MIAMI-DADE

BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA
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# NOTICE OF ACCEPTANCE (NOA)

**GenFlex Roofing Systems**
**1722 Indian Wood Circle, Suite A**
**Maumee, OH 43537**

**SCOPE:**
This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

**DESCRIPTION: TPO Single Ply Roof Systems over Concrete Deck**

**LABELING:** Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA revises NOA No. 02-0521.04 and consists of pages 1 through 35.
The submitted documentation was reviewed by Jorge L. Acebo.

PRODUCT CONTROL ACCEPTED

## ROOFING SYSTEM APPROVAL

| | |
|---|---|
| **Category:** | Roofing |
| **Sub-Category:** | Single Ply |
| **Material:** | TPO |
| **Deck Type:** | Concrete |
| **Maximum Design Pressure** | **-232.5 psf** |
| **Fire Classification:** | See General Limitation #1 |

**TABLE 1**
**TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:**

| Product Name | Dimensions | Test Specifications | Product Description |
|---|---|---|---|
| GenFlex TPO | 48", 75", 96", 120" or 148" wide x 100' long x 45 or 60 mils thick | TAS 131 | Polyester reinforced ThermoPlastic Olefin single ply membrane. |
| GenFlex TPO Plus | 48" or 96" wide by 100' long x 70 or 80 mils thick | TAS 131 | Polyester reinforced Thermo Plastic Olefin single ply membrane. |
| GenFlex TPO Peel & Stick HW | 18.75", 37.5", 75", 120" wide x 100' long x 45 or 60 mils thick | TAS 131 | Polyester reinforced Thermo Plastic Olefin single ply membrane with a self-adhered backing and heat weld laps. |
| GenFlex TPO Peel & Stick TPO | 18.75", 37.5", 75" wide x 100' long x 45 or 60 mils thick | TAS 131 | Fiberglass scrim reinforced Thermo Plastic Olefin single ply membrane with a self-adhered backing, and self-adhering laps |
| GenFlex ISO 3 | Various | ASTM C1289 | Polyisocyanurate foam core insulation with fiber reinforced organic felt facers. |
| GenFlex ISO 5 | Various | ASTM C1289 | Polyisocyanurate foam core insulation with fiber reinforced organic felt facers. |
| GenFlex Isofiber 5 | Various | ASTM C1289 | Polyisocyanurate foam core insulation with fiber reinforced organic felt bottom facer and ½" wood fiberboard top facer. |
| GenFlex High Density Fiberboard | Various | TAS 110 | Wood fiberboard insulation. |
| GenFlex FM-90 High Density Fiberboard | Various | TAS 110 | Wood fiberboard insulation |
| GenFlex Bonding Adhesive | 5 gallon pails | Proprietary | Solvent based, contact adhesive for bonding of roof membrane to substrate. |
| Genflex Metal Anchor Bar | 1" wide x 0.046" thick x 10 ft long | TAS 110 | Batten Bar for mechanical attachment of membrane |
| GenFlex Polymer Batten Bar | 1" wide x 0.05" thick x 250' long coil Holes pre-punched 6" o.c | Proprietary | Batten Strip for mechanical attachment of membrane. |
| GenFlex Low Rise Insulation Adhesive | | Proprietary | Insulation adhesive |

## TABLE 2

**APPROVED INSULATIONS:**

| Product | Product Description | Manufacturer (With current NOA) |
|---|---|---|
| AC Foam II | Isocyanurate insulation | Atlas Roofing Corp. |
| AC Foam composite | Isocyanurate insulation with perlite facer | Atlas Roofing Corp. |
| E'NRG'Y 2 Plus | Isocyanurate insulation with wood fiberboard facer | Johns Manville |
| Multi-Max FA | Isocyanurate insulation | R-Max, Inc |
| Thermaroof composite | Isocyanurate insulation with perlite facer | R-Max, Inc |
| High Density Fiberboard | Wood fiberboard insulation | The Celotex Corp. |
| Dens-Deck | Silicon treated gypsum | G-P Gypsum |

## TABLE 3

**APPROVED FASTENERS:**

| Product | Product Description | Manufacturer (With current NOA) |
|---|---|---|
| Construction Fasteners | Insulation and membrane fasteners | Construction Fasteners |
| Buildex Fasteners | Insulation and membrane fasteners | ITW Buildex Corp. |
| Olympic Fasteners | Insulation and membrane fasteners | Olympic Manufacturing |
| Tru-Fast Fasteners | Insulation and membrane fasteners | Tru-Fast corporation |
| GenFlex Fasteners | Insulation and membrane fasteners | Gen-Flex Corporation |

**EVIDENCE SUBMITTED:**

| Test Agency | Test Identifier | Description | Date |
|---|---|---|---|
| Factory Mutual Research | 3009797 | FM 4470 | 02/04/02 |
| | 3007119 | FM 4470 | 01/02/02 |
| | 3005794 | FM 4470 | 12/13/01 |
| | 3002357 | FM 4470 | 05/16/00 |
| | 3005415 | FM 4470 | 02/08/00 |
| | 3002775 | FM 4470 | 09/16/99 |
| | 3000919 | FM 4470 | 04/07/99 |
| | 3003690 | FM 4470 | 03/29/99 |
| | 3B9A2.AM | FM 4470 | 01/25/99 |
| | 4B1A9.AM | FM 4470 | 09/09/98 |
| | 1D9A7.AM | FM 4470 | 07/31/98 |
| | 1D9A0.AM | FM 4470 | 07/30/98 |
| | 1D0A3.AM | FM 4470 | 09/24/97 |
| | 1B0A9.AM | FM 4470 | 05/09/97 |
| | 3015927 | FM 4470 | 01/26/04 |
| | 3023988 | FM 4470 | 09/29/05 |
| | 3025484 | FM 4470 | 05/31/06 |
| | 3027476 | FM 4470 | 08/11/06 |
| Exterior Research & Design, LLC. | 8054.02.02-1 | Physical Properties TAS 131 | 02/22/02 |
| Underwriters Laboratories, Inc. | 01NK14490 | Fire Classification | 06/01/01 |
| | 96NK22037 | TAS 114, (UL 790) | 03/10/97 |
| | 01NK25823 | Wind Uplift, TAS 114, (UL 1897) | 07/02/01 |

## APPROVED ASSEMBLIES:

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic, TPO |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete |
| **System Type A(1):** | One or more layers of insulation adhered to deck with approved asphalt or adhesive. |

**All General and System Limitations apply.**

| | |
|---|---|
| **Insulation Option #1:** | Optional base layer(s) of maximum 4 x 4 ft (1.2 x 1.2 m) GenFlex ISO 3 or ACFoam II adhered to the deck or to each other with GenFlex Insulation Adhesive applied in approximate 0.75 in. (19 mm) wide ribbons spaced 12 in (305 mm). One layer of maximum 4x4 ft (1.2 x 1.2 m) E'NRG'Y-2 Plus adhered to the deck or to the base insulation layer with GenFlex Insulation Adhesive applied in approximate 0.75 in (19 mm) wide ribbons spaced 12 in (305 mm). Membrane applied as noted below.<br>**Maximum Design Pressure: -45 psf** |
| **Insulation Option #2:** | One or more layers of maximum 4 x 4 ft (1.2 x 1.2 m) GenFlex Iso 3 or ACFoam II adhered to the deck or to each other with GenFlex Insulation Adhesive applied approximate 0.75 in (19 mm) wide ribbons spaced 12 in (305 mm). Membrane applied as noted below.<br>**Maximum Design Pressure: -75 psf** |
| **Insulation Option #3:** | Concrete deck shall be primed with ASTM D41 asphalt primer and allowed to dry. One or more layer of maximum 4 x 4 ft(1.2 x 1.2 m) GenFlex ISO 3 or ACFoam II adhered to the deck or to each other with hot asphalt applied within the EVT range and at a rate of 20-40 lbs/ 100 $ft^2$.Membrane applied as noted below.<br>**Maximum Design Pressure: -112.5 psf** |
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus adhered to insulation using GenFlex Bonding Adhesive applied at 30 $ft^2$/gal (0.7 $m^2$/L) to both the substrate and the bottom side of the roof cover for a combined rate of 60 $ft^2$/gal (1.5 $m^2$/L). |
| **Maximum Design Pressure:** | **See insulation options above** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic, TPO |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(2):** | One or more layers of insulation adhered to deck with approved asphalt or adhesive, membrane fully adhered |

**All General and System Limitations apply.**

| Insulation Base Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **GenFlex ISO 3, GenFlex ISO 5** | | |
| Minimum: 1.0" thick | N/A | N/A |

| Insulation Top Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **(Optional) GenFlex ISO 3, GenFlex ISO 5** | | |
| Minimum: 1.0" thick | N/A | N/A |

**Note: All layers of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 $ft^2$. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO Peel & Stick HW, self-adhered to insulation with 3" wide laps sealed with a minimum 1.5" wide heat weld or primed with GenFlex Clear Primer and sealed with GenFlex 3" White TPO Seam Tape<br>Or<br>GenFlex TPO Peel & Stick SA, self-adhered to insulation with minimum 3" wide laps. Laps are primed with GenFlex Clear Primer and hand rolled. |
| **Maximum Design Pressure:** | **-45 psf;** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic, TPO |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(3):** | One or more layers of insulation adhered to deck with approved asphalt or adhesive, membrane fully adhered |

**All General and System Limitations apply.**

| Insulation Base Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **GenFlex ISO 3, GenFlex ISO 5** | | |
| Minimum: 1.0" thick | N/A | N/A |

| Insulation Top Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **(Optional) GenFlex ISO 3, GenFlex ISO 5** | | |
| Minimum: 1.0" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck and subsequent layers of insulation in GenFlex Insulation Adhesive in 0.75" wide ribbons spaced 12" o.c. or GenFlex Low Rise Insulation Adhesive in 0.5" – 0.75" wide ribbons spaced 12" oc. or full coverage at a rate of hot asphalt applied at minimum 25 lbs/sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO Peel & Stick HW, self-adhered to insulation with 3" wide laps sealed with a minimum 1.5" wide heat weld or primed with GenFlex Clear Primer and sealed with GenFlex 3" White TPO Seam Tape<br>Or<br>GenFlex TPO Peel & Stick SA, self-adhered to insulation with minimum 3" wide laps. Laps are primed with GenFlex Clear Primer and hand rolled. |
| **Maximum Design Pressure:** | **-45 psf;** (See General Limitation #9) |

**Membrane Type:** Single Ply, Thermoplastic, TPO

**Deck Type 3I:** Concrete, Insulated

**Deck Description:** Min. 2500 psi structural concrete

**System Type A(4):** One or more layers of insulation adhered to deck with approved asphalt or adhesive.

**All General and System Limitations apply.**

**One or more layers of the following:**

| Insulation Top Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **GenFlex ISO 3, GenFlex ISO 5, ACFoam II** | | |
| Minimum: 1.5" thick | N/A | N/A |
| **DensDeck, DensDeck Prime** | | |
| Minimum: 0.25" thick | N/A | N/A |
| **GenFlex High Density Fiber Board** | | |
| Minimum: 0.5" thick | N/A | N/A |

**Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 $ft^2$. Please refer to Roofing Application Standard RAS 117 for insulation attachment.**

**Membrane:** GenFlex TPO or GenFlex TPO Plus adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 $ft^2$/gal (1.6 $m^2$/L)

**Maximum Design Pressure:** **-202.5 psf** (See General Limitation #9)

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic, TPO |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete |
| **System Type A(5):** | One or more layers of insulation adhered to deck with approved asphalt or adhesive. |

**All General and System Limitations apply.**

**One or more layers of the following:**

| Insulation Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **ACFoam III** | | |
| Minimum: 2.0" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck or subsequent layers of insulation in Millenium Weathertite One Step Insulation Adhesive in 0.75" wide beads spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO Peel & Stick HW, self-adhered to insulation with 3" wide laps sealed with a minimum 1.5" wide heat weld or primed with GenFlex Clear Primer and sealed with GenFlex 3" White TPO Seam Tape<br>Or<br>GenFlex TPO Peel & Stick SA, self-adhered to insulation with minimum 3" wide laps. Laps are primed with GenFlex Clear Primer and hand rolled. |
| **Maximum Design Pressure:** | **-232.5 psf** (See General Limitation #9) |

**Membrane Type:** Single Ply, Thermoplastic, TPO

**Deck Type 3I:** Concrete, Insulated

**Deck Description:** Min. 2500 psi structural concrete

**System Type A(6):** One or more layers of insulation adhered to deck with approved asphalt or adhesive.

**All General and System Limitations apply.**

**One or more layers of the following:**

| Insulation Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **GenFlex ISO 3, ACFoam II, ENRGY 3** | | |
| Minimum: 1.5" thick | N/A | N/A |
| **DensDeck, DensDeck Prime** | | |
| Minimum 0.25" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck or subsequent layers of insulation in Millenium Weathertite One Step Insulation Adhesive in 0.75" wide beads spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.**

**Membrane:** GenFlex TPO Peel & Stick HW, self-adhered to insulation with 3" wide laps sealed with a minimum 1.5" wide heat weld or primed with GenFlex Clear Primer and sealed with GenFlex 3" White TPO Seam Tape

Or

GenFlex TPO Peel & Stick SA, self-adhered to insulation with minimum 3" wide laps. Laps are primed with GenFlex Clear Primer and hand rolled.

**Maximum Design Pressure:** **-165 psf** (See General Limitation #9)

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(7):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| Base Insulation Layer | Fastener Density/ft$^2$ | Fastener Type |
|---|---|---|
| **ACFoam II, H-Shield, ENRGY 2, ENRGY 3**<br>Minimum 1.0" thick | N/A | N/A |
| **DensDeck, DensDeck Prime**<br>Minimum 0.25" thick | N/A | N/A |

| Top Insulation Layer | Fastener Density/ft$^2$ | Fastener Type |
|---|---|---|
| **DensDeck, DensDeck Prime**<br>Minimum 0.25" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in full coating of OlyBond Adhesive Fastener at a rate of 1 gal/sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-202.5 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(8):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| **Base Insulation Layer** | **Fastener Density/ft$^2$** | **Fastener Type** |
|---|---|---|
| **(Optional) ASTM C578 (min 1.25 pcf) expanded polystyrene EPS** Minimum 2.0" thick | N/A | N/A |

| **Top Insulation Layer** | **Fastener Density/ft$^2$** | **Fastener Type** |
|---|---|---|
| **High Density Wood Fiberboard** Minimum 1.0" thick | N/A | N/A |
| **DensDeck, DensDeck Prime** Minimum 0.25" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in ¾" – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-120 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(9):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| Base Insulation Layer | Fastener Density/ft$^2$ | Fastener Type |
|---|---|---|
| **ACFoam II, H-Shield, ISO 95+GL**<br>Minimum 1.5" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in ¾" – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-150 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(10):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| Base Insulation Layer | Fastener Density/ft$^2$ | Fastener Type |
|---|---|---|
| **(Optional) ACFoam II, H-Shield, ISO 95+GL**<br>Minimum 1.5" thick | N/A | N/A |

| Top Insulation Layer | Fastener Density/ft$^2$ | Fastener Type |
|---|---|---|
| **DensDeck, DensDeck Prime**<br>Minimum 0.25" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in ¾" – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-150 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(11):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| **Base Insulation Layer** | **Fastener Density/ft$^2$** | **Fastener Type** |
|---|---|---|
| **ENRGY 3**<br>Minimum 1.5" thick | N/A | N/A |

| **Top Insulation Layer** | **Fastener Density/ft$^2$** | **Fastener Type** |
|---|---|---|
| **DensDeck, DensDeck Prime**<br>Minimum 0.25" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in ¾" – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-127.5 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(12):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| **Base Insulation Layer** | **Fastener Density/ft$^2$** | **Fastener Type** |
|---|---|---|
| **ISO 95+ GL**<br>Minimum 1.5" thick | N/A | N/A |

| **Top Insulation Layer** | **Fastener Density/ft$^2$** | **Fastener Type** |
|---|---|---|
| **High Density Wood Fiberboard**<br>Minimum 0.5" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in ¾" – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-202.5 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(13):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| Base Insulation Layer | Fastener Density/ft$^2$ | Fastener Type |
|---|---|---|
| **Foamular 250**<br>Minimum 1.0" thick | N/A | N/A |

| Top Insulation Layer | Fastener Density/ft$^2$ | Fastener Type |
|---|---|---|
| **DensDeck, DensDeck Prime**<br>Minimum 0.25" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in ¾" – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-202.5 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(14):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft$^2$ |
|---|---|---|
| **ACFoam II, ENRGY2, ENRGY 3**<br>Minimum 1.5" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in ½" to ¾" wide beads 12" o.c. of Weather-Tite Pourable Foam Insulation Adhesive or Genflex Low Rise Insulation Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-135 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(15):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| **Base Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **ACFoam II, ENRGY2, ENRGY 3**<br>Minimum 1.5" thick | N/A | N/A |

| **Top Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **DensDeck, DensDeck Prime**<br>Minimum 0.25" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in ½" to ¾" wide beads 12" o.c. of Weather-Tite Pourable Foam Insulation Adhesive or Genflex Low Rise Insulation Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-75 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(16):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft$^2$ |
|---|---|---|
| **ENRGY2, ENRGY 3**<br>Minimum 1.5" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in full coverage of Weather-Tite Pourable Foam Insulation Adhesive or Genflex Low Rise Insulation Adhesive at a rate of 1 gal/sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-202.5 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(17):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| **Base Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **ACFoam II, ENRGY2, ENRGY 3**<br>Minimum 1.5" thick | N/A | N/A |

| **Top Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **High Density Wood Fiber**<br>Minimum 0.5" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in ½" to ¾" wide beads 12" o.c. of Weather-Tite Pourable Foam Insulation Adhesive or Genflex Low Rise Insulation Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-127.5 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(18):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| **Base Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **ASTM C578 (min 1.25 pcf) expanded polystyrene EPS**<br>Minimum 1.5" thick | N/A | N/A |

| **Top Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **High Density Wood Fiber**<br>Minimum 0.5" thick | N/A | N/A |
| **DensDeck**<br>Minimum 0.25" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in ½" to ¾" wide beads 12" o.c. of Weather-Tite Pourable Foam Insulation Adhesive or Genflex Low Rise Insulation Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-150 psf (with HDWF)** (See General Limitation #9)<br>**-202.5 psf (with DensDeck)** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(19):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| **Base Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **Foamular 250, Dow Styrofoam or XPS**<br>Minimum 1.0" thick | N/A | N/A |

| **Top Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **High Density Wood Fiber**<br>Minimum 0.5" thick | N/A | N/A |
| **DensDeck**<br>Minimum 0.25" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in ½" to ¾" wide beads 12" o.c. of Weather-Tite Pourable Foam Insulation Adhesive or Genflex Low Rise Insulation Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-172.5 psf (with HDWF)** (See General Limitation #9)<br>**-202.5 psf (with DensDeck)** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(20):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft$^2$ |
|---|---|---|
| **ACFoam II, Multi-Max, ENRGY 3, H-Shield**<br>Minimum 1.5" thick | N/A | N/A |
| **DensDeck, DensDeck Prime**<br>Minimum 0.25" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in ½" to ¾" wide beads 12" o.c. of Weather-Tite One Step Foamable Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Vapor Retarders:** | (Optional) Any UL or FM approved asphaltic vapor retarder may be installed over the deck or the base layer of insulation |
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-202.5 psf (with no vapor retarder)** (See General Limitation #9)<br>**-157.5 psf (with asphaltic vapor retarder)** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(21):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| **Base Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **ACFoam II, Multi-Max, ENRGY 3, H-Shield, ISO 95+GL**<br>Minimum 1.5" thick | N/A | N/A |

| **Top Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **High Density Wood Fiber**<br>Minimum 0.5" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in ½" to ¾" wide beads 12" o.c. of Weathertite One Step Foamable Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Vapor Retarders:** | (Optional) Any UL or FM approved asphaltic vapor retarder may be installed over the deck or the base layer of insulation |
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-127.5 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(22):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| **Insulation Bottom Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **ACFoam II, Multi-Max, ENRGY 3, H-Shield**<br>Minimum 1.5" thick | N/A | N/A |

| **Insulation Top Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **DensDeck, DensDeck Prime**<br>Minimum 0.25" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in ½" to ¾" wide beads 12" o.c. of Weather-Tite Pourable Foam Insulation Adhesive or Genflex Low Rise Insulation Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Vapor Retarders:** | (Optional) Any UL or FM approved asphaltic vapor retarder may be installed over the deck or the base layer of insulation |
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-135 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(23):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| Insulation Layer | Fastener Density/ft$^2$ | Fastener Type |
|---|---|---|
| **ACFoam II, ACFoam III, ISO 95+GL, JM ISO 1, Multi-Max FA** | | |
| Minimum 1.5" thick | N/A | N/A |
| **DensDeck, DensDeck Prime** | | |
| Minimum 0.5" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in 3" – 3.5" wide ribbons of TITESET, spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-202.5 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(24):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| Insulation Layer | Fastener Density/ft$^2$ | Fastener Type |
|---|---|---|
| **ACFoam II, ACFoam III, ISO 95+GL** | | |
| Minimum 1.5" thick | N/A | N/A |

**Note: All insulation shall be adhered to the deck in 3" – 3.5" wide ribbons of TITESET, spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-202.5 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type A(25):** | One or more layers of insulation adhered with approved adhesive, membrane fully adhered |

**All General and System Limitations apply.**

One or more layers of the following insulations:

| Insulation Layer | Fastener Density/ft$^2$ | Fastener Type |
|---|---|---|
| **ACFoam II, ACFoam III, ISO 95+GL, JM ISO 1, Multi-Max FA** | | |
| Minimum 1.5" thick | N/A | N/A |
| **DensDeck, DensDeck Prime** | | |
| Minimum 0.5" thick | N/A | N/A |

| Insulation Layer | Fastener Density/ft$^2$ | Fastener Type |
|---|---|---|
| **ACFoam II, ACFoam III, ISO 95+GL, JM ISO 1, Multi-Max FA** | | |
| Tapered | N/A | N/A |

**Note: All insulation shall be adhered to the deck in 3" – 3.5" wide ribbons of TITESET, spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 ft$^2$/gal (1.6 m$^2$/L) |
| **Maximum Design Pressure:** | **-45 psf** (See General Limitation #9) |

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic, TPO |
| **Deck Type 3I** | Concrete, Insulated |
| **Deck Description** | Min. 2,500 psi structural concrete |
| **System Type C (1):** | Membrane fully adhered over mechanically fastened insulation. |

**All General and System Limitations apply.**

| Insulation for Base Layer (Optional) | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **GenFlex ISO 3 (flat or tapered), ACFoam II (flat or tapered)** | | |
| Minimum: 1.3" thick | N/A | N/A |
| **GenFlex ISO 5 (flat or tapered)** | | |
| Minimum: 1.4" thick | N/A | N/A |
| **ACFoam Composite (flat or tapered), Multi-Max FA, Thermaroof Composite** | | |
| Minimum: 1.5" thick | N/A | N/A |
| **GenFlex Isofiber 5** | | |
| Minimum: 1.9" thick | N/A | N/A |
| **GenFlex High Density Fiberboard, High Density Fiberboard** | | |
| Minimum: ½" thick | N/A | N/A |

| Insulation Top Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **GenFlex ISO 3 or ACFoam II** | | |
| Minimum: 1.5" thick | 1:2 | See approved fasteners in table 3 |
| Minimum: 2.0" thick | 1:4 | See approved fasteners in table 3 |
| **Dens-Deck** | | |
| Minimum: ¼" thick | 1:1.8 | See approved fasteners in table 3 |

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied at 30 $ft^2$/gal (0.7 $m^2$/L) to both the substrate and the bottom side of the roof cover for a combined rate of 60 $ft^2$/gal (1.5 $m^2$/L) |
| **Maximum Design Pressure:** | **-45 psf;** (See General Limitation #9) |

**Membrane Type:** Single Ply, Thermoplastic, TPO

**Deck Type 3I:** Concrete, Insulated

**Deck Description:** Min. 2500 psi structural concrete or concrete plank

**System Type C(2):** Membrane fully adhered over mechanically fastened insulation.

**All General and System Limitations apply.**

| Insulation Base Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **(Optional) GenFlex ISO 3, GenFlex ISO 5** | | |
| Minimum: 1.5" thick | N/A | N/A |

| Insulation Top Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **GenFlex ISO 3, GenFelx ISO 5** | | |
| Minimum: 1.5" thick | 1:2 | GenFast 3" Square Steel Plate; GenFast #14 Fasteners |

**Membrane:** GenFlex TPO Peel & Stick HW, self-adhered to insulation with 3" wide laps sealed with a minimum 1.5" wide heat weld or primed with GenFlex Clear Primer and sealed with GenFlex 3" White TPO Seam Tape

Or

GenFlex TPO Peel & Stick SA, self-adhered to insulation with minimum 3" wide laps. Laps are primed with GenFlex Clear Primer and hand rolled.

**Maximum Design Pressure:** **-45 psf;** (See General Limitation #9)

**Membrane Type:** Single Ply, Thermoplastic, TPO

**Deck Type 3I:** Concrete, Insulated

**Deck Description:** Min. 2500 psi structural concrete or concrete plank

**System Type C(3):** Membrane fully adhered over mechanically fastened insulation.

**All General and System Limitations apply.**

| Insulation Base Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **(Optional) Any Approved insulation** | | |
| Minimum: 0.25" thick | N/A | N/A |

| Insulation Top Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **GenFlex High Density Fiberboard** | | |
| Minimum: 1.0" thick | 1:2 | GenFast 3" Square Steel Plate; GenFast #14 Fasteners |

**Membrane:** GenFlex TPO Peel & Stick HW, self-adhered to insulation with 3" wide laps sealed with a minimum 1.5" wide heat weld or primed with GenFlex Clear Primer and sealed with GenFlex 3" White TPO Seam Tape

Or

GenFlex TPO Peel & Stick SA, self-adhered to insulation with minimum 3" wide laps, primed with GenFlex Clear Primer and hand rolled.

**Maximum Design Pressure:** **-45 psf;** (See General Limitation #9)

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic, TPO |
| **Deck Type 3I:** | Concrete, Insulated |
| **Deck Description:** | Min. 2500 psi structural concrete or concrete plank |
| **System Type C(4):** | Membrane fully adhered over mechanically fastened insulation. |

**All General and System Limitations apply.**
**One of the following insulations.**

| Insulation Bottom Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **Any approved insulation** Minimum: 0.25" thick | N/A | N/A |

| Insulation Top Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **GenFlex ISO 3, ACFoam II** Minimum: 1.5" thick | 1:1.78 | GenFast #14 Fasteners, GenFast Flat Insulation Plates |
| **GenFlex ISO 3, ACFoam II** Minimum: 2.0" thick | 1:1.78 | GenFast #14 Fasteners, GenFast Flat Insulation Plates |

**Note: All layers shall be simultaneously fastened; see top or base layer for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, adhered to insulation using GenFlex Bonding Adhesive applied to both the substrate and the bottom side of the roof cover for a combined rate of 65 $ft^2$ /gal (1.6 $m^2$/L) |
| **Maximum Design Pressure:** | **-52.5 psf; {for 1.5" insulation}** (See General Limitation #7)<br>**-60 psf; {for 2" insulation}** (See General Limitation #7) |

**Membrane Type:** Single Ply, Thermoplastic, TPO

**Deck Type 3I:** Concrete, Insulated

**Deck Description:** Min. 2500 psi structural concrete or concrete plank

**System Type C(5):** Membrane fully adhered over mechanically fastened insulation.

**All General and System Limitations apply.**

| Insulation Base Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **Any approved insulation** Minimum: 0.25" thick | N/A | N/A |

| Insulation Top Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **ACFoam III** Minimum: 2" thick | 1:1.79 | GenFast 3" Square Steel Plate; GenFast #14 Fasteners |

**Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.**

**Membrane:** GenFlex TPO Peel & Stick HW, self-adhered to insulation with 3" wide laps sealed with a minimum 1.5" wide heat weld or primed with GenFlex Clear Primer and sealed with GenFlex 3" White TPO Seam Tape

Or

GenFlex TPO Peel & Stick SA, self adhered to insulation with minimum 3" wide laps. Laps are primed with GenFlex Clear Primer and hand rolled.

**Maximum Design Pressure:** **-67.5 psf**; (See General Limitation #7)

| | |
|---|---|
| **Membrane Type:** | Single Ply, Thermoplastic, TPO |
| **Deck Type 3I** | Concrete, Insulated, |
| **Deck Description** | Min. 2,500 psi structural concrete |
| **System Type D (1):** | Membrane attached over preliminary fastened insulation |

**All General and System Limitations apply.**

| Insulation for Base or Top Layer | Fastener Density $ft^2$ | Fastener Type |
|---|---|---|
| **GenFlex ISO 3 (flat or tapered), ACFoam II (flat or tapered)** | | |
| Minimum: 1.3" thick | N/A | N/A |
| **GenFlex ISO 5 (flat or tapered)** | | |
| Minimum: 1.4" thick | N/A | N/A |
| **ACFoam Composite (flat or tapered), Multi-Max FA, Thermaroof Composite** | | |
| Minimum: 1.5" thick | N/A | N/A |
| **GenFlex Isofiber 5** | | |
| Minimum: 1.9" thick | N/A | N/A |
| **GenFlex High Density Fiberboard, High Density Fiberboard** | | |
| Minimum: ½" thick | N/A | N/A |

**Note: All insulation shall have preliminary attachment prior to installation of the roofing membrane at a minimum application of two fasteners per board for insulation boards having no dimension greater than 4 ft, and four fasteners for any insulation having no dimension greater than 8 ft.**

| | |
|---|---|
| **Membrane:** | GenFlex TPO or GenFlex TPO Plus, attached to deck as follows. A $^{7}/_{32\ in.}$ (5.6 mm) diameter pilot hole is drilled in the deck to provide for minimum 1 in. (25 mm) deep fastener embedment. The pilot hole must be 0.5 in (13 mm) deeper than the embedded fastener. |
| **Fastening #1:** | GenFast #15 (WH) screws and GenFlex Polymer Batten Strip. Screws are spaced at maximum 12 in (305 mm) o.c. within minimum 4.5 in (114 mm) wide laps, which are spaced at maximum 144 in (3,658 mm) o.c. and sealed with a minimum 1.25 in (32 mm) wide heat weld placed on each side of the batten strip.<br>**Maximum Design: -45 psf.** |
| **Fastening #2:** | GenFast #15 (WH) screws and GenFlex Polymer Batten Strip. Screws are spaced at maximum 6 in (152 mm) o.c. within minimum 5 in (127 mm) wide laps, which are spaced at maximum 144 in (3,658 mm) o.c. and sealed with a minimum 1.5 in (40 mm) wide heat weld placed on the outside edge of the batten strip.<br>**Maximum Design Pressure: -60 psf.** |
| **Maximum Design Pressure:** | **See membrane fastening options above.**(See General Limitation #7) |

## CONCRETE DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 137, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.

## GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance; refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. Insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**

# END OF THIS ACCEPTANCE