



DO NOT SCALE DRAWINGS
CONTRACTOR TO VERIFY
ALL EXISTING CONDITIONS AND
DIMENSIONS-NOTIFY ARCHITECT
OF ANY DISCREPANCIES PRIOR
TO BEGINNING CONSTRUCTION



JULY 5TH, 2018
NO REVISION

DEL TACO STORE - DT2017
4626 JIMMY LEE SMITH PARKWAY
HIRLAIN, GA 30141
HAMILTON COUNTY
1ST PERMIT SUBMITTAL 08-18-18
1ST BID SUBMITTAL 07-05-18

PROJECT NUMBER
2180148
SHEET NAME

SPECIFICATIONS

SHEET NUMBER
G203

DATE OF THIS PRINTING - 7/3/2018

1. Protect installed roof panels and trim from damage caused by adjacent construction until completion of installation.
J. Remove and replace any panels or components which are damaged beyond successful repair.

3.03 CLEANING
A. Clean any grease, finger marks or stains from the panels per manufacturer's recommendations.
B. Remove all scrap and construction debris from the site.

3.04 FINAL INSPECTION
A. Final inspection will be performed by a firm appointed and paid for by the owner in accordance with section 01410.

END OF SECTION 07610

SECTION 07900 JOINT SEALERS
07900.1 GENERAL:
A. Drawings, Specifications, Division 1, and Contract.
07900.12 DESCRIPTION OF WORK:
A. The applications for joint sealers include the following:
1. Expansion joints
2. Caulking compounds.
07900.13 JOB CONDITIONS:
A. Do not proceed with installation of liquid sealants under unfavorable weather conditions recommended by manufacturer for installation.
07900.2 PRODUCTS:
A. Provide colors indicated or, if not otherwise indicated, as selected by the owner's Representative with manufacturer's standard color chart. Color matching with joint surfaces as recommended by manufacturer, including application instructions.
B. Silikon Rubber Sealant. Single component, non-particulate, elastomeric sealant, recommended by manufacturer for use on the substrate.
C. Sillcock Sealers. Polyurethane sealant, one part of the two part system.
1. Resilient and non-flammable type.
2. Resilient and non-flammable type.
D. Sealant. Butyl. Cold cure, flexible, manufacturer for compatibility with sealant.

07900.3 EXECUTION:
07900.3.1 MANUFACTURER'S INSTRUCTIONS:
A. Follow manufacturer's printed instructions except where more stringent requirements are shown on drawings.
07900.3.2 JOINT PREPARATION:
A. Clean joints immediately before installation of sealant or caulking compound. Where required in masonry construction, etch concrete and masonry joint surfaces as recommended by manufacturer.
B. Prepare or seal joint surfaces where indicated, and where recommended by sealant manufacturer.
07900.3.3 INSTALLATION:
A. Set joint filler units at proper depth or position in joint to coordinate with other work, including sealant.
B. Install sealant backer rod for liquid elastomeric sealants as recommended by sealant manufacturer for application indicated.
C. Apply sealant using installation techniques which will ensure that sealants are deposited without gaps or air pockets, with complete "wetting" of joint fill sealant back to a slightly concave surface. Where horizontal joints are between a horizontal surface and vertical surface, install sealant back to a slightly concave surface.
D. Install sealant to depths recommended by sealant manufacturer.
E. Do not allow sealant or compounds to overflow or spill onto adjoining surfaces. Clean adjoining surfaces by whatever means may be necessary to eliminate evidence of spillage.

07900.3.4 CURE AND PROTECTION:
A. Sealants and caulking compounds in compliance with manufacturer's instructions and recommendations.
END OF SECTION

SECTION 07920 SEALANTS AND CAULKING
07920.1 GENERAL:
07920.1.1 SECTION INCLUDES:
A. Exterior sealants, waterproofing and visual requirements.
B. Interior sealant, painting requirements.
C. Interior mildew-resistant sealant.
D. Field resistant joint sealants.
E. Preparing sealant substrate surfaces.
F. Sealant and backing.
07920.1.2 INTENT:
A. Requirements of this Section control the kinds and quality of sealing work of the Technical Sections of these Specifications unless specifically directed otherwise in other Sections and/or on the Drawings.
B. Provide sealant required to close joints that would allow moisture or air to enter structure between hard materials as shown on the drawings and as herein specified including but not limited to:
1. Sealing of interior perimeter joints of window framing, door frames, and other openings in walls.
2. Sealing of thresholds in sealant.
3. Sealing of joints between countertops and wall surfaces for a sanitary joint.
4. Sealing of joints of every nature and description that would allow moisture or air penetration.
5. Sealing of joints indicated to be caulked or sealed where specifically mentioned herein.
6. Sealing around all pipe, duct and vent penetrations.

07920.1.3 QUALITY ASSURANCE:
A. Manufacturer. Company specializing in manufacturing products specified in this Section with minimum five (5) years documented experience.
B. Applicator. Company specializing in applying work of this Section with minimum three years documented experience.
C. Product Labels. Include manufacturer's name, type of sealant, and color on labels of all sealant.
D. Single Source Responsibility for Joint Sealer Materials.
1. Obtain joint sealer materials from single manufacturer for each different product required.
2. Provide primers, joint sealer joint fillers, and other related materials that are compatible with sealant materials with joint substrates under conditions of service and application, as demonstrated by testing and field experience as supplied and warranted by one manufacturer.
3. Provide joint sealers that have been produced and installed to establish and maintain watertight and airtight continuous seals.
E. Field Sampling. The Owner prepare 12 inch samples in presence of Owner demonstrating cleaning process and application of sealant.
F. Use test methods standard with manufacturer to determine if priming and other specific joint preparation techniques are required to obtain rapid adhesion of joint sealers to joint substrates under environmental conditions that are representative of actual installation.
G. Exterior Sealants. Installer shall perform field adhesion in peel testing using hand pull method. Perform a minimum of one test on every type of substrate and joint condition.
1. Test Method. Test joint sealers by hand pull method described below:
a. Install joint sealants in 4 foot joint lengths using same materials and methods for joint preparation as will be used for final installation.
b. Make knife cuts as follows: A horizontal cut from one side of joint to the other followed by two vertical cuts approximately 2 inches long at side of joint and meeting horizontal cut at top of 2-inch cuts. Place a mark 1 inch from top of 2-inch piece.
c. Use fingers to grasp 2 inch piece of sealant just above 1 inch mark, pull firmly down at 90 degree angle or more while holding a ruler along side of sealant. Pull sealant to the distance recommended by sealant manufacturer for testing adhesive capability, but not less than that equaling specified maximum movement capability in extension; hold this position for ten seconds.
2. Report. Report on test to joint contractor in joint connected to pulled out adhere to joint substrates or core cohesively. Include data on pull distance used to test each type of substrate and joint substrate.
3. Evaluation of Field Test Results. Sealants not evidencing adhesive failure from testing, in absence of other indications of non-compliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrate during testing.
4. Repeat. Repeat field test on sealant in joint connected to pulled out testing work.
5. Notify in advance and conduct adhesion testing in presence of Consultant.
H. Owner reserves the right to perform testing of the installed work in accordance with ASTM C201, "Field Check of Metal Curtain Walls for Water Leakage". Contractor shall repair all installed work found to be deficient and pay for repairs and additional testing as necessary until satisfactory test results are achieved.

07920.1.4 REFERENCES:
A. Publications. Sealing and Waterproofing Institute (SWI), "Sealant and Caulking Guide Specifications for Sealants and Caulks."
B. Standards.
1. American Society for Testing Materials (ASTM) C201, "Field Check of Metal Curtain Walls for Water Leakage."
2. American National Standards Institute (ANSI)

07920.1.5 SUBMITTALS:
A. Product Data. Submit manufacturer's product data, joint preparation and installation instructions, and color charts for each product required.
B. Submit manufacturer's certification that products meet specified requirements and are appropriate for project applications.
C. Samples for Initial Selection Purposes. Submit manufacturer's standard bead samples including color and actual products showing full range of colors available for each product exposed to view.
07920.1.6 COORDINATION:
A. Coordination of this Section with all Sections referencing this Section and/or requiring sealant work.

C. Non-Expansion Type Joints: Provide for proper installation of elastomeric sealant.
D. Provide for separation of metal from non-compatible metal or corrosive substrates by coating concealed surfaces to location of contact, with bituminous coating or other permanent sealant.
E. Wall Cap: Snap in place system with concealed clips at a maximum of 24" O.C.
1. Provide a minimum 1/2" long joint plate at all splices.
2. Cap used in place of wall cap, and set units true to line and level. Install work with lips.
F. Back-paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mils.

07600.3 EXECUTION:
07600.3.1 INSTALLATION REQUIREMENTS:
A. Intended use and compatible with manufacturer's installation, instruction and recommendations, and with Sheet Metal and Air Condition Contractors National Association "Architectural Sheet Metal Manual". Anchor units of work securely in place, providing for thermal expansion of metal units.
B. Fasteners and clips shall be installed in accordance with manufacturer's instructions.
C. Sealant shall be applied to the top side of the painted coil to protect the finish during fabrication, shipping and field handling. This strip shall be removed before installation.
07600.3.2 CLEANING AND PROTECTION:
A. Clean flashings, curbs, gutters, rakes, miscellaneous metal and attaching devices, and non-exposed metal surfaces, removing substances which might cause corrosion of metal or deterioration of finishes.

END OF SECTION

SECTION 07610 - STANDING SEAM METAL ROOFING
PART 1 GENERAL
1.01 SECTION INCLUDES
A. Prefabricated, prefinished metal roofing and flashings.
B. Miscellaneous trim, flashing, closures, drip flashing, and accessories.
C. Fasteners.
1.02 RELATED SECTIONS
A. Section 05120: Structural Steel Framing
B. Section 05200: Miscellaneous metal fabrication.
C. Section 06100: Rough Carpentry.
D. Section 07831: Flashing and Sheet Metal Gutters.
E. Section 07900: Sealants.
1.03 REFERENCES
A. American Iron and Steel Institute (AISI) Specifications for the Design of Coldformed Steel Structural Members.
B. ASTM A-653 & ASTM A924 Steel Sheet, Zinc Coated (Galvanized).
C. ASTM E-283 & 290.
D. ASTM E-331-88.
E. ASTM E-1592.
F. Spec Data Sheet - Galvalume Sheet Metal by Bethlehem Corp.
G. SMACNA - Architectural Sheet Metal Manual.
H. Building Materials Directory - Underwriter's Laboratories - All Products.

1.04 ASSEMBLY DESCRIPTION
A. The roofing assembly includes preformed sheet metal panels, related accessories, valleys, hips, ridges, eaves, corners, rakes, miscellaneous metal and attaching devices.
1.05 SUBMITTALS
A. Submit detailed drawings showing layout of panels, anchor details, joint details, and accessories and accessories.
B. Submit a sample of each type of panel, complete with fasteners.
C. Submit test data indicating compliance with minimum requirements and showing performance tests:
1. Air Infiltration ASTM E-283 & 290.
2. Water Penetration ASTM E-331.
3. Wind Uplift - UL-90.
D. Submit submittals with registered seal or sealant, showing roof panel and attachment method and fasteners and accessories in accordance with applicable building codes.

1.06 QUALITY ASSURANCE
A. Manufacturer. Company specializing in Architectural Sheet Metal Products with ten (10) years documented experience.
B. Field Sampling. The Owner prepare 12 inch samples in presence of Owner demonstrating cleaning process and application of sealant.
C. Product Labels. Include manufacturer's name, type of sealant, and color on labels of all sealant.
D. Single Source Responsibility for Joint Sealer Materials.
1. Obtain joint sealer materials from single manufacturer for each different product required.
2. Provide primers, joint sealer joint fillers, and other related materials that are compatible with sealant materials with joint substrates under conditions of service and application, as demonstrated by testing and field experience as supplied and warranted by one manufacturer.
3. Provide joint sealers that have been produced and installed to establish and maintain watertight and airtight continuous seals.
E. Field Sampling. The Owner prepare 12 inch samples in presence of Owner demonstrating cleaning process and application of sealant.
F. Use test methods standard with manufacturer to determine if priming and other specific joint preparation techniques are required to obtain rapid adhesion of joint sealers to joint substrates under environmental conditions that are representative of actual installation.
G. Exterior Sealants. Installer shall perform field adhesion in peel testing using hand pull method. Perform a minimum of one test on every type of substrate and joint condition.
1. Test Method. Test joint sealers by hand pull method described below:
a. Install joint sealants in 4 foot joint lengths using same materials and methods for joint preparation as will be used for final installation.
b. Make knife cuts as follows: A horizontal cut from one side of joint to the other followed by two vertical cuts approximately 2 inches long at side of joint and meeting horizontal cut at top of 2-inch cuts. Place a mark 1 inch from top of 2-inch piece.
c. Use fingers to grasp 2 inch piece of sealant just above 1 inch mark, pull firmly down at 90 degree angle or more while holding a ruler along side of sealant. Pull sealant to the distance recommended by sealant manufacturer for testing adhesive capability, but not less than that equaling specified maximum movement capability in extension; hold this position for ten seconds.
2. Report. Report on test to joint contractor in joint connected to pulled out adhere to joint substrates or core cohesively. Include data on pull distance used to test each type of substrate and joint substrate.
3. Evaluation of Field Test Results. Sealants not evidencing adhesive failure from testing, in absence of other indications of non-compliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrate during testing.
4. Repeat. Repeat field test on sealant in joint connected to pulled out testing work.
5. Notify in advance and conduct adhesion testing in presence of Consultant.
H. Owner reserves the right to perform testing of the installed work in accordance with ASTM C201, "Field Check of Metal Curtain Walls for Water Leakage". Contractor shall repair all installed work found to be deficient and pay for repairs and additional testing as necessary until satisfactory test results are achieved.

1.07 INVENTORY, STORAGE AND HANDLING
A. Keep receipt of panels and other materials. Installer shall examine the shipment for damage and report to manufacturer immediately.
B. Panels should be stored in a clean, dry place. One end should be elevated to allow moisture to run off.
C. Stack all materials to prevent damage and to allow for adequate ventilation.
1.08 WARRANTY
A. Paint finish shall have a 15 year guarantee against cracking and/or peeling, and 5 to 8 year guarantee against fading (not to exceed 5 N.B.S. units).
B. Material and workmanship shall have a twenty year guarantee against failure due to corrosion, rupture or perforation.
C. Applicator shall furnish guarantee covering water-tightness of the roofing system for the period of two (2) years from the date of substantial completion.

PART 2 PRODUCT
2.01 ACCEPTABLE MANUFACTURERS
A. Architectural Building Components - Houston, TX (Snaplock Lo Curved) or Berridge United Sheet Metal Company - Houston, TX (Curved Tee Panels), A-255, "Safe Flash".
B. Panels shall be installed horizontally, starting at eave to ridge with a 6" minimum overlap and 18" endlaps.
C. Snap-on seams shall be 1" in height and shall contain the Berridge factory-applied Extruded Vinyl Weather Seal Insert (Patent No. 4641-475) to prevent siphoning of moisture through the standing seam.
D. Concealed anchor clips shall be spaced as required to meet uplift loads (maximum of 24" on center).
E. When required, Panel assembly shall bear Underwriter's Laboratories Label UL90, pursuant to Construction Number 296 and applicable Fire Ratings.
F. Expansion shall be permitted on independent testing laboratory, indicating no measurable water penetration or air leakage beyond allowable tolerances through the system when tested in accordance with ASTM E-331-88 and E-293-84.

2.02 SHEET MATERIALS
A. Prefinished metal shall be Hot Dipped Galvanized - ASTM A446-85 Grade C G90 Coating A525-88-24 Gauge core steel or prefinished Galvalume - ASTM 792-88 A2-55.
B. For standing seam, use Galvalume or Galvalume with Kynar 500 Fluoropolymer coating, applied by the manufacturer on a continuous coil coating line, with a top side dry film thickness of 0.70 to 0.90 mil over 0.25 to 0.35 mil prime coat, to provide a total film thickness of 0.95 to 1.25 mil. Bottom side shall be coated with primer with a dry film thickness of 0.25 mil. Finish shall conform to all tests for adhesion, flexibility, and longevity as specified by the Kynar 500 finish supplier.
C. Standing seam shall be applied to the top side of the painted coil to protect the finish during fabrication, shipping and field handling. This strip shall be removed before installation.
2.03 ACCESSORY MATERIALS
A. Fasteners. Galvanized Steel with washers where required.
B. Clips as specified in Section 07900.
C. Vinyl Weather Seal Insert.

2.04 FABRICATION
A. All exposed adjacent flashing shall be of the same material and finish as the roof panels.
B. Hem all exposed edges of flashing on underside, 1/2 inch.
2.05 BERRIDGE STANDING SEAM TEE-PANEL
1. Panels shall have 12 3/4" on center seam spacing with a seam height of 1"
2. Panels shall be site formed with the Berridge Model SS-14 Portable Roll Former in continuous lengths from eave to ridge or factory fabricated to 40' max.
3. Snap-on seams shall be 1" in height and shall contain the Berridge factory-applied Extruded Vinyl Weather Seal Insert (Patent No. 4641-475) to prevent siphoning of moisture through the standing seam.
4. Concealed anchor clips shall be spaced as required to meet uplift loads (maximum of 24" on center).
5. When required, Panel assembly shall bear Underwriter's Laboratories Label UL90, pursuant to Construction Number 296 and applicable Fire Ratings.
6. Expansion shall be permitted on independent testing laboratory, indicating no measurable water penetration or air leakage beyond allowable tolerances through the system when tested in accordance with ASTM E-331-88 and E-293-84.

PART 3 EXECUTION
3.01 INSPECTION
A. Substrate:
1. Examine plywood or metal deck to ensure proper attachment to framing.
2. Inspect roof deck to verify deck is clean and smooth, free of depressions, waves or projections, laps or joints.
3. Verify roof openings, curbs, pipes, sleeves, ducts or vents through roof are solidly set, cant strips and gaskets in place, and nailing strips located.
4. Verify deck is dry and free of snow or ice. Flutes in steel deck to be clean and dry or joints in plywood to be solidly supported and nailed.
B. Feltting:
1. Ensure #30 unperforated asphalt saturated roofing felt underlayment has been installed over 20 gauge except as otherwise indicated. Provide equivalent gauge copper or stainless steel 304 Grade or higher in high humidity areas similar to Florida and Hawaii.
2. Feltting shall be applied to the top side of the painted coil to protect the finish during fabrication, shipping and field handling. This strip shall be removed before installation.
3.02 INSTALLATION
A. Comply with manufacturer's standard instructions and conform to standards set forth in the Architectural Sheet Metal Manual published by SMACNA, in order to achieve a watertight installation.
B. Install panels in such a manner that horizontal lines are true and level and vertical lines are plumb.
C. Remove starter and edge trim before installing roof panels.
D. Attach panels using manufacturer's standard clips and fasteners, spaced in accordance with applicable building codes.
E. Attach panels using manufacturer's standard clips and fasteners, spaced in accordance with applicable building codes.
F. Install sealants for preformed roofing panels as approved on shop drawings.
G. Do not allow panels or trim to come into contact with dissimilar materials.
H. Do not allow traffic on completed roof. If required, provide cushioned work boards.

2.3 ROOF INSULATION
A. General: Provide preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated.
B. Polyisocyanurate Board Insulation: 2 1/2" ASTM C 1289, Type II, felt or glass-fiber mat facer on both major surfaces.
C. After Type II or III Base Flashings are installed, provide factory-tapered insulation boards fabricated to slope of 1/4 inch per 12 inches, unless otherwise indicated.
D. Substrate Board: 1/4" Dens-Deck Prime, Gypsum board.
2.4 INSULATION ACCESSORIES
A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatible with manufacturer's installation, instruction and recommendations.
B. Adhesive: Fas-N-Free Solvent-Free Insulation Adhesive.
C. Substrate Board: 1/4" Dens-Deck Prime.
2.5 WALKWAYS
A. Flexible Walkways: TPA Factory formed, nonporous, heavy-duty, slip resisting, surface textured walkway pads or rolls, approximately 3/16 inch (5 mm) thick, and acceptable to membrane roofing system manufacturer.

PART 3 - EXECUTION
3.1 EXAMINATION
A. Examine substrates, areas, and conditions, with installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
1. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.
2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thickness of insulation.
3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION
A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof drain plugs when work is taking place or when rain is forecast.
C. Complete terminal and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 INSULATION INSTALLATION
A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
B. Comply with membrane roofing system manufacturer's written instructions for installing roof insulation.
C. Mechanically attach new 2 1/2" polyisocyanurate board insulation to steel decking per FM 190.
D. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
3.4 SUBSTRATE BOARD INSTALLATION
A. Install 1/4" x 18" Dens-Deck Prime substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tighten built substrate boards together.
B. Adhere substrate board to polyisocyanurate insulation with Fas-N-Free solvent-free insulation adhesive at a rate of 1.5 gallons per square.

3.5 ADHERED ROOFING MEMBRANE INSTALLATION
A. Install roofing membrane over area to receive roofing according to membrane roofing system manufacturer's written instructions. Unroll roofing membrane and allow to relax before installing.
1. Install sheet according to ASTM D 5036.
2. Start installation of roofing membrane in presence of membrane roofing system manufacturer's technical personnel.
3. Accurately align roofing membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
D. Cold Fluid Applied Adhesive: Apply approximately 100-120 square feet per gallon of cold fluid-applied adhesive to primed substrate at temperature required by manufacturer and install fabric roofing membrane over adhesive. Do not apply adhesive to splice areas of roofing membrane.
E. Adhere roofing membrane securely at terminations, penetrations, and perimeter of roofing system.
F. Apply roofing membrane with side laps shingled with slope of roof deck where possible.
G. Seal all penetrations, curbs, gutters, rakes, miscellaneous metal and attaching devices, and end laps of roofing membrane according to manufacturer's written instructions to ensure watertight seam installation.
1. Test lap edges with probe to verify seam weld continuity. Apply sealant to seal out air and moisture.
2. Verify field strength of seams a minimum of twice daily and repair seam deficiencies.
3. Repair tears, voids, and lapped seams in roofing membrane that does not meet requirements.
H. Spread sealant or mastic bed over roof drain flange at deck drains and securely seal roofing membrane in place with caulking ring.

3.6 FLASHING INSTALLATION
A. Install sheet flashings and preformed flashing curbs and accessories in accordance with manufacturer's written instructions.
B. Apply solvent based adhesive to substrate and adhesive side of flashing. Use required primer and allow to partially dry. Do not use primer on metal substrate.
C. Flash penetrations and field formed inside and outside curb sheet flashings.
D. Clean seam areas and overlap and firmly attach sheet flashings to substrate. Weld side and end laps.
E. Terminate and seal vertical flashings and mechanically anchor horizontal flashings through termination bars.
3.7 WALKWAY INSTALLATION
A. Flexible Walkways: Install walkway pads or rolls over roof access hatch to and around the perimeter of all flat roofs. Adhere pads or rolls to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.8 FIELD QUALITY CONTROL
A. Manufacturer's Technical Representative: Contractor will engage a qualified manufacturer's technical representative for a minimum of 3 days to perform roof tests and inspections and to review temporary repair procedures.
B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Tremco.
C. Repair or remove and replace components of membrane roofing system where test results or inspections indicate that they do not comply with specified requirements.
D. For standing seam, use Galvalume or Galvalume with Kynar 500 Fluoropolymer coating, applied by the manufacturer on a continuous coil coating line, with a top side dry film thickness of 0.70 to 0.90 mil over 0.25 to 0.35 mil prime coat, to provide a total film thickness of 0.95 to 1.25 mil. Bottom side shall be coated with primer with a dry film thickness of 0.25 mil. Finish shall conform to all tests for adhesion, flexibility, and longevity as specified by the Kynar 500 finish supplier.
E. Standing seam shall be applied to the top side of the painted coil to protect the finish during fabrication, shipping and field handling. This strip shall be removed before installation.
3.9 INSPECTING AND CLEANING
A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect end overlying roofing, inspect roofing for damage, if any, and describe its nature and extent in a written report, with copies to be provided to architect and Owner.
B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements, repair substrates and repair or replace membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
C. Clean overhang and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.
D. Power wash and clean entire roofing and flashing system after installation prior to final inspection.

END OF SECTION 07540

SECTION 07600 SHEET METAL AND ROOF ACCESSORIES
07600.1 GENERAL:
A. Drawings, Specifications Division 1 and Contract.
07600.12 DESCRIPTION OF WORK:
A. The system of roof flashing and sheet metal work is indicated on the drawings and by provisions of this section with the following work specified herein but not limited to this list:
1. Flashing and counter flashing.
2. Wall cap.
3. Exhaust fan curbs.
4. Fascia cap.
5. Scupper.
6. Roof hatch.
7. Vent flashing.
8. Termination bars.
9. Condensate line.
10. Repetition line.
11. HVAC curbs.
07600.13 JOB CONDITIONS:
Coordinate work with interfacing and adjoining work for proper sequencing of each installation.

07600.2 PRODUCTS:
07600.21 SHEET METAL MATERIALS:
A. Zinc Coated Steel: Commercial quality with 0.20% copper, hot-dip galvanized, 0.0359" thick (20 gauge) except as otherwise indicated. Provide equivalent gauge copper or stainless steel 304 Grade or higher in high humidity areas similar to Florida and Hawaii.
B. Fasteners: Galvanized Steel with washers where required.
C. Clips as specified in Section 07900.
D. Vinyl Weather Seal Insert.
07600.22 FABRICATED UNITS:
A. Shop fabricate work to greatest extent possible. Comply with details shown, and with applicable requirements of Sheet Metal and Air Conditioning Contractors National Association "Architectural Sheet Metal Manual". Fabricate for waterproof and weather resistant performance, with expansion provisions for running work. Form work to fit substrates. Form exposed sheet metal without excessive oil canning, buckling and tool marks. True to line and levels as indicated, with exposed edges folded back to form hems.
B. Fabricate non-moving seams in steel metal with flat lock seams. Its edges to be sealed, form seams and solder.

4. Thickness: 4.3 mm (170) mils
5. Application: Mop
6. Surfacing: White mineral granule
C. Glass Fiber Base Sheet: U.S. Intec Workhorse Ultra Base Sheet by GAF Materials Corporation GAFGLAS #75 Base Sheet
1. Asphalt saturated glass mat conforming to ASTM D 4001 Type II
2. Underlayment: Lath FR. Base Flashings and Flashings shall be installed over the top edge and counterflashed with a separate sheet metal counterflashing to extend 4" below top edge of completed flashing.
4. After Type II or III Base Flashings are installed, provide factory-tapered insulation boards fabricated to slope of 1/4 inch per 12 inches, unless otherwise indicated.
D. Substrate Board: 1/4" Dens-Deck Prime, Gypsum board.
I. ACCESSORIES: Install U.S. Intec or GAF Materials Corporation M-Weld accessories in accordance with manufacturer's instructions.
J. Drain Straps: In the event of rain, drainage shall be directed securely along the top edge and covered, assume portions exposed to rain to be wet, and do not continue on such surfaces until dry. Remove and replace all materials that have been exposed to moisture, with new, dry, and same in kind.
K. Ponding: Ponded water shall not occur anywhere on the installed roof. Water shall dislodge within 48 hours after a rainfall.

07525.3.4 NOTIFICATION:
A. Contractor shall notify U.S. Intec or GAF Materials Corporation Guarantee Services that he is ready for final roof inspection upon completion of roofing, before all surfaces are covered.
B. Contractor shall notify all required parties with the date and time of scheduled final inspection upon confirmation with U.S. Intec or GAF Materials Corporation Inspection personnel.

07525.3.4 CLEAN-UP:
A. Upon completion of work of this Section, remove related debris from the premises.
END OF SECTION

SECTION 07540 - THERMOPLASTIC MEMBRANE ROOFING (ALTERNATE BID ONLY)
PART 1 - GENERAL
1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
1.2 SUMMARY
A. This Section includes the following:
1. Mechanically attached Polyisocyanurate Board Insulation
2. Adhered 1/4" Dens-Deck Prime Substrate Board
3. Fully Adhered Thermoplastic Roof Membrane 60 mil
B. Related Sections include the following:
1. CONSTRUCTION
2. MASTIC
3. HATCH SHEET
1.3 DEFINITIONS
A. Roofing Technology: Refer to ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definition of terms related to roofing work in this Section.
B. Design Uplift Pressure: The uplift pressure, calculated according to procedures in SFR's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," before multiplication by a safety factor.
C. Factored Design Uplift Pressure: The uplift pressure, calculated according to procedures in SFR's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems," after multiplication by a safety factor.
1.4 PERFORMANCE REQUIREMENTS
A. General: Provide installed roofing membrane and base flashings that remain watertight, do not permit the passage of water, and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.
B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing membrane manufacturer based on testing and field experience.
C. Flashings: Provide base flashings, perimeter flashings, detail flashings and component materials that comply with requirements and recommendations in FMG 1.49 Loss Prevention Data Sheet for Perimeter Flashings; FMG 1.29 Loss Prevention Data Sheet for Above Deck Roof Components; NRCA Roofing and Waterproofing Manual (Fourth Edition) for Construction Details and SMACNA Architectural Sheet Metal Manual (Fifth Edition) for Construction Details, as applicable.
1.5 QUALITY ASSURANCE
A. Installer Qualifications: A qualified firm that is approved, certified or else by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's warranty.
B. Manufacturer Qualifications: A qualified manufacturer that has UL or FMG listing for membrane roofing system identified to that used for this Project.
C. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548.
D. Source Limitations: Obtain all components for membrane roofing system approved by roofing membrane manufacturer.
E. File Test Response Characteristics: Provide membrane roofing materials with the file test response characteristics as determined by testing identical products per test method below by UL, FMG, or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency approximately 10" apart.
1. Exterior Fire Test Exposure: Class A, ASTM E 108, for application and roof slopes indicated.
2. Fire Resistance: 120 minutes.
3. Review and finalize construction schedule and verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural load limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary repair procedures after installation.
9. Review roof observation and repair procedures after roofing installation.

1.6 DELIVERY, STORAGE, AND HANDLING
A. Deliver roofing materials to Project site in original containers with seals unbroken and labels with manufacturer's name, product brand name and type, date of manufacture, and direction of layup and instructions to insure that the cap sheet adheres.
B. Store liquid materials in their original unopened containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid materials from direct sunlight.
1. Discard and legally dispose of liquid material that cannot be applied within specified shelf life.
2. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location, comply with installation manufacturers written instructions for handling, storing, and protecting during installation.
3. Handle and store roofing materials and place equipment in a manner to avoid permanent deformation of deck.

1.7 PROJECT CONDITIONS
A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed in accordance with manufacturer's written instructions and warranty requirements.
1.8 WARRANTY
A. Warranty Period: Five years from date of Final Completion.
B. Components of roofing system shown in materials or workmanship which specified warranty period:
1. Splice materials, accessories, or components of membrane roofing system, including fasteners, metal work, wood materials, and other components of roofing system.
2. Membrane roofing system, including fasteners, metal work, wood materials, and other components of roofing system.
C. Parapet Wall Warranty: Roofing installer's warranty, on installers standard warranty on, signed, and installed. Work of this Section, including all components of membrane roofing system, shall be warranted for a period of five years from date of Final Completion.
1. Warranty Period: (5) Five years from date of Final Completion.

PART 2 - PRODUCTS
2.1 THERMOPLASTIC TPL POLYMER ALLOY ROOFING MEMBRANE
A. Reinforced Thermoplastic TPL Polymer Alloy Sheet: Uniform, flexible elastomer sheet formed from a thermoplastic in polymer alloy, fleece-backed membrane, of the following thickness, exposed face color, and physical properties:
1. Thickness: 60 mils, nominal, minimum membrane thickness.
2. Exposed Face Color: White, Energy Star Rated.
3. Physical Properties:
a. Tensile Strength: ASTM D 751, grab method, 350 lbf
b. Elongation at Fabric Break: ASTM D 752, 40% MD, 30% XMD
c. Tensile Strength: ASTM D 2136, Pass - 40 deg F
d. Low Temperature Flexibility: ASTM D 2136, Pass - 40 deg F
e. Dimensional Stability at 170 deg F: ASTM D 1204, 0.3% at 6 hrs.

2.2 AUXILIARY MATERIALS
A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing system.
1. Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.
B. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as sheet membrane.
C. Cold Fluid Applied Adhesive: Manufacturer's standard cold fluid-applied adhesive formulated to adhere roof membrane to substrate.
D. Metal Termination Bars: Manufacturer's standard prefinished stainless steel or aluminum bars, approximately 1 1/8 inch thick, with anchors.
E. Fasteners: Factory-coated steel fasteners and metal or plastic plastic meeting corrosion-resistance provisions in FMG 447-2 designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.
F. Caulkings and Sealants: Tremco D only.
G. Miscellaneous Accessories: Provide pourable sealers, preformed curb and vent sheet flashings, preformed inside and outside curb sheet flashings, J-oint covers, termination reglets, curb strips, and other accessories.

4. Thickness: 4.3 mm (170) mils
5. Application: Mop
6. Surfacing: White mineral granule
C. Glass Fiber Base Sheet: U.S. Intec Workhorse Ultra Base Sheet by GAF Materials Corporation GAFGLAS #75 Base Sheet
1. Asphalt saturated glass mat conforming to ASTM D 4001 Type II
2. Underlayment: Lath FR. Base Flashings and Flashings shall be installed over the top edge and counterflashed with a separate sheet metal counterflashing to extend 4" below top edge of completed flashing.
4. After Type II or III Base Flashings are installed, provide factory-tapered insulation boards fabricated to slope of 1/4 inch per 12 inches, unless otherwise indicated.
D. Substrate Board: 1/4" Dens-Deck Prime, Gypsum board.
I. ACCESSORIES: Install U.S. Intec or GAF Materials Corporation M-Weld accessories in accordance with manufacturer's instructions.
J. Drain Straps: In the event of rain, drainage shall be directed securely along the top edge and covered, assume portions exposed to rain to be wet, and do not continue on such surfaces until dry. Remove and replace all materials that have been exposed to moisture, with new, dry, and same in kind.
K. Ponding: Ponded water shall not occur anywhere on the installed roof. Water shall dislodge within 48 hours after a rainfall.

07525.3.4 NOTIFICATION:
A. Contractor shall notify U.S. Intec or GAF Materials Corporation Guarantee Services that he is ready for final roof inspection upon completion of roofing, before all surfaces are covered.
B. Contractor shall notify all required parties with the date and time of scheduled final inspection upon confirmation with U.S. Intec or GAF Materials Corporation Inspection personnel.

07525.3.4 CLEAN-UP:
A. Upon completion of work of this Section, remove related debris from the premises.
END OF SECTION

SECTION 07540 - THERMOPLASTIC MEMBRANE ROOFING (ALTERNATE BID ONLY)
PART 1 - GENERAL
1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
1.2 SUMMARY
A. This Section includes the following:
1. Mechanically attached Polyisocyanurate Board Insulation
2.