com along with a courtesy copy to Clayton Prescott, PE, clayton@prescott-engineering.com.

a. Bids shall be submitted by the following:

i. Date and Time: **May 7, 2025 at 4:00 pm**

END OF SECTION

SECTION 00200 INSTRUCTIONS TO BIDDERS

PART 1 – GENERAL

1.1 Contractor Qualifications

a. The contractor shall have a minimum of 5 years experience in successfully installing the same or similar products.

b. The contractor shall have been in business a minimum of 5 years.

c. The contractor shall have successfully completed projects of a similar size and scope of work.

d. By submitting a bid, the contractor acknowledges they have sufficient experience, means, and licensure to complete the work.

e. **By submitting a bid, the contractor acknowledges that they have visited the site and aware of site conditions that are present.**

f. The bidding contractor holds a current Roofing Contractor's license in the State of Florida and said license is in good standing.

g. The bidding contractor shall be able to furnish documentation to the Owner or Owner's Representative satisfaction, that the contractor has sufficient means, experience, and special qualifications to perform the work in a satisfactory manner and within the specified time.

1.2 Addendums

a. During the bidding process, all questions shall be in writing and shall be submitted electronically to the email address listed in Section 00100 for the Engineer.

b. Answers to submitted questions shall be issued in writing to all of the bidding contractors.

c. At the discretion of the Engineer, an addendum to the contract documents will be submitted to the bidding contractors.

d. Bid due dates may be adjusted at the discretion of the Engineer, Owner, or Owner's Representative.

1.3 Familiarity with Laws

a. The bidding contractor shall be familiar with all federal, state, and local laws, statutes, ordinances, codes, rules and regulations, and lawful order of public authorities applicable to the performance of the work.

1.4 Examination of the Contract Documents and Project Site

a. Execution of the Contract by the Contractor is a representation that the Contractor has reviewed contract documents and project site and that any existing and/or local conditions that may affect the cost of construction materials and labor in any manor have been identified. Any items identified shall be included in the base bid for the project.

b. No allowances shall be made to the bidding contractors for a lack of examination the contract documents or project site.`

c. The bidding contractor shall verify to its own satisfaction that all material issued including Addenda, is complete. If the bidding contractor discovers that a page, sheet, or other item is missing, the contractor shall notify the Engineer of the missing item(s). Submission of a bid is considered acknowledgement by the bidding contractor of review of the documents. Claims of ignorance of the requirements of bidding, contract documents, or scope of work due to missing material, including Addenda, will not be recognized.

d. Schematics, drawings, and specifications showing dimensions and/or quantities are representations of the Engineer's estimates for bidding purposes. The contractor shall be responsible for obtaining their own dimensions and quantities as required to complete the work for the project.

e. No compensation shall be provided to the contractor for differences between actual dimensions and quantities and measurements shown on drawings.

f. Should any conflicts in the construction documents be identified by the bidding contractor, or if the bidding contractor is unsure of the intent or meaning of any particular requirement of the construction documents, the bidding contractor shall immediately notify the Engineer.

g. Copies of the contract documents will be available with the Owner, Owner's Representative, and Engineer.

1.5 Bid Submittal

a. Bidding contractors shall submit make bids on the Bid Form included in section 00300 of the contract documents. Bids shall be legibly written in ink or typed. Bidding contractors shall not change the wording of the of the contract documents, including the Bid Form. Conditions, limitations, and provisions not previously authorized shall cause the proposal to be rejected.

b. The bid shall be signed by an officer of the firm.

c. Prices for bids items, both lump sum and unit prices, shall be written numerically.

d. Unit price items shall be provided along with the unit of measurement. The unit price shall include all material, labor and overhead costs associated with completing the work. Therefore, separate costs associated with jobsite supervision or labor will not be considered in addition to unit rate items.

e. Bids submitted for the scope of work outlined in the construction documents shall be honored by the contractor for a minimum period of 90 days.

1.6 Bonds

a. Along with their bid, the bidding contractors shall submit a letter of Intent to Bond from the Surety.

b. Prior to signing the contract, the Owner or Owner's Representative may require contractor to secure a Labor and Materials Payment Bond and a Performance Bond, each in the amount of 100% of the contract sum.

c. All bonds shall be issued by a Surety acceptable to the Owner or the Owner's Representative.

1.7 Withdrawal of Bids

a. Upon written request, bids may be withdrawn anytime prior to the scheduled time for bids to be submitted.

b. No bidding contractor shall be permitted to withdraw their bid for a period of ninety (90) days after bids are due.

c. Negligence on the part of the bidding contractor in preparing their bid does not grant the right of withdrawal of their bid.

1.8 Acceptance or Rejection of Bids

a. The contract, if awarded, will be awarded to the responsible competitive bidding contractor.

b. The Owner or Owner's Representative reserves the right to reject any and all bids when, in the opinion of the Owner or Owner's Representative, such rejection serves in the best interest of the Owner.

1.9 Award of Contract

a. The Owner or Owner's representative shall award the contract to the successful contractor.

b. The Owner or Owner's representative reserves the right to waive any and all informalities or irregularities, or to clarify Contract terms with the lowest responsible bidding contractor, and to disregard all non-conforming, non-responsive, or conditional bids, if such waiver is in the best interest of the Owner.

c. The form of Agreement between the successful bidding contractor and the Owner shall be the most recent version of AIA 107, "Standard Form of Agreement Between Owner and Contractor".

d. The bidding contractor to whom the Contract is awarded, shall provide signed copies of all necessary documents for the Contract within 10 working days of notice of award of Contract.

e. At or prior to providing the signed Agreement, the contractor shall deliver to the Owner or Owner's Representative all bonds and insurance policies or insurance certificates as required by the Contract Documents.

f. Failure or refusal to provide bonds or insurance policies or certificates in a form satisfactory to the Engineer shall subject the bidder to loss of time from the allowable construction period equal to the time of delay in furnishing the required material.

END OF SECTION

SECTION 00300 BID TABULATION

PART 1 – GENERAL

1.1 Project

a. Beach House Condo – Roof Replacement

b. Description: The project consists of roof membrane replacement on the flat roof of the building as well as equipment stand installation, mechanical work, and any necessary plywood replacement.

1.2 Owner/Owner's Representative

a. Owner:

Beach House Condo
403 Gulf Way, St Pete Beach,
Florida 33706

b. Owner's Representative:

Ms. Christy Knight
403 Gulf Way
Pass-A-Grille, Florida

christyknight@live.com

1.3 Engineer

a. Prescott Engineering, LLC
Clayton L. Prescott, PE
111 2nd Ave NE, Ste 360
St. Petersburg, FL 33701

(727) 637-6062
clayton@prescott-engineering.com

1.4 Acknowledgments

a. Submission of a bid shall be representation by the Contractor that the Contractor is qualified to meet the requirements outlined in the construction documents.

1.5 Base Bid Items

BID ITEM NO. 1

Contractor mobilization and demobilization

BID ITEM NO. 2

Performance and Payment Bond

BID ITEM NO. 3

Permitting Fees – To be billed at direct cost; any contractor fees associated with acquiring permits should be included in General Conditions.

BID ITEM NO. 4

General Conditions

BID ITEM NO. 5

Flat Roof Membrane Installation: Work includes the removal of the existing flat roof system on the flat roofs. Work shall include installation of either a new TPO roof membrane or Modified Bituminous roof membrane on the tower roof. Metal flashing shall be 0.040 aluminum or 24 gauge stainless steel. Exposed metal flashing shall be prefinished kynar coating. Penetration flashing shall be fully reinforced liquid flashing or premolded boots (for TPO only). All exposed utility chase flashings shall have pourable sealant pans and shall also have a new 24 gauge stainless steel hood installed over the sealant pans. Surface mounted counter flashing shall be removed and replaced with new prefinished 0.040 aluminum counter flashing of similar color. Roof membrane shall have walkway pads installed along the service side of the mechanical equipment. Work shall include extension of any pipe stacks needing extension due to added insulation. Pipes shall be extended with Tubos pipe extensions, or equivalent. Work shall include new goose neck vent hoods. For any exposed plywood decking the roof shall be re-nailed to meet current code. Work shall include aluminum spun retrofit drains for any drains present on the roof. The roof membrane systems shall be as follows:

TPO on Concrete Option

GAF (FL Product Approval 5293-R64, System C-68)

Insulation: 1/4” Tapered (Min. 1.5”)
Cover Board: .25” Densdeck or Securock
Membrane: Everguard TPO 60 mil
Bonding Adhesive: Olybond 500
Flashing: MajorSeal with TOPCOAT Fabric
Warranty: 20 year GAF Diamond Pledge

Carlisle (FL Product Approval 14083-R33, System C-49)

Insulation: 1/4” Tapered (Min. 1.5”)
Coverboard: 0.25” Densdeck or Securock
Membrane: Sure-weld TPO 60 mil
Bonding adhesive: Flexible Fast
Flashing: Liquiseal with Flashing Fleece
Warranty: 20 year NDL warranty

TPO on Wood Option

GAF (FL Product Approval 5293-R64, System W-63)

Insulation: 1/4” Tapered (Min. 1.5”)
Coverboard: 0.25” Densdeck or Securock
Membrane: Everguard TPO
Attachment: Rhinobond TPO Plate
Flashing: MajorSeal with TOPCOAT Fabric
Warranty: 20 year GAF Diamond Pledge

Carlisle (FL Product Approval 14083-R26, System W-25)

Insulation: 1/8” Tapered (Min. 1.5”)
Membrane: Sure-Weld TPO 60 mil
Attachment: Rhinobond TPO Plate
Flashing: Liquiseal with Flashing Fleece
Warranty: 20 year NDL warranty

Mod Bit on Concrete Option

GAF (FL Product Approval 5680-R44, System C-45)

Insulation: EnergyGuard 1/4” Tapered (Min. 1.5”)
Insulation Adhesive: OlyBond500
Coverboard: ¼” Densdeck
Ply Sheet: Ruberoid HW 25 Smooth
Cap Sheet: Ruberoid HW Plus Granule FR
Flashing: Ruberoid HW 25 Smooth
Ruberoid HW Granule
Liquid Flashing: MajorSeal with TOPCOAT Fabric
Warranty: 20 year GAF Diamond Pledge

Soprema (FL Product Approval 3915-R39, System C-57)

Insulation: Sopra-ISOs 1/4” Tapered (Min. 1.5”)
Insulation Adhesive: Duotrack
Coverboard: 1/8” Sopraboard
Ply Sheet: Elastophene Flam
Cap Sheet: Elastophene Flam FRGR
Flashing: Elastophene Flam
Elastophene Flam FRGR
Liquid Flashing: Alsan liquid flashing
Warranty: 20 year Platinum

Mod Bit on Wood

GAF (FL Product Approval 5680-R44, System W-27)

Insulation: EnergyGuard 1/4” Tapered (Min. 1.5”)
Attachment: Mechanically Attached
Coverboard: ¼” Securock
Ply Sheet: Ruberoid HW 25 Smooth
Cap Sheet: Ruberoid HW Plus Granule FR
Flashing: Ruberoid HW 25 Smooth
Ruberoid HW Granule
Liquid Flashing: MajorSeal with TOPCOAT Fabric
Warranty: 20 year GAF Diamond Pledge

Soprema (FL Product Approval 3915-R39, System W-85)

Insulation: Sopra-ISOs 1/4” Tapered (Min. 1.5”)
Attachment: Mechanically Attached
Coverboard: 1/8” Sopraboard

Ply Sheet: Elastophene Flam
Cap Sheet: Elastophene Flam FRGR
Flashing: Elastophene Flam
Elastophene Flam FRGR
Liquid Flashing: Alsan liquid flashing
Warranty: 20 year Platinum

BID ITEM NO. 6

A/C Installation: Work shall include new air conditioning condensing units and rerunning of lines for all mechanical units for the units on the roofs of the penthouses. Lines shall be run in a way to accommodate installation of new hoods on utility chases. The work includes installation of new disconnect boxes for each unit, new electrical lines/whips, new low voltage control lines, and new coolant lines. All new lines shall extend from roof penetration to unit or electrical junction box. All new lines will be mounted on new supports attached to stands, or in a clean organized method on new premolded adhered supports. No lines will be loose laid on the roof or have supports that exceed the requirements of the Building Code. Work shall include testing of air conditioning units, disconnecting, reconnecting, and retesting of air condition systems by a licensed mechanical contractor. Lump Sum.

Bid Tabulation

Fill in the costs for each *Bid Item* in the table below.

BID ITEM NO.	UNIT RATE COST		Quantity	Total
1: Mobilization and Demobilization		LS		
2: Bonds		%		
3: Permits		LS		
4: General Conditions		LS		
5: Roof Replacement				
5A: TPO Option		LS		
5B: Mod Bit OPtion		LS		
6: A/C Stand Installation		LS		
TOTAL 1-6 (TPO Option)				
TOTAL 1-6 (Mod Bit Option)				

Contractor's best time for completing work after which time liquidated damages would apply as per AIA contract requirements: _____ calendar days

Contractor's best time to commence work upon receiving signed contract: _____ calendar days

Name of any other subcontractors

_____
_____
_____

1.6 Unit Costs

Costs for work added or deleted from this project shall be as per the following schedule. The unit rate costs shall include all material, labor, and jobsite supervision required to complete the task. Provide values for each item in the spaces provided below.

1. Skilled Labor cost ($/hour)
   $_____

2. Material cost markup (%)
   _____%

3. 15/32" APA Rated Plywood ($/Sheet)
   $_____

4. Wood Replacement ($/LF)

2x4	$_____
2x6	$_____
2x8	$_____
2x10	$_____
1x4	$_____
1x6	$_____
1x8	$_____

1.7 Signatures

Legal Name of Company Submitting Bid:

_____

Authorized Signature/Date:

_____

Printed Name/Title:

_____

Date Submitted:

_____

Roofing Contractor License No.:

_____

Roofing Contractor License Holder:

_____

Signature of Roofing Contractor License Holder:

_____

END OF SECTION

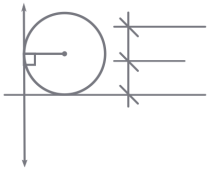


TABLE 3B: STRUCTURAL CONCRETE DECKS - NEW CONSTRUCTION OR REROOF (TEAR-OFF)
SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER (BASE AND TOP INSULATION LAYERS)*
SEE NOTE 16 FOR VAPOR BARRIER OPTIONS

System No.	Deck (Note 1)	Base Insulation Layer		Top Insulation Layer		Roof Cover (Note 15)			MDP (psf)*
		Type	Attach (Notes 6,7,8)	Type	Attach (Notes 6,7,8)	Base Ply	Ply	Cap Ply	
C-40.	Structural concrete	Min. 1-inch EnergyGuard Polyiso Insulation, EnergyGuard RH	LRF-XF	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board, primed with Matrix 307 Premium Asphalt Primer	LRF-XF	SBS-TA	(Optional) SBS-TA	SBS-TA	-210.0
C-41.	Structural concrete	Min. 2.0-inch EnergyGuard Polyiso Insulation, EnergyGuard RA, EnergyGuard RH or EnergyGuard Ultra	LRF-XF	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	LRF-XF	BP-AA or SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-225.0
C-42.	Structural concrete	Min. 2.0-inch EnergyGuard RA, EnergyGuard RH or EnergyGuard Ultra	LRF-XF	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	LRF-XF	SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-232.5
C-43.	Structural concrete	Min. 1.5-inch EnergyGuard RA, EnergyGuard RH	LRF-XF	Min. 0.25-inch DensDeck Prime	LRF-XF	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) One or more BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-240.0
C-44.	Structural concrete	Min. 1.5-inch EnergyGuard RA, EnergyGuard RH or EnergyGuard Ultra	LRF-XF	Min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	LRF-XF	SBS-TA, APP-TA	(Optional) SBS-TA, APP-TA	SBS-TA, APP-TA	-240.0
C-45.	Structural concrete	Min. 1.5-inch EnergyGuard Ultra	LRF-XF	Min. 0.25-inch DensDeck Prime	LRF-XF	SBS-TA	(Optional) SBS-TA	SBS-TA	-300.0
C-46.	Structural concrete	Min. 1.5-inch EnergyGuard Polyiso Insulation, EnergyGuard RA, EnergyGuard RH	OB500	Min. 0.25-inch DensDeck or DensDeck Prime	OB500	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) One or more BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-150.0
C-47.	Structural concrete	Min. 1.5-inch EnergyGuard Polyiso Insulation, EnergyGuard RA, EnergyGuard RH	OB500	Min. 0.5-inch Structodek High Density Fiberboard Roof Insulation	OB500	BP-AA, SBS-AA	(Optional) One or more BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-165.0
C-48.	Structural concrete	Min. 1.5-inch EnergyGuard Polyiso Insulation, EnergyGuard RA, EnergyGuard RH or EnergyGuard Ultra	OB500	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	BP-AA or SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-187.5
C-49.	Structural concrete	Min. 1.5-inch EnergyGuard Polyiso Insulation	OB500	Min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	OB500	SBS-TA, APP-TA	(Optional) SBS-TA, APP-TA	SBS-TA, APP-TA	-195.0
C-50.	Structural concrete	Min. 1-inch EnergyGuard Polyiso Insulation, EnergyGuard RH	OB500	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board, primed with Matrix 307 Premium Asphalt Primer	OB500	SBS-TA	(Optional) SBS-TA	SBS-TA	-210.0
C-51.	Structural concrete	Min. 2.0-inch EnergyGuard Polyiso Insulation, EnergyGuard RA, EnergyGuard RH or EnergyGuard Ultra	OB500	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	BP-AA or SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-225.0

TABLE 1D: WOOD DECKS - NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE C-1: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER

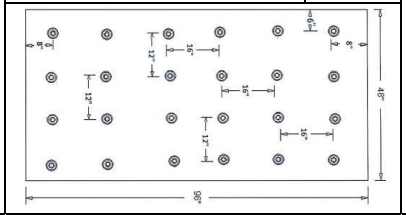
System No.	Deck (Note 1)	Base Insulation Layer (Note 3, Note 13)	Top Insulation Layer			Roof Cover (Note 15)			MDP (psf)
			Type	Fastener (Note 2, Note 11)	Attach (Note 17)	Base Ply	Ply	Cap Ply	
CONVENTIONAL SYSTEMS:									
W-26.	Min. 19/32-inch plywood or 1-inch wood plank; 2 ft span, 8d ring shank nails 6" o.c.	Min. 0.75-inch, one or more layers, any combination, loose laid	Min. 1-inch Structodek High Density Fiberboard Roof Insulation	Note 2	1 per 2.0 ft2	BP-AA, SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA, APP-TA	SBS-AA, SBS-TA, APP-TA	-45.0
W-27.	Min. 19/32-inch plywood or 1-inch wood plank; 2 ft span, 8d ring shank nails 6" o.c.	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch SECUROCK Gypsum Fiber Roof Board	Note 2 (#14 only)	1 per 1.8 ft2	BP-AA, SBS-AA, SBS-TA, APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA, APP-TA	SBS-AA, SBS-TA, APP-TA	-60.0
SELF-ADHERING BASE PLY:									
W-28.	Min. 15/32-inch plywood or 1-inch wood plank; 2 ft span, 8d common nails 6" o.c.	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch EnergyGuard RA, EnergyGuard RH	Note 2 (HD Fastener only)	1 per 2.0 ft2	SBS-SA	(Optional) SBS-SA	SBS-SA	-45.0
W-29.	Min. 15/32-inch plywood or 1-inch wood plank; 2 ft span; 8d ring shank nails, 6" o.c.	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch EnergyGuard Polyiso Insulation, EnergyGuard Ultra	Drill-Tec #12 Fastener and Drill-Tec 3" Steel Plate	1 per 1.8 ft^2	SBS-SA	(Optional) SBS-TA, APP-TA	SBS-TA, APP-TA	-52.5
W-30.	Min. 15/32-inch plywood or 1-inch wood plank; 2 ft span; 8d ring shank nails, 6" o.c.	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch EnergyGuard Polyiso Insulation, EnergyGuard Ultra	Drill-Tec #12 Fastener and Drill-Tec 3" Steel Plate	1 per 1.6 ft^2	SBS-SA	(Optional) SBS-TA, APP-TA	SBS-TA, APP-TA	-60.0
VENTING SYSTEMS:									
W-31.	Min. 15/32-inch plywood or 1-inch wood plank; 2 ft span; 8d ring shank nails, 6" o.c.	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch EnergyGuard Polyiso Insulation or EnergyGuard Ultra	Note 2	1 per 1.3 ft^2	BP-LL	(Optional) One or more BP-AA, SBS-AA	SBS-AA	-60.0*
COLD-APPLIED SYSTEMS:									
W-32.	Min. 15/32-inch plywood or 1-inch wood plank; 2 ft span; 8d ring shank nails, 6" o.c.	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch SECUROCK Gypsum Fiber Roof Board	Note 2 (#14 fasteners only)	1 per 2.0 ft^2	SBS-CA1	(Optional) SBS-CA1	SBS-CA1	-45.0*
W-33.	Min. 15/32-inch plywood or 1-inch wood plank; 2 ft span; 8d ring shank nails, 6" o.c.	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch SECUROCK Gypsum Fiber Roof Board	Note 2 (#14 fasteners only)	1 per 1.8 ft^2	SBS-CA1	(Optional) SBS-CA1	SBS-CA1	-60.0
W-34.	Min. 15/32-inch plywood or 1-inch wood plank; 2 ft span; 8d ring shank nails, 6" o.c.	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch SECUROCK Gypsum Fiber Roof Board	Note 2 (#14 fasteners only) 	1 per 1.3 ft^2	SBS-CA1	(Optional) SBS-CA1	SBS-CA1	-82.5

TABLE 11A: STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)
SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER
REFER TO TABLE VB-3 FOR VAPOR BARRIER OPTIONS

SYSTEM NO.	DECK (4.1.2)	PRIME	BASE INSULATION LAYER		TOP INSULATION LAYER		ROOF COVER (3.1.4)			MDP (PSF)
			TYPE	ATTACH (3.1.3)	TYPE	ATTACH (3.1.3)	BASE	PLY	CAP	
C-49.	Structural Concrete	D41	(Optional) Min. 1.5-inch ACFoam II, ENRGY 3, H-Shield or Multi-Max FA3	hot asphalt	Min. 0.5-inch Blue Ridge Structodek HD with Primed Red Coating	hot asphalt	BP-AA, SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TAF	SBS-AA, SBS-TAF	-150.0
C-50.	Structural Concrete	D41	(Optional) Min. 1.5-inch ACFoam II, ENRGY 3, H-Shield or Multi-Max FA3	hot asphalt	Min. 0.25-inch DensDeck	hot asphalt	SBS-TAF	(Optional) BP-AA, SBS-AA or SBS-TAF	SBS-AA or SBS-TAF	-187.5
C-51.	Structural Concrete	D41	(Optional) Min. 1.5-inch ACFoam II, ENRGY 3, H-Shield or Multi-Max FA3	hot asphalt	Min. 0.25-inch DensDeck	hot asphalt	BP-AA, SBS-AA	(Optional) BP-AA, SBS-AA or SBS-TAF	SBS-AA or SBS-TAF	-452.5
C-52.	Structural Concrete	D41	(Optional) Min. 1.5-inch ACFoam II, ENRGY 3, H-Shield or Multi-Max FA3	hot asphalt	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	hot asphalt	SBS-TAF	(Optional) SBS-AA, SBS-SA1 or SBS-TAF	SBS-SA1	-247.5
C-53.	Structural Concrete	D41	(Optional) Min. 1.5-inch ACFoam II, ENRGY 3, H-Shield or Multi-Max FA3	hot asphalt	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	hot asphalt	SBS-TAF	(Optional) BP-AA, SBS-AA or SBS-TAF	SBS-AA or SBS-TAF	-375.0
C-54.	Structural Concrete	D41	(Optional) Min. 1.5-inch ACFoam II, ENRGY 3, H-Shield or Multi-Max FA3	hot asphalt	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	hot asphalt	BP-AA, SBS-AA	(Optional) BP-AA, SBS-AA or SBS-TAF	SBS-CA3, SBS-CA4	-382.5
C-55.	Structural Concrete	D41	(Optional) Min. 1.5-inch ACFoam II, ENRGY 3, H-Shield or Multi-Max FA3	hot asphalt	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	hot asphalt	BP-AA, SBS-AA	(Optional) BP-AA, SBS-AA or SBS-TAF	SBS-AA or SBS-TAF	-397.5
C-56.	Structural Concrete	D41	(Optional) Min. 1.4-inch ACFoam II, ENRGY 3 or H-Shield	hot asphalt	Min. 0.75-inch Fesco Board (homogeneous)	hot asphalt	BP-AA or SBS-AA	(Optional) BP-AA, SBS-AA or SBS-TAF	SBS-AA or SBS-TAF	-420.0
C-57.	Structural Concrete	None	Min. 1.5-inch, min. 1.25 pcf, Insulfoam	DUOTACK	Min. 0.125-inch SOPRABOARD	DUOTACK	SBS-TAP or SBS-TAF	(Optional) SBS-AA, SBS-SA1 or SBS-TAF	SBS-AA, SBS-SA1 or SBS-TAF	-152.5
C-58.	Structural Concrete	None	(Optional) Min. 1.5-inch ACFoam II, ACFoam III, ENRGY 3, ENRGY 3 AGF, ENRGY 3 CGF, ENRGY 3 25 PSI AGF, ENRGY 3 25 PSI CGF, H-Shield, H-Shield CG, Multi-Max FA3 or Ultra-Max	DUOTACK	Min. 0.125-inch SOPRABOARD	DUOTACK	SBS-TAP	(Optional) BP-AA, SBS-AA, SBS-SA1 or SBS-TAF	SBS-AA, SBS-SA1 or SBS-TAF	-150.0
C-59.	Structural Concrete	None	(Optional) Min. 1.5-inch ACFoam II, ACFoam III, ENRGY 3, ENRGY 3 AGF, ENRGY 3 CGF, ENRGY 3 25 PSI AGF, ENRGY 3 25 PSI CGF, H-Shield, H-Shield CG, Multi-Max FA3 or Ultra-Max	DUOTACK	Min. 0.125-inch SOPRABOARD	DUOTACK	BP-AA, SBS-AA or SBS-TAF	(Optional) BP-AA, SBS-AA or SBS-TAF	SBS-AA or SBS-TAF	-382.5

TABLE 9D: WOOD DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE C-1: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER

SYSTEM NO.	DECK (4.1.2)	SLIP SHEET	BASE INSULATION LAYER(S) (3.1.2)	TOP INSULATION LAYER			ROOF COVER (3.1.4)			MDP (PSF)
				TYPE	FASTENER (3.1.1, 4.2.2)	ATTACH (3.1.2E)	BASE	PLY	CAP	
W-85.	Min. 19/32-inch plywood; 2 ft span	(Optional) One or more layers Sopra-G or MODIFIED SOPRA-G, loose laid	One or more layers, any combination, loose laid	Min. 0.125-inch SOPRABOARD	SOPREMA #15-EL Fastener or SOPREMA #15 HD Fastener with SOPREMA 3 in. Insulation Plate or SOPREMA 3" Metal Insulation Plate	1 per 1.3 ft^2	SBS-TAF	(Optional) SBS-TAF	SBS-TAF	-75.0
W-86.	Min. 15/32-inch APA rated CDX plywood	(Optional) One or more layers MODIFIED SOPRA G, loose laid	One or more layers, any combination, loose laid	Min. 0.5-inch DensDeck Prime or DEXcell FA Glass Mat Roof Board, min. 7/16-inch DEXcell Cement Roof Board or min. 0.5-inch SECUROCK Cement Roof Board.	SOPREMA #12 Fastener or SOPREMA #12 DP Fastener with SOPREMA 3 in. Insulation Plate or SOPREMA 3" Metal Insulation Plate	1 per 1.6 ft^2	SBS-AA or SBS-TAF	(Optional) SBS-AA or SBS-TAF	SBS-AA or SBS-TAF	-67.5
W-87.	Min. 15/32-inch APA rated BCX plywood	(Optional) One or more layers MODIFIED SOPRA G, loose laid	One or more layers, any combination, loose laid	Min. 0.5-inch DensDeck Prime or DEXcell FA Glass Mat Roof Board, min. 7/16-inch DEXcell Cement Roof Board or min. 0.5-inch SECUROCK Cement Roof Board.	Trufast Versa-Fast Plate with minimum two (2) Versa-Fast Fasteners, Trufast #14 HD or SOPREMA #14 MP Fasteners installed 180° into the holes of the Versa-Fast Plate	1 per 1.8 ft^2	SBS-AA or SBS-TAF	(Optional) SBS-AA or SBS-TAF	SBS-AA or SBS-TAF	-67.5
W-88.	Min. 19/32-inch APA rated CDX plywood	(Optional) One or more layers MODIFIED SOPRA G, loose laid	One or more layers, any combination, loose laid	Min. 0.5-inch DensDeck Prime or DEXcell FA Glass Mat Roof Board, min. 7/16-inch DEXcell Cement Roof Board or min. 0.5-inch SECUROCK Cement Roof Board.	Trufast Versa-Fast Plate with minimum one (1) SOPREMA #14 MP Fastener or Trufast #14 HD installed into the center hole of the Versa-Fast Plate	1 per 1.8 ft^2	SBS-AA or SBS-TAF	(Optional) SBS-AA or SBS-TAF	SBS-AA or SBS-TAF	-67.5
ELASTOPHENE STICK, SOPRALENE STICK OR SOPRALENE FLAM STICK BASE PLY:										
W-89.	APA rated, min. 19/32 CAT, 0.578 in., Exposure 1 OSB sheathing	(Optional) One or more layers MODIFIED SOPRA G, loose laid	One or more layers, any combination, loose laid	Min. 0.5-inch DEXcell FA Glass Mat Roof Board. Top surface shall be primed with ELASTOCOL Stick, ELASTOCOL Stick Zero or ELASTOCOL Stick LVOC	Trufast Versa-Fast Plate with minimum one (1) Versa-Fast Fastener	1 per 4.0 ft^2	SBS-SA1	(Optional) SBS-AA, SBS-CA4, SBS-SA1 or SBS-TAF	SBS-AA, SBS-CA4, SBS-SA1 or SBS-TAF	-30.0*
W-90.	Min. 19/32-inch plywood	(Optional) One or more layers MODIFIED SOPRA G, loose laid	One or more layers, any combination, loose laid	Min. 0.125-inch SOPRABOARD. Top surface shall be primed with ELASTOCOL 500, ELASTOCOL Stick, ELASTOCOL Stick Zero or ELASTOCOL Stick LVOC	SOPREMA #14 Fastener or SOPREMA #14 MP Fastener with SOPREMA 3 in. Insulation Plate or SOPREMA 3" Metal Insulation Plate	1 per 2.3 ft2	SBS-SA1	(Optional) SBS-AA, SBS-CA4, SBS-SA1 or SBS-TAF	SBS-AA, SBS-CA4, SBS-SA1 or SBS-TAF	-30.0*
W-91.	Min. 19/32-inch plywood	(Optional) One or more layers MODIFIED SOPRA G, loose laid	One or more layers, any combination, loose laid	Min. 0.5-inch DEXcell FA Glass Mat Roof Board. Top surface shall be primed with ELASTOCOL Stick, ELASTOCOL Stick Zero or ELASTOCOL Stick LVOC	Trufast Versa-Fast Plate with minimum one (1) Versa-Fast Fastener	1 per 4.0 ft^2	SBS-SA1	(Optional) SBS-AA, SBS-CA4, SBS-SA1 or SBS-TAF	SBS-AA, SBS-CA4, SBS-SA1 or SBS-TAF	-37.5*

TABLE 3A: STRUCTURAL CONCRETE DECKS - NEW CONSTRUCTION OR REROOF (TEAR-OFF)
SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER*
REFER TO Note 15 FOR VAPOR BARRIER OPTIONS

System No.	Deck (Note 1)	Base Insulation Layer		Top Insulation Layer		Roof Cover (Note 15)	MDP (psf)*
		Type	Attach (Notes 6,7,8)	Type	Attach (Notes 6,7,8)		
C-57.	Structural concrete	Min. 1.5-inch, min. 2.0 pcf Insulfoam Roofing EPS	OB500	Min. 0.25-inch DensDeck Prime or DEXcell FA Glass Mat Roof Board	OB500	TPO-1121 or TPO-3SQ	-45.0
C-58.	Structural concrete	Min. 1-inch EnergyGuard RA, EnergyGuard RH	OB500	(Optional) Additional layer of base insulation	OB500	TPO-1121 or TPO-3SQ	-45.0
C-59.	Structural concrete	Min. 1-inch EnergyGuard RA, EnergyGuard RH	OB500	Min. 0.25-inch DensDeck Prime or DEXcell FA Glass Mat Roof Board	OB500	TPO-1121 or TPO-3SQ	-52.5
C-60.	Structural concrete	Min. 0.5-inch EnergyGuard Polyiso Insulation, EnergyGuard Ultra	OB500	Additional optional layers base insulation followed by min. 0.5-inch Structodek High Density Fiberboard Roof Insulation	OB500	TPO-1121 or TPO-3SQ	-82.5
C-61.	Structural concrete	Min. 0.5-inch EnergyGuard Polyiso Insulation or min. 1.5-inch EnergyGuard RH	OB500	Min. 0.5-inch EnergyGuard RH HD Polyiso Insulation, EnergyGuard HD Polyiso Cover Board or EnergyGuard HD Plus Polyiso Cover Board or min. 1.5-inch EnergyGuard Polyiso-HD Composite Insulation or Ultra HD Composite Insulation	OB500	TPO-1121 or TPO-3SQ	-97.5
C-62.	Structural concrete	Min. 2-inch, min. 2.0 pcf Insulfoam Roofing EPS	OB500	Min. 0.25-inch DensDeck, DensDeck Prime or DEXcell FA Glass Mat Roof Board	OB500	TPO-1121 or TPO-3SQ	-120.0
C-63.	Structural concrete	Min. 1.5-inch EnergyGuard RA, EnergyGuard RH	OB500	Min. 0.25-inch DensDeck, DensDeck Prime or DEXcell FA Glass Mat Roof Board	OB500	TPO-1121 or TPO-3SQ	-130.0
C-64.	Structural concrete	(Optional) Min. 0.5-inch EnergyGuard Polyiso Insulation, EnergyGuard Ultra	OB500	Min. 1.5-inch EnergyGuard Polyiso-HD Composite Insulation	OB500	TPO-1121 or TPO-3SQ	-165.0
C-65.	Structural concrete	(Optional) Min. 0.5-inch EnergyGuard Polyiso Insulation, EnergyGuard Ultra	OB500	Min. 1.5-inch Ultra HD Composite Insulation	OB500	TPO-1121 or TPO-3SQ	-187.5
C-66.	Structural concrete	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	None	N/A	TPO-1121 or TPO-3SQ	-195.0
C-67.	Structural concrete	Min. 0.5-inch EnergyGuard Polyiso Insulation, EnergyGuard Ultra	OB500	Additional optional layers base insulation followed by min. 0.25-inch DensDeck Prime, DEXcell FA Glass Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board	OB500	TPO-1121 or TPO-3SQ	-232.5
C-68.	Structural concrete	Min. 1.5-inch EnergyGuard RA	OB500	Min. 0.25-inch DensDeck Prime, DEXcell FA Glass Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board	OB500	TPO-1121 or TPO-3SQ	-240.0
C-69.	Structural concrete	Min. 2-inch EnergyGuard Polyiso Insulation, EnergyGuard RA, EnergyGuard RH	OB500	Min. 0.25-inch DEXcell FA Glass Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board	OB500	TPO-1121 or TPO-3SQ	-247.5
C-70.	Structural concrete	Min. 0.5-inch EnergyGuard Polyiso Insulation, EnergyGuard Ultra	OB500	(Optional) Additional layers of base insulation	Hot asphalt	TPO-1121 or TPO-3SQ	-255.0
C-71.	Structural concrete	Min. 0.5-inch EnergyGuard Polyiso Insulation, EnergyGuard Ultra	OB500	(Optional) Additional layers of base insulation	OB500	TPO-1121 or TPO-3SQ	-292.5
C-72.	Structural concrete	Min. 1-inch EnergyGuard Polyiso Insulation, EnergyGuard RA	OB500	None	N/A	TPO-1121 or TPO-3SQ	-502.5
EVERGUARD TPO / EVERGUARD WB181 BONDING ADHESIVE							

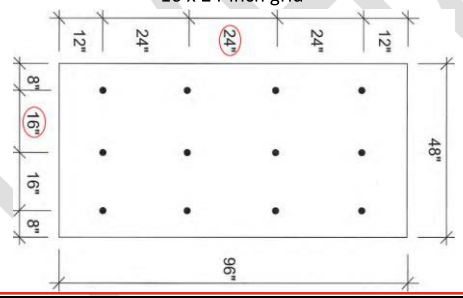
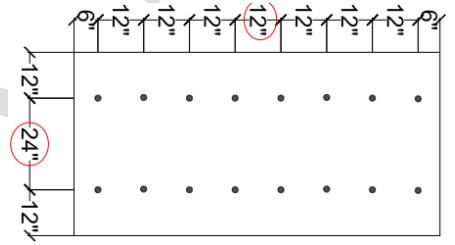
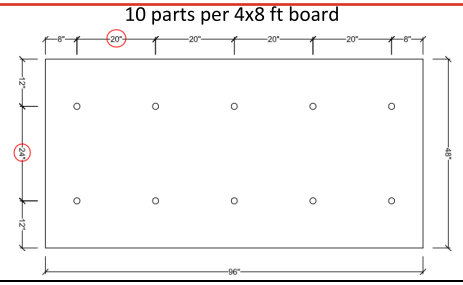
TABLE 1E: WOOD DECKS - NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER SYSTEM TYPE C-2: INDUCTION WELDED ROOF COVER						
System No.	Deck (Note 1)	Insulation (Note 13)	Attachment		Roof Cover	MDP (psf)
			Fastener (Note 11)	Spacing		
W-61.	Min. 15/32-inch (existing) or min. 19/32-inch (new or existing) APA rated, CDX plywood or 1-inch wood plank; 2 ft span; #8 x 2-inch wood screws, 6" o.c.	(Optional) One or more layers, any combination (Tread Safe = min. 2-inch thick insulation)	Drill-Tec #14 Fastener, Drill-Tec #14 HD Fastener, Drill-Tec XHD Fastener or Drill-Tec #15 EHD Fastener and Drill-Tec RhinoBond TPO XHD Plate or Drill-Tec RhinoBond TPO XHD Tread Safe Plate	12 parts per 4x8 ft board 16 x 24-inch grid 	EverGuard TPO induction welded with RhinoBond Portable Bonding Tool, per manufacturer's published instructions.	-45.0
W-62.	Min. 15/32-inch (existing) or min. 19/32-inch (new or existing) APA rated, CDX plywood or 1-inch wood plank; 2 ft span; #8 x 2-inch wood screws, 6" o.c.	(Optional) One or more layers, any combination (Tread Safe = min. 2-inch thick insulation)	Drill-Tec #14 Fastener, Drill-Tec #14 HD Fastener, Drill-Tec XHD Fastener or Drill-Tec #15 EHD Fastener and Drill-Tec RhinoBond TPO XHD Plate or Drill-Tec RhinoBond TPO XHD Tread Safe Plate	16 parts per 4x8 ft board 12 x 24-inch grid 	EverGuard TPO induction welded with RhinoBond Portable Bonding Tool, per manufacturer's published instructions.	-45.0
W-63.	Min. 19/32-inch APA rated, CDX plywood or 1-inch wood plank; 2 ft span; 2½" x 0.10" ring shank nails, 6" o.c.	One or more layers, any combination, min. 1-inch (Tread Safe = min. 2-inch thick insulation)	Drill-Tec #14 Fastener, Drill-Tec XHD Fastener or Drill-Tec #15 EHD Fastener and Drill-Tec RhinoBond TPO XHD Plate or Drill-Tec RhinoBond TPO XHD Tread Safe Plate	10 parts per 4x8 ft board 	EverGuard TPO induction welded with RhinoBond Portable Bonding Tool, per manufacturer's published instructions.	-45.0
W-64.	Min. 19/32-inch plywood or 1-inch wood plank; 2 ft span; 8d ring shank nails 6" o.c.	One or more layers, any combination, (Tread Safe = min. 2-inch)	Drill-Tec #14 Fastener and Drill-Tec RhinoBond TPO XHD Plate or Drill-Tec RhinoBond TPO XHD Tread Safe Plate	1 per 2.7 ft² (12 parts per 4 x 8 ft board) (Note 17)	EverGuard TPO induction welded with RhinoBond Portable Bonding Tool, per manufacturer's published instructions.	-52.5

TABLE 3A: STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)
SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER
REFER TO NOTE 16 FOR VAPOR BARRIER OPTIONS

System No.	Deck (Note 1)	Base Insulation Layer		Top Insulation Layer(s)		Roof Cover (Note 15)		MDP (psf)*
		Type	Attach (Notes 6,7,8)	Type	Attach (Notes 6,7,8)	Membrane	Application	
C-43.	Min. 2,500 psi structural concrete	(Optional) Min. 0.5-inch InsulBase, SecurShield or Min. 1-inch Insulfoam IX	Flexible FAST or Flexible FAST DT (RIBBON)	Insulation: (Optional) Additional layer(s) base insulation Coverboard: Min. 2-inch StormBase (plywood top)	Flexible FAST or Flexible FAST DT (RIBBON)	Sure-Weld	LVOC BA	-157.5
C-44.	Min. 2,500 psi structural concrete	Min. 0.5-inch InsulBase, SecurShield	Flexible FAST or Flexible FAST DT (RIBBON)	(Optional) Additional layer(s) base insulation	Flexible FAST or Flexible FAST DT (RIBBON)	Sure-Weld	Sure-Weld BA	-157.5
C-45.	Min. 2,500 psi structural concrete	Min. 1.5-inch InsulBase, SecurShield	Flexible FAST (RIBBON)	(Optional) Additional layer(s) base insulation	Flexible FAST (RIBBON)	Sure-Weld	Sure-Weld BA	-352.5
C-46.	Min. 2,500 psi structural concrete	Min. 1.5-inch InsulBase, SecurShield	Flexible FAST DT (RIBBON)	(Optional) Additional layer(s) base insulation	Flexible FAST DT (RIBBON)	Sure-Weld	Sure-Weld BA	-277.5
C-47.	Min. 2,500 psi structural concrete	Min. 1.5-inch InsulBase, SecurShield	Flexible FAST DT (FULL)	(Optional) Additional layer(s) base insulation	Flexible FAST (FULL)	Sure-Weld	Sure-Weld BA	-352.5
C-48.	Min. 2,500 psi structural concrete	Min. 0.5-inch InsulBase, SecurShield	Flexible FAST or Flexible FAST DT (RIBBON)	Insulation: (Optional) Additional layer(s) base insulation Coverboard: Min. 0.25-inch DensDeck Prime	Flexible FAST or Flexible FAST DT (RIBBON)	Sure-Weld	Sure-Weld BA	-157.5
C-49.	Min. 2,500 psi structural concrete	(Optional) Min. 1.5-inch InsulBase, SecurShield or Min. 1-inch Insulfoam IX	Flexible FAST or Flexible FAST DT (RIBBON)	Insulation: (Optional) Additional layer(s) base insulation Coverboard: Min. 0.25-inch DensDeck Prime	Flexible FAST or Flexible FAST DT (RIBBON)	Sure-Weld	Sure-Weld BA	-232.5
C-50.	Min. 2,500 psi structural concrete	(Optional) Min. 0.5-inch InsulBase, SecurShield or Min. 1-inch Insulfoam I, II, IX, VIII, XIV or XV	Flexible FAST (RIBBON or SPLATTER)	Insulation: (Optional) Additional layer(s) base insulation Coverboard: Min. 0.25-inch SECUROCK Ultralight Coated Glass-Mat Roof Board	Flexible FAST (RIBBON)	Sure-Weld	Sure-Weld BA	-67.5
C-51.	Min. 2,500 psi structural concrete	(Optional) Min. 0.5-inch InsulBase, SecurShield or Min. 1-inch Insulfoam IX	Flexible FAST or Flexible FAST DT (RIBBON)	Insulation: (Optional) Additional layer(s) base insulation Coverboard: Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	Flexible FAST or Flexible FAST DT (RIBBON)	Sure-Weld	Sure-Weld BA	-157.5
C-52.	Min. 2,500 psi structural concrete	Min. 0.5-inch InsulBase, SecurShield	Flexible FAST or Flexible FAST DT (RIBBON)	Insulation: (Optional) Additional layer(s) base insulation Coverboard: Min 19/32-inch APA rated plywood	Flexible FAST or Flexible FAST DT (RIBBON)	Sure-Weld	Sure-Weld BA	-157.5
C-53.	Min. 2,500 psi structural concrete	Min. 1.5-inch InsulBase, SecurShield or Min. 1-inch Insulfoam IX	Flexible FAST or Flexible FAST DT (RIBBON)	Insulation: (Optional) Additional layer(s) base insulation Coverboard: Min 19/32-inch APA rated plywood	Flexible FAST or Flexible FAST DT (RIBBON)	Sure-Weld	Sure-Weld BA	-187.5
C-54.	Min. 2,500 psi structural concrete	Min. 0.5-inch SecurShield HD	Flexible FAST DT (RIBBON)	Insulation: Min. 1.6-inch Optim-R Coverboard: Min. 0.5-inch SecurShield HD	Flexible FAST DT (RIBBON)	Sure-Weld	Sure-Weld BA	-127.5

TABLE 1D: WOOD DECKS - NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER SYSTEM TYPE C-2: MECHANICALLY ATTACHED INSULATION, PLATE-BONDED ROOF COVER						
System No.	Deck (Note 1)	Insulation Layer (Note 3, Note 13)	Attachment		Roof Cover (Note 15B)	MDP (psf)
			Fastener (Note 11)	Density		
RHINOBOND SYSTEMS:						
W-24.	Min. 19/32-inch plywood or wood plank; 2-ft span; 8d ring shank nails, 6-inch o.c.	(Optional) One or more layers, any combination, loose laid	Carlisle HP-X Fastener or Dekfast DF-#15-PH3 and RhinoBond Insulation Plate (TPO) or RhinoBond TreadSafe Plate (TPO)	1 per 6 ft² (2 x 3 ft grid pattern)	Sure-Weld or Sure-Weld EXTRA induction welded with RhinoBond tool per manufacturer's instructions.	-45.0*
W-25.	Min. 15/32-inch plywood or wood plank; 2-ft span; 8d ring shank nails, 6-inch o.c.	(Optional) One or more layers, any combination, loose laid	Carlisle HP-X Fastener or Dekfast DF-#15-PH3 and RhinoBond Insulation Plate (TPO) or RhinoBond TreadSafe Plate (TPO)	1 per 2.7 ft² (12 parts per 4x8 ft board)	Sure-Weld or Sure-Weld EXTRA induction welded with RhinoBond tool per manufacturer's instructions.	-45.0
W-26.	Min. 15/32-inch plywood or wood plank; 2-ft span; 8d ring shank nails, 6-inch o.c.	(Optional) One or more layers, any combination, loose laid	Carlisle HP-X Fastener or Dekfast DF-#15-PH3 and RhinoBond Insulation Plate (TPO) or RhinoBond TreadSafe Plate (TPO)	6-inch o.c. in rows 60-inch o.c.	Sure-Weld or Sure-Weld EXTRA induction welded with RhinoBond tool per manufacturer's instructions.	-60.0
W-27.	Min. 19/32-inch plywood or wood plank; 2-ft span; 8d ring shank nails, 6-inch o.c.	(Optional) One or more layers, any combination, loose laid	Carlisle HP-X Fastener or Dekfast DF-#15-PH3 and RhinoBond Insulation Plate (TPO) or RhinoBond TreadSafe Plate (TPO)	1 per 2.7 ft² (12 parts per 4x8 ft board)	Sure-Weld or Sure-Weld EXTRA induction welded with RhinoBond tool per manufacturer's instructions.	-67.5
***ISOWELD* INDUCTION WELDING SYSTEM:**						
W-28.	Min. 19/32-inch plywood or wood plank; 2-ft span; 8d ring shank nails, 6-inch o.c.	(Optional) One or more layers, any combination, loose laid	Dekfast DF-#15-PH3 with Carlisle isoweld TPO Plate or SFS isoweld F1-P-6.8-TPO Plate	1 per 6 ft² (2 x 3 ft grid pattern)	Sure-Weld or Sure-Weld EXTRA induction welded with SFS *isoweld*® 3000 stand-up tool.	-45.0*
W-29.	Min. 15/32-inch plywood or wood plank; 2-ft span; 8d ring shank nails, 6-inch o.c.	(Optional) One or more layers, any combination, loose laid	Dekfast DF-#15-PH3 with Carlisle isoweld TPO Plate or SFS isoweld F1-P-6.8-TPO Plate	1 per 2.7 ft² (12 parts per 4x8 ft board)	Sure-Weld or Sure-Weld EXTRA induction welded with SFS *isoweld*® 3000 stand-up tool.	-45.0
W-30.	Min. 15/32-inch plywood or wood plank; 2-ft span; 8d ring shank nails, 6-inch o.c.	(Optional) One or more layers, any combination, loose laid	Dekfast DF-#15-PH3 with Carlisle isoweld TPO Plate or SFS isoweld F1-P-6.8-TPO Plate	6-inch o.c. in rows 60-inch o.c.	Sure-Weld or Sure-Weld EXTRA induction welded with SFS *isoweld*® 3000 stand-up tool.	-60.0
W-31.	Min. 19/32-inch plywood or wood plank; 2-ft span; 8d ring shank nails, 6-inch o.c.	(Optional) One or more layers, any combination, loose laid	Dekfast DF-#15-PH3 with Carlisle isoweld TPO Plate or SFS isoweld F1-P-6.8-TPO Plate	1 per 2.7 ft² (12 parts per 4x8 ft board)	Sure-Weld or Sure-Weld EXTRA induction welded with SFS *isoweld*® 3000 stand-up tool.	-67.5

SECTION 01010 SCOPE OF WORK

PART 1 – GENERAL

1.1 Description

The project consists of roof membrane replacement on the flat roofs of the building as well as equipment stand installation, mechanical work, and any necessary plywood replacement.

1.2 Project Scope

a. The work shall consist of the following items:

i. Tear off flat roofs systems
ii. Renail wooden portion of deck
iii. Replace rotted wood
iv. Installation of flat roof membrane
v. Testing, disconnecting, moving, and retesting of a/c units
vi. Associated work.

b. The work of this contract shall be completed in accordance with construction documents and specifications.

END OF SECTION

SECTION 01210 GENERAL CONDITIONS

PART 1 – GENERAL

1.1 Commencement and Completion

a. The contractor shall commence within 30 days of execution of the Contract or as otherwise agreed upon with the Owner, Owner's Representative, and Engineer.

b. The work shall be substantially completed within 150 calendar days from the start of work. This does not include time added due to weather delays.

c. Saturdays shall be utilized only as make up days due to weather delays from that week. No work shall be conducted on Sundays or major holidays.

d. The contractor shall diligently and progressively pursue the work until its completion. If the Contractor fails to compete the work within the time specified in the Contract, liquidated damages will be assessed in accordance with the LIQUIDATED DAMAGES of the General Conditions.

1.2 Liquidated Damages

a. By executing the Contract, the contractor confirms that the contract time is a reasonable period of time to complete the work. The stated completion date is of importance to the project and Owner. The Owner will suffer monetary damage in the event the Contractor cannot achieve substantial completion within the contract time.

b. If the contractor fails to complete the work within the time specified in the Contract, or any extension, the Contractor and the Contractor's Surety (if applicable) shall be liable for and shall pay to the Owner the sums stipulated as liquidated damages for each working day of delay until the work is substantially completed, as verified by the Engineer.

c. At substantial completion the Engineer shall provide the Contractor a "Final Punch List". If the Contractor does not complete all of the items on the "Final Punch List" within thirty (30) working days, the Contractor and the Contractor's Surety (if applicable), shall be liable for and shall pay the Owner the sums stipulated as liquidated damages for each working day of delay until the work is complete, as verified by the Engineer.

d. At the Owner's discretion, the amount of liquidated damages may be deleted from and/or retained from any payments due to the Contractor from the Owner.

e. Liquidated damages shall accrue in the amount of Four Hundred Dollars ($400.00) per working day of delay until the work is substantially completed, as verified by the Engineer.

f. If the Contractor fails to obtain substantial completion within the above defined project duration, and/or complete all “Final Punch List” items within thirty (30) days working days, the Contractor will be liable for costs associated with additional work by the Engineer as a result of the delays in addition to the costs of liquidated damages.

1.3 Contract Time

a. The work shall be performed between Monday and Friday of a given week. Work hours shall be between 7:30 a.m. and 5:00 p.m. on a given work week. Only quiet ground work will be permitted prior to 8:00 a.m.

b. All weekend and holiday work shall be pre-arranged by the contractor and the owner.

c. Time credit for weather delays will be issued when weather conditions, actual or forecasted, prevent the contractor from performing the work in an acceptable manner in regards to quality control, material usage, and safety. Time credit will be issued upon receipt of written documentation of such delays from the contractor. The contractor shall email documentation of the delay to the owner and the engineer within 24 hours of such event.

d. Time credit will be issued for delays that are beyond the control of the Contractor and prevent the contractor from accessing the site or performing the work in an acceptable manner.

e. Time credit will be issued for additional work and changes to the scope of work which add additional work to the contract not originally outlined in the construction documents.

f. The owner shall reimburse the contractor for premium labor for work that is required to be completed outside of normal working hours.

1.4 Schedule of Payment

a. The contractor shall use AIA Standard Application and Certificate for payment documents.

b. The contractor may submit pay requests for materials purchased for the project and stored onsite.

c. **Any change orders for work or materials must be submitted and approved prior to commencing additional work.**

d. The contractor is to provide a schedule of values with each pay request. Payments will be issued based upon the schedule of values. Payments will only be made for work completed and materials purchased at the time of submission of the pay request.

e. The contractor shall issue a pay request every thirty (30) calendar days, minimum.

f. Payment to the contractor shall be made by the Owner upon review and approval of the Engineer. Approval of the Engineer will be based on purchased materials stored at the project site and percentage of work that has been satisfactorily completed.

g. With each pay request the Contractor shall submit a notarized *Partial Release of Lien* for the work detailed in the schedule of values.

h. The Contractor shall also submit waiver of liens for all subcontractors, material suppliers, and equipment suppliers with each pay request.

i. Ten percent of the contract sum shall be retained from each pay request. The retainage shall be released to the contractor upon completion of the following items:

   i. Satisfactory completion of the scope of work, including “Final Punch List” items.
   ii. Acceptance of work by the Owner or Owner’s Representative.
   iii. Issuance of warranty documentation.
   iv. Issuance of a notarized *Final Release of Lien* for all of the work listed on the pay request and including all subcontractors, material suppliers, and equipment rental companies.
   v. Proof the permit has been closed.

1.5 Contractor Responsibilities

a. The Contractor shall perform all work in accordance OSHA Safety Standards.

b. The Contractor shall submit a list of all subcontractors, suppliers, and equipment rental companies they will be using prior to commencement of the project.

c. The Contractor shall be responsible for verifying all subcontractors hold a current license, are properly insured and bonded, and are competent for the specific work they are to perform.

d. Subcontractors shall not be used without prior approval by the Engineer, Owner, and Owner's Representative. No "Day Labor" type employees shall be permitted without prior approval by the Owner, Owner's Representative, and Engineer.

e. Smoking and eating are prohibited on the project site, except in areas so designated by the Owner or Owner's Representative.

f. The use of radios is prohibited on the project site.

g. Workers shall be appropriately clothed for the work being completed and for visual presentation to the Owners/residents. All appropriate forms of personal protective equipment shall be used while working.

h. The Contractor shall furnish all labor, services, tools, equipment, utilities, and materials needed to complete the project.

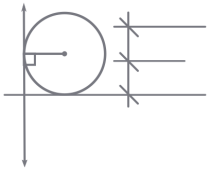
i. Prior to application of any products, the Contractor shall complete a mockup of all products to be used on the project. The mockup shall be reviewed and must be found to be satisfactory by the Owner, Owner's Representative, Product Manufacturer, and Engineer.

j. The contractor shall complete the work in compliance with the construction documents, local building code requirements, and material manufacturer requirements.

k. The Contractor shall supervise all of the work completed to the best of the Contractor's abilities.

l. The Contractor shall solely be responsible for construction means, methods, techniques, sequences and procedures for coordination and completing all portion of the scope of work, unless special requests are made by the Owner, Owner's Representative, and/or Engineer. If special requests are made, the Contractor will be responsible for reviewing said requests for jobsite safety and shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences and procedures.

m. If the Contractor determines that special requests for construction means, methods, techniques, sequences and procedures are unsafe or will interfere with construction sequencing, the Contractor shall notify the Owner, Owner's Representative, and the Engineer with timely written



notice and shall not proceed with that portion of the work until a clarification is received from the Engineer.

n. Prior to inspection by the Engineer, the Contractor will be responsible for completing an inspection of completed work to review for general compliance with construction documents. If the work is found to not be in general compliance, the contractor shall remedy all items identified prior to inspection by Engineer.

o. The Contractor shall submit a Certificate of Insurance to verify Workmen's Compensation and General Liability. General Liability coverage shall be a minimum of $2,000,000 covering $100,000 per person per occurrence and $100,000 for property damage.

p. The Contractor shall provide a copy of their Roofing Contractor's License and obtain all applicable permits per local, state, and federal ordinances and requirements. The Contractor shall apply for the Notice of Commencement.

q. The Contractor is solely responsible for damages sustained to the building, building components, appurtenances, landscaping, and ancillary structures as a result of the Contractor's work. Necessary repairs will be made at the Contractor's expense prior to substantial completion of the project.

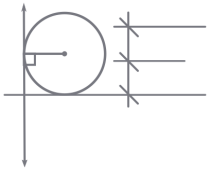
r. The Contractor is responsible for the removal and lawful dumping of all construction debris, materials, and rubbish associated with the project.

s. The Contractor is responsible for leaving the building, grounds, and parking lot clean and free of debris. The property shall be cleaned daily and trash shall be properly disposed of.

t. Contractor shall use due care to protect the building components from damages when utilizing heavy equipment, lifts, tools, machinery, swing stages, scaffolding, and shoring.

u. The Contractor shall permit inspections of the work by the Engineer at any time during the course of the project. The presence of the Engineer in no way relieves the Contractor or Manufacturer from their contractual responsibilities with the Owner.

v. The Contractor shall not apply waterproofing or concrete patches until surface preparation has been inspected or approved by Engineer. The Engineer shall make inspections within a minimum of 24 hours of notification.



w. The Contractor shall enforce strict discipline and good order among the Contractor's employees and other carrying out the work.

x. The Contractor shall provide skilled labor with a minimum of three years' experience with their firm or another firm that has conducted similar scopes of work and utilized similar materials.

y. The Contractor shall notify all material manufacturer of the Contractors intent to warrant such materials as per the construction documents.

z. The Contractor shall employ a competent superintendent and necessary assistants who shall be in regular attendance at the project site during completion of the work.

aa. The contractor and manufacturer shall provide a twenty (20) year warranty against defective workmanship and material failure covering all work completed by the Contractor for the flat roof areas. The contractor shall provide a five (5) year warranty against defective workmanship and the manufacturer shall provide a 20 year warranty against material work covering all completed by the Contractor on the sloped tile roofs.

1.6 Manufacturer Responsibilities

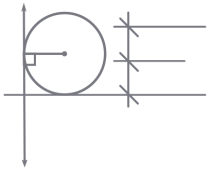
a. The Manufacturer shall have a properly trained and competent representative to review the project on-site. The representative shall have the authority and competency to answer material specific questions and requirements.

b. The Manufacturer shall provide the Contractor with written instructions specific to application of materials and specific installation requirements.

c. Manufacturer shall provide product data sheets to be utilized in the project. The data sheets shall include specialized tools and equipment that are required, along with mixing proportions instructions, application rates and requirements, and cure times.

d. Manufacturer shall provide contractor with properly sealed and labeled materials. The materials shall have a sufficient remaining shelf life to complete the scope of work.

e. The Manufacturer's Representative shall make regular inspections at the job site during the course of the application of the products to ensure the Contractor is following all Manufacturer requirements.



f. Manufacturer shall provide a 20 year warranty for labor and materials used in the project. The warranty shall be against any workmanship or material failure, excessive cracking, and premature deterioration.

1.7 Occupancy Requirements

a. The Owner/residents will occupy the project site and the existing building during the entire duration of the construction project.

b. The Contractor shall cooperate with the owner during construction to facilitate owner usage while minimizing construction schedule conflicts.

c. The Contractor shall perform the work in such a way as to avoid hazards to the occupants of the project site and existing buildings.

d. The Contractor shall take all steps necessary to avoid excessive dust, dirt, debris, fumes, etc. from affecting and entering occupied areas.

e. The Contractor shall maintain all entrances in a functional manner for tenants. This may require installation of overhead protection.

1.8 Contractor Use of Premises

a. The Contractor will have limited uses of premises for work and for construction operations. The Contractor will allow for owner occupancy during construction. Project specific requirements will be outlined in the preconstruction meeting with the Owner and/or Owner's Representative.

b. The Owner shall provide limited areas for use for parking of construction workers vehicles. The area and quantity of parking will be at the discretion of the Owner.

c. The owner will be responsible for supplying electricity and water. The Contractor will not be permitted to connect to any individual owner's outlets or spigots. Should the available electrical connections not meet the requirements of the Contractor to perform the work, the cost to upgrade the connections should be included in the contractor's bid.

d. Electrical connections provided by the Owner shall meet the requirement of the Contractor to properly complete the project.

e. The Owner shall provide designated areas for the Contractor to store materials, tools, and equipment. The location shall be outlined in the preconstruction meeting with the Owner and/or Owner's Representative.

f. The Owner shall provide a designated area for the Contractor to have jobsite sanitary facilities delivered and maintained. Temporary Port-O-Let shall be provided by and paid for by the Contractor.

g. The Contractor will be responsible for the security of material, tool, and equipment storage associated with the project.

h. The Contractor will be responsible for removing all trailers, equipment, tools, extraneous materials, and debris upon completion of the project.

i. Access and use of the service elevator, if applicable, will be provided to the Contractor. The Contractor will be responsible for installing floor and wall protection in the elevator that is to be used.

j. In the event of a hurricane, foreseeable high wind event or other foreseeable weather event, the contractor shall secure all contract related work, all contractor tools and equipment, all contractor materials and all contractor debris.

END OF SECTION

SECTION 07521 MODIFIED BITUMINOUS ROOFING

PART 1 – GENERAL

1.1 SUMMARY

a. This section outlines the contractor's requirements for furnishing of materials, labor, tools, and equipment necessary to replace the existing roof system as required in the attached specification cut sheets and product approvals for the by GAF and Soprema systems. Where conflicts are present between the manufacturer specification and this project manual, the more stringent requirement shall prevail.

1.2 COORDINATION

a. Contractor to coordinate scheduling, submittals, and Work of various sections of the specifications to ensure efficient and orderly sequence of installation of interdependent construction elements.

b. Contractor to coordinate dumpster location, staging and storage requirements with the Owner.

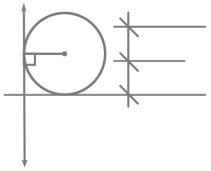
1.3 EXAMINATION

a. Contractor to verify that existing site conditions are acceptable to commence Work. Verify existing dimensions and construction details. Installation of any products on the surface or substrate shall constitute full acceptance of the condition of the substrate or surface as sound and appropriate to receive the Contractor's Work.

1.4 REFERENCES

a. Referenced Codes and Standards: Comply with the most recent publications of the following codes, specifications, and standards.

Factory Mutual (FM Global) – *Approval Guide*
Underwriters Laboratories (UL) – *Roofing Systems and Materials Guide* (TGFU R1306)
American Society for Testing and Materials (ASTM) – *Annual Book of ASTM Standards*
Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) – *Architectural Sheet Metal Manual*
Asphalt Roofing Manufacturers Association (ARMA)
National Roofing Contractors Association (NRCA)



American Society of Civil Engineers (ASCE)
Miami-Dade County Product Control Division
Occupational Safety and Health Administrations (OSHA)
Florida Building Code
Manufacturer Specifications

1.5 SUBMITTALS

a. Contractor to submit product data to Engineer. Contractor to include a copy of manufacturer's product installation instruction and data sheet.

b. Contractor to include manufacturer's "letter of intent to warranty" the labor and performance of their products on this project for a period of 20 years.

c. Contractor to include manufacturer's letter confirming that the bidder is an acceptable contractor authorized to install the proposed system.

d. Contractor to submit to the Engineer for review an estimated schedule of construction for the entire project.

e. Prior to beginning Work on affected materials, Contractor is to submit shop drawings to the Engineer for review. Shop drawings must be approved by engineer prior to commencement of Work.

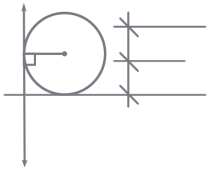
f. Submit documentation confirming compliance with Windstorm Resistance Classification utilizing the specific roof membrane system proposed for use on this project and meeting the following unfactored design wind pressures:

Interior Field:	-40.5 psf
Field:	-70.4 psf
Edge:	-92.9 psf
Corner:	-126.6 psf

g. All submittals **f**or substitutions must be made in writing to the engineer with supporting technical data sheets and data showing complete equivalent performance. Approval of the product submitted for substitution shall be at the discretion of the engineer.

1.6 WARRANTY

a. Upon successful completion of the project, and after post installation procedures have been completed, furnish the Owner with the roof system manufacturer's 20 year NDL labor and material warranty. The roof system guarantee shall include both the roofing and flashing membranes. All repair or replacement costs covered under the guarantee shall be borne by the



roofing membrane manufacturer. The guarantee shall be a term type, without deductibles or limitations on coverage amount.

1.6 QUALITY ASSURANCE

a. Contractor Qualifications: Acceptable to the manufacturer with documented experience of at least 5 years on projects of similar size and with similar products.

b. Contractor shall comply with Manufacturers' instructions related to mixing and placing of the materials.

c. Protection of Work: Contractor shall protect installed work and prohibit traffic or storage upon waterproofed or coated surfaces until reviewed by owner and/or owner's representative and engineer, and all punch list work has been completed.

d. Protection of surrounding non-working areas: Contractor shall perform work in such a manner that surrounding non-working areas are protected from damage, spills, over sprays etc.

1.7 SPECIFICATION

a. See attached manufacturer's specifications and product data sheets.

PART 2 – PRODUCTS

a. Not Applicable.

PART 3 – EXECUTION

a. Not Applicable.

END OF SECTION

SECTION 07524 THERMOPLASTIC POLYOLEFIN (TPO) ROOFING

PART 1 – GENERAL

1.1 SUMMARY

a. This section outlines the contractor's requirements for furnishing of materials, labor, tools, and equipment necessary to replace the existing roof system as required in the attached specification cut sheets and product approvals for the by GAF and Carlisle systems. Where conflicts are present between the manufacturer specification and this project manual, the more stringent requirement shall prevail.

1.2 COORDINATION

a. Contractor to coordinate scheduling, submittals, and Work of various sections of the specifications to ensure efficient and orderly sequence of installation of interdependent construction elements.

b. Contractor to coordinate dumpster location, staging and storage requirements with the Owner.

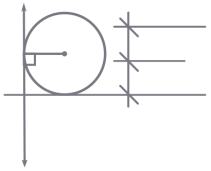
1.3 EXAMINATION

a. Contractor to verify that existing site conditions are acceptable to commence Work. Verify existing dimensions and construction details. Installation of any products on the surface or substrate shall constitute full acceptance of the condition of the substrate or surface as sound and appropriate to receive the Contractor's Work.

1.4 REFERENCES

a. Referenced Codes and Standards: Comply with the most recent publications of the following codes, specifications, and standards.

Factory Mutual (FM Global) – *Approval Guide*
Underwriters Laboratories (UL) – *Roofing Systems and Materials Guide* (TGFU R1306)
American Society for Testing and Materials (ASTM) – *Annual Book of ASTM Standards*
Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) – *Architectural Sheet Metal Manual*
Asphalt Roofing Manufacturers Association (ARMA)
National Roofing Contractors Association (NRCA)



American Society of Civil Engineers (ASCE)
Miami-Dade County Product Control Division
Occupational Safety and Health Administrations (OSHA)
Florida Building Code
Manufacturer Specifications

1.5 SUBMITTALS

a. Contractor to submit product data to Engineer. Contractor to include a copy of manufacturer's product installation instruction and data sheet.

b. Contractor to include manufacturer's "letter of intent to warranty" the labor and performance of their products on this project for a period of 20 years.

c. Contractor to include manufacturer's letter confirming that the bidder is an acceptable contractor authorized to install the proposed system.

d. Contractor to submit to the Engineer for review an estimated schedule of construction for the entire project.

e. Prior to beginning Work on affected materials, Contractor is to submit shop drawings to the Engineer for review. Shop drawings must be approved by engineer prior to commencement of Work.

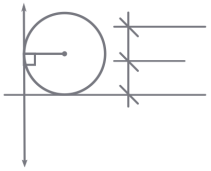
f. Submit documentation confirming compliance with Windstorm Resistance Classification utilizing the specific roof membrane system proposed for use on this project and meeting the following unfactored design wind pressures:

Interior Field:	-40.5 psf
Field:	-70.4 psf
Edge:	-92.9 psf
Corner:	-126.6 psf

g. All submittals **f**or substitutions must be made in writing to the engineer with supporting technical data sheets and data showing complete equivalent performance. Approval of the product submitted for substitution shall be at the discretion of the engineer.

1.6 WARRANTY

a. Upon successful completion of the project, and after post installation procedures have been completed, furnish the Owner with the roof system manufacturer's 20 year NDL labor and material warranty. The roof system guarantee shall include both the roofing and flashing membranes. All repair or replacement costs covered under the guarantee shall be borne by the



roofing membrane manufacturer. The guarantee shall be a term type, without deductibles or limitations on coverage amount.

1.6 QUALITY ASSURANCE

a. Contractor Qualifications: Acceptable to the manufacturer with documented experience of at least 5 years on projects of similar size and with similar products.

b. Contractor shall comply with Manufacturers' instructions related to mixing and placing of the materials.

c. Protection of Work: Contractor shall protect installed work and prohibit traffic or storage upon waterproofed or coated surfaces until reviewed by owner and/or owner's representative and engineer, and all punch list work has been completed.

d. Protection of surrounding non-working areas: Contractor shall perform work in such a manner that surrounding non-working areas are protected from damage, spills, over sprays etc.

1.7 SPECIFICATION

a. See attached manufacturer's specifications and product data sheets.

PART 2 – PRODUCTS

a. Not Applicable.

PART 3 – EXECUTION

a. Not Applicable.

END OF SECTION

SECTION 07620 SHEET METAL FLASHING AND TRIM

PART 1 – GENERAL

1.1 SUMMARY

a. This section outlines the contractor's requirements for furnishing of materials, labor, tools, and equipment necessary for the installation of sheet metal flashing and trim in accordance with this specification. Where conflicts are present between the manufacturer specification and this project manual, the more stringent requirement shall prevail.

1.2 COORDINATION

a. Contractor to coordinate scheduling, submittals, and Work of various sections of the specifications to ensure efficient and orderly sequence of installation of interdependent construction elements.

b. Contractor to coordinate dumpster location, staging and storage requirements with the Owner.

1.3 EXAMINATION

a. Contractor to verify that existing site conditions are acceptable to commence Work. Verify existing dimensions and construction details. Installation of any products on the surface or substrate shall constitute full acceptance of the condition of the substrate or surface as sound and appropriate to receive the Contractor's Work.

1.4 REFERENCES

a. Referenced Codes and Standards: Comply with the most recent publications of the following codes, specifications, and standards.

AISC - Stainless Steel, Uses in Architecture.
ASTM A167 – Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate
ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
ASTM B32 – Standard Specification for Solder Metal
ASTM B101 - Standard Specification for Lead-Coated Copper Sheet and Strip for Building Construction
ASTM B209 – Standard Specification for Aluminum and Alloy Sheet and Plate

ASTM B370 – Standard Specification for Copper Sheet and Strip for Building Construction
ASTM B813 - Standard Specification for Liquid and Paste Fluxes for Soldering of Copper and Copper Alloy Tube.
ASTM D226 – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing
ASTM D4586 – Standard Specification for Asphalt Roof Cement, Asbestos-Free
FS O-F-506 - Flux, Soldering, Paste and Liquid
NRCA (National Roofing Contractors Association) - Roofing Manual
SMACNA - Architectural Sheet Metal Manual
Florida Building Code.

1.5 PERFORMANCE REQUIREMENTS

a. Sheet metal flashing and trim assemblies indicated shall withstand wind loads, structural movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

b. Fabricate and install sheet metal flashings and trim to be capable of resisting the following unfactored design wind pressures:

Field:	-70.4 psf
Edge:	-92.9 psf
Corner:	-126.6 psf

1.5 SUBMITTALS

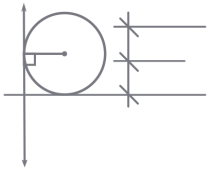
a. Contractor to submit product data to Engineer. Contractor to include a copy of manufacturer's product installation instruction and data sheet.

b. Prior to beginning Work on affected materials, Contractor is to submit shop drawings to the Engineer for review. Shop drawings must be approved by engineer prior to commencement of Work.

c. All submittals **f**or substitutions must be made in writing to the engineer with supporting technical data sheets and data showing complete equivalent performance. Approval of the product submitted for substitution shall be at the discretion of the engineer.

1.6 WARRANTY

a. Upon successful completion of the project, and after post installation procedures have been completed, furnish the Owner with the roof system



manufacturer's 20 year installation NDL labor and material warranty. The roof system guarantee shall include both the roofing and flashing membranes. All repair or replacement costs covered under the guarantee shall be borne by the roofing membrane manufacturer. The guarantee shall be a term type, without deductibles or limitations on coverage amount.

1.6 QUALITY ASSURANCE

a. Contractor Qualifications: Acceptable to the manufacturer with documented experience of at least 5 years on projects of similar size and with similar products.

b. Contractor shall comply with Manufacturers' instructions related to mixing and placing of the materials.

c. Protection of Work: Contractor shall protect installed work and prohibit traffic or storage upon waterproofed or coated surfaces until reviewed by owner and/or owner's representative and engineer, and all punch list work has been completed.

d. Protection of surrounding non-working areas: Contractor shall perform work in such a manner that surrounding non-working areas are protected from damage, spills, over sprays etc.

e. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance. Minimum experience shall be 5 years.

PART 2 – PRODUCTS

2.1 General

a. Protect mechanical and other finishes on exposed surfaces from damage by applying a strippable, temporary protective film before shipping.

b. Copper Sheet: ASTM B370, cold rolled 20-oz/sq ft; lacquered finish.

c. Aluminum Sheet: Commercial quality, ASTM B209, 6063-T5 alloy, mill finish, shop precoated, 0.040" thick (minimum) except as otherwise indicated.

d. Stainless-Steel Sheet: ASTM A 240/A 240M or ASTM A 666, Type 304, dead soft, fully annealed, 24 gauge.

e. Galvanized Steel: ASTM A653, Grade A, G90 zinc coating; 24-gauge core steel.

f. Stainless Steel: ASTM A167, Type 304, 0.028” soft temper; smooth patterned finish.

g. Lead: Standard 0.062 inch thick lead sheet weighing 4 pounds per square foot, arsenical-antimonial and pig lead allow meeting the requirement of ASTM B29. Use sheet lead or tubing for flashing of vent pipes and other penetrations of the roof.

h. Use fastener types compatible with the sheet metal typ.

   a. Copper or lead-coated copper: use copper or bronze fasteners.
   b. Lead and galvanized steel: use galvanized or cadmium-plated sheet fasteners.
   c. Aluminum: use aluminum fasteners.
   d. Stainless steel: use stainless steel fasteners.

2.2 Fabricated Units

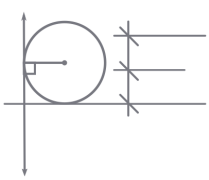
a. Shop-fabricate work to greatest extent possible and to comply with details shown and with applicable requirements of SMACNA Architectural Sheet Metal Manual.

b. Form the work to fit substrates. Comply with material manufacturer instructions and recommendations for forming material.

c. Form exposed sheet metal work without excessive oil-canning, buckling and tool marks, true to line and levels indicated with exposed edges folded back to form hems.

d. Fabricate non-moving seams in sheet metal with flat-lock seams.
   a. For metal other than aluminum, on seamed tin edges form seams and solder.
   b. After soldering, remove flux and wash joints clean.

e. When movable expansion type joints indicated on plans or required for proper performance of work, form metal to provide for proper installation of elastomeric sealant, in compliance with SMACNA standards.



3.0 – EXECUTION

3.1 Installation Requirements

a. Except as otherwise indicated, comply with manufacturer's installation instructions and recommendations and with SMACNA Architectural Sheet Metal Manual.

b. Bed flanges of work in bituminous roofing cement were required for waterproofing performance.

c. Provide for separation of metal from non-compatible metal or corrosive substrates by coating concealed surfaces at locations of contract, with bituminous coating to other permanent separation as recommended by manufacturer/fabricator.

d. Install counter-flashing in reglets by snap-in seal arrangement.

3.2 Cleaning and Protection

a. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.

b. Provide for surveillance and protection of flashings and sheet metal work during construction, to ensure the work will be without damage or deterioration, other than natural weathering at time of substantial completion.

END OF SECTION