



# Product Evaluation

RC208 | 0516

Engineering Services Program

*The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).*

*This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.*

*This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.*

*For more information, contact TDI Engineering Services Program at (800) 248-6032.*

<b>Evaluation ID:</b>	RC-208	<b>Effective Date:</b>	March 1, 2016
		<b>Revised:</b>	May 1, 2016
		<b>Re-evaluation Date:</b>	January 2020

**Product Name:** Firestone UltraPly TPO and GenFlex EZ TPO Roofing Systems

**Manufacturer:** Firestone Building Products Company, LLC  
250 W. 96th Street  
Indianapolis, IN 46260  
(800) 443-4272 x 53806

## Firestone UltraPly Description:

- UltraPly TPO roof membranes are nominal 0.045" to 0.080" thick flexible TPO (thermoplastic olefin) sheets
- UltraPly TPO XR 100 roof membrane nominal 0.045" thick flexible TPO (thermoplastic olefin)
- UltraPly TPO XR 115 roof membrane nominal 0.060" thick flexible TPO (thermoplastic olefin)
- UltraPly TPO XR 135 roof membrane nominal 0.080" thick flexible TPO (thermoplastic olefin)
- UltraPly TPO SA roof membranes are nominal 0.045" to 0.060" thick heat weldable flexible TPO (thermoplastic olefin) sheets
- MB Base is a fiberglass reinforced, asphalt-coated base sheet
- SBS Base-P is a SBS modified bitumen rubber polymer and asphalt reinforced with a non-woven glass fiber mat
- SBS Base is a fiberglass reinforced, SBS modified bitumen membrane with a sanded bottom and sanded top surface
- SBS PolyBase is a polyester reinforced, SBS modified bitumen membrane with a sanded bottom and sanded top surface
- Firestone V-Force is a vapor barrier, self-adhered membrane
- XR Stick Membrane Adhesive is a two-component, low-rise polyurethane adhesive
- XR Bonding Adhesive is a solvent based contact adhesive
- I.S.O. FIX II is a single component, moisture cured, polyurethane adhesive

**Firestone UltraPly Description (Continued):**

- I.S.O. Stick Adhesive is a two-component, low-rise polyurethane insulation adhesive
- I.S.O. Twin Pack Adhesive is a two-component, low-rise polyurethane adhesive
- UltraPly Bonding Adhesive is a solvent based contact adhesive
- Water Based Bonding Adhesive is a water based latex, low VOC contact adhesive
- Firestone Water Based Bonding Adhesive-P is a contact adhesive used for bonding Firestone EPDM, UltraPly TPO or FormFlash membranes to acceptable substrates
- Single-Ply LVOC Bonding Adhesive is a solvent-based formulation used for bonding Firestone EPDM and TPO membranes
- Single-Ply LVOC Bonding Adhesive 1168 is a bonding adhesive used for bonding Firestone EPDM and UltraPly TPO membranes and flashing to substrates such as insulation, wood, metal, masonry and other acceptable substrates
- V-Force SB Primer is a solvent based primer to prepare porous substrates to receive V-Force Vapor Barrier Membrane
- V-Force WB Primer is a polymer emulsion-based primer used in various substrates to enhance the adhesion of V-Force Vapor Barrier Membrane
- UltraPly TPO Unsupported Flashing un-reinforced TPO
- UltraPly TPO T-joint Cover un-reinforced TPO
- UltraPly TPO Cut Edge Sealant synthetic rubber
- Pourable Sealer S-10 Parts A & B two part polyurethane sealant
- Water Block Seal (S-20) water sealant
- UltraPly TPO General Purpose Sealant butyl rubber sealant
- TPO QuickSeam Flashing material with pre-applied adhesive
- UltraPly TPO QuickPrime for TPO QuickSeam Flashing
- UltraPly TPO Small and Large Pipe Flashing un-reinforced TPO molded TPO pipe flashing
- UltraPly TPO Inside & Outside Corners un-reinforced TPO molded TPO inside and outside corners
- TPO Coated Metal TPO coated metal
- Firestone Metal Insulation Plate round batten plate
- Firestone Termination Bar aluminum bar for flashing terminations
- EdgeGard System flashing materials and assemblies
- UltraPly TPO Walkway Pad recycled thermoplastic walkway pads
- Firestone Splice Wash SW-100 cleaning and prep solution for TPO
- UltraPly TPO InvisiWeld Plate is a primer coated plate for use with heat welded TPO membranes
- Firestone Heavy Duty is a #15 Fastener for steel, wood or concrete decks
- Firestone Heavy Duty Plus is a #21 Fastener for wood, steel or concrete decks
- Firestone HD Seam Plate is an AZ55 or AZ50 galvalume insulation plate
- Firestone HD Plus Seam Plate is an AZ55 or AZ50 galvalume TPO membrane plate
- #14 Roofgrip is a Phillips head, standard thread, pinch point, carbon steel fastener for use in metal, wood or concrete decks with CR-10 coating
- Firestone All-Purpose Fastener is a roofing fastener for wood and steel decks
- Firestone Insulation Fastening Plate is a 3" diameter, 0.017 to 0.023" thick galvalume stress plate for base sheet and insulation attachment
- Pre-Assembled Heavy-Duty Fastener and Insulation Plate is a SAE 1022 heat treated steel fastener with an AZ-50 galvalume steel plate used in all firestone roof systems to pre-attach insulation or base sheets to steel and wood decks

**Firestone UltraPly Description (Continued):**

- Concrete Drive Fastener is used with Firestone Insulation Plates for the attachment of roofing insulation, and base sheets, or attachment of Firestone Metal Batten Strips, Seam Plates, Termination Bars and other accessories into structural concrete substrates
- Firestone Polymer Batten Strip is used for anchoring Firestone membranes and flashing details
- UltraPly QuickSeam R.M.A. Strip is a 10" wide UltraPly TPO membrane with two 3" wide strips of tape factory laminated to it along its length
- IsoFast #12 Belted Fastener is a low carbon steel, AZ 50 galvalume plate used for the attachment of insulation to steel and wood
- IsoFast #15 Belted Fastener is a low carbon steel, AZ 50 galvalume plate used for the attachment of insulation and membrane to steel and wood
- AP AccuTrac Kits are used in roofing applications for the attachment of insulation to steel and wood roof decks with OMG AccuTrac installation equipment
- Two Piece Impact Nail is a two piece factory assembled fastener
- LWC Base-Ply Fastener is a base ply fastening system for lightweight concrete decks
- ISO 95+ GL is a polyisocyanurate foam insulation
- ISOGARD HD is a polyisocyanurate with a coated fiberglass facer
- ISOGARD HD Composite is a polyisocyanurate with a coated fiberglass facer composite insulation
- RESISTA is a polyisocyanurate foam core laminated to a coated fiberglass facer

**Genflex Product Description:**

- EZ TPO roof membranes are nominal 0.045" to 0.080" thick flexible TPO (thermoplastic olefin) sheets
- GenFlex EZ Fleece Backed TPO (45-mil) roof membrane nominal 0.045" thick flexible TPO (thermoplastic olefin)
- GenFlex EZ Fleece Backed TPO (60-mil) roof membrane nominal 0.060" thick flexible TPO (thermoplastic olefin)
- GenFlex EZ Fleece Backed TPO (80-mil) roof membrane nominal 0.080" thick flexible TPO (thermoplastic olefin)
- EZ TPO Peel and Stick HW roof membranes are nominal 0.045" to 0.060" thick heat weldable flexible TPO (thermoplastic olefin) sheets
- GenFlex One Step Insulation Adhesive is a two-component, low-rise polyurethane adhesive
- GenFlex Fleece Backed Bonding Adhesive is a solvent based contact adhesive
- GenFlex I.S.O. FIX II is a single component, moisture cured, polyurethane adhesive
- EZ TPO Bonding Adhesive is a solvent based contact adhesive
- GenFlex Water Based Bonding Adhesive is a water based latex, low VOC contact adhesive
- GenFlex Water Based Bonding Adhesive (P) is a contact adhesive used for bonding Firestone EPDM, UltraPly TPO or FormFlash membranes to acceptable substrates
- EZ TPO Bonding Adhesive LVOC is a solvent-based formulation used for bonding Firestone EPDM and TPO membranes
- EZ TPO Bonding Adhesive LVOC 1168 is a bonding adhesive used for bonding Firestone EPDM and UltraPly TPO membranes and flashing to substrates such as insulation, wood, metal, masonry and other acceptable substrates
- EZ Peel & Stick Flashing material with pre-applied adhesive
- EZ Primer for TPO QuickSeam Flashing
- EZ TPO InvisiWeld Plate is a round, coated galvalume plate (Gold and Black) used for TPO and PVC membranes

**Genflex Product Description (Continued):**

- GenFlex Heavy Duty is a #15 Fastener for steel, wood or concrete decks
- GenFlex Heavy Duty Plus is a #21 Fastener for wood, steel or concrete decks
- GenFlex HD Seam Plate is an AZ55 or AZ50 galvalume insulation plate
- GenFlex HD Plus Seam Plate is an AZ55 or AZ50 galvalume TPO membrane plate
- GenFast AP Fastener is a roofing fastener for wood and steel decks
- GenFast 3" Round Insulation Plate is a 3" diameter, 0.017 to 0.023" thick galvalume stress plate for base sheet and insulation attachment
- Pre-Assembled Heavy-Duty Fastener and Insulation Plate is a SAE 1022 heat treated steel fastener with an AZ-50 galvalume steel plate used in all firestone roof systems to pre-attach insulation or base sheets to steel and wood decks
- GenFast Concrete Driver Fastener is used with Firestone Insulation Plates for the attachment of roofing insulation, and base sheets, or attachment of Firestone Metal Batten Strips, Seam Plates, Termination Bars and other accessories into structural concrete substrates
- GenFlex Polymer Batten Strip is used for anchoring GenFlex membranes and flashing details
- EZ Peel & Stick R.M.A. Strips is a 10" wide UltraPly TPO membrane with two 3" wide strips of tape factory laminated to it along its length
- GenFlex ISO Insulation is a polyisocyanurate foam insulation
- GenFlex HD ISO is a polyisocyanurate with a coated fiberglass facer
- GenFlex HD Composite ISO is a polyisocyanurate with a coated fiberglass facer composite insulation
- Coated Glass Facer is a polyisocyanurate foam core laminated to a coated fiberglass facer

**Fasteners & Plates:**

- IF-L-70x70 Insulation Plate is a 2-3/4" square stacked insulation and membrane plate used with #12 Belted Fasteners and #15 Belted Fasteners manufactured by SFS Intec, Inc.

**Adhesives:**

- Low Rise Membrane Adhesive is a two-component, low-rise polyurethane adhesive manufactured by Elastomeric Roofing Systems, Inc.
- OlyBond 500 is a two-component, low-rise polyurethane insulation adhesive manufactured by OMG, Inc.
- Millennium PG-1 Fleeceback Membrane Adhesive is a two-component, low-rise polyurethane adhesive manufactured by Adco Products, Inc. d.b.a. Royal Adhesives & Sealants, Inc.

**Insulations & Coverboards:**

- ACFoam-II is a polyisocyanurate foam insulation manufactured by Atlas Roofing Corporation
- DensDeck and DensDeck Prime are a fiberglass faced, water-resistant gypsum core coverboard manufactured by Georgia-Pacific Gypsum, LLC
- SECUROCK Glass Mat Roof Board is a water-resistant gypsum core coverboard manufactured by US Gypsum Corporation.
- SECUROCK Gypsum-Fiber Roof Board is a water-resistant gypsum core coverboard manufactured by US Gypsum Corporation.

**Limitations and Installation:**

**Roof Framing:** The maximum allowable spacing of the roof framing must be as specified in this evaluation report.

**Roof Deck:** For new applications, the roof deck must be secured to the roof framing to resist the required uplift loads.

**Positive Drainage of Roof Deck:** Roof decks, in which this product is to be installed upon, must be provided with positive drainage. A minimum roof slope after construction of 1/4" per foot is recommended.

**Design Wind Pressures:** The design wind uplift pressures must be specified in the assemblies listed in this evaluation report.

#### **Installation Over an Existing Roof Covering (Roof Recover):**

**Acceptable Applications:** The TPO roofing system may be installed over an existing built-up roof covering or an existing TPO roof covering based on the requirements set forth in this product evaluation report.

**Inspection of Roof Covering Recover Installation:** Inspection of the roof covering recover installation must be by a Texas Department of Insurance appointed engineer. The Texas Department of Insurance appointed engineer must determine if the roof framing can support the combined weight of the existing roof covering and the roof covering recover.

**Roof Covering Replacement Versus Roof Covering Recover:** All existing roof coverings must be completely removed and a new roof covering installed if any of the following conditions occur:

- The existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for the additional roof covering.
- The existing roof has two or more applications of any type of roof covering.

**Positive Drainage:** The roof covering recover application must not be required to meet the minimum roof slope of 1/4" per foot if positive drainage is provided.

**Roof Framing:** The maximum allowable spacing of the roof framing must be as specified in this evaluation report.

**Roof Deck:** The existing roof deck must be as specified in each assembly listed in this evaluation report. The underside of the roof deck must be examined by the Texas Department of Insurance appointed engineer for corrosion or deterioration. If corrosion exists, then it must be treated with a rust inhibitor. A fastener withdrawal resistance test must be conducted in the corroded or deteriorated area to determine if the withdrawal resistance of the fastener complies with the minimum fastener requirements for the roof covering recover application. If the tested fastener fails to comply, then the deteriorated roof deck must be replaced.

**Fastener Withdrawal Resistance:** The fastener withdrawal resistance must be conducted in accordance with ANSI/SPRI FX-1-2006 and this evaluation report.

Fasteners used for the installation of the roof covering recover to the existing roof deck must be as specified in the Installation Instructions section of this evaluation report. For the withdrawal test, the fasteners must be installed in the existing roof deck as required for the roof covering recover installation. A Texas Department of Insurance appointed engineer must review the data to verify the integrity of the existing roof deck and to compare results of the withdrawal tests with the minimum fastener requirements for the roof covering recover application.

The Texas Department of Insurance appointed engineer must document all test results, including the locations on the roof surface where the tests are performed. A minimum of 10 withdrawal resistance tests are required for a roof area up to 50,000 square feet (a minimum of 50 percent of the tests must be conducted at the perimeter and the corners). Five additional tests are required for each additional 5,000 square feet of roof area or portion thereof (a minimum of 50 percent of the tests must be conducted at the perimeter and the corners). The tests must be located evenly spread across the surface of the roof. At least one withdrawal test must be performed on each roof level if the roof consists of multiple levels.

The withdrawal resistance of each tested fastener must comply with the minimum fastener requirements for the roof covering recover application. If a tested fastener fails to comply, then the Texas Department of Insurance appointed engineer must examine that area for deterioration of the roof deck by removing the existing roof covering in that area. If that area of the roof deck has deteriorated, then the deteriorated roof deck must be replaced.

**Existing Roof Covering Preparation:** The existing roof covering must be prepared to receive the roof covering recover as specified in the Firestone installation instructions.

- The existing roof covering surface must be dry and free of dirt and debris.
- If the existing roof covering is gravel surfaced, then the loose gravel must be completely removed. The surface of the existing roof covering must be relatively smooth.
- If the existing roof covering has blisters, buckles, ridges, folds, or other deformations, then they must be removed and the surface patched to provide a smooth surface.
- If the existing roof covering has loose fasteners, then the existing membrane must be cut open, the loose fasteners removed, and the surface patched to provide a smooth surface.

**Roof Covering Recover Installation:** Installation of the roof covering recover must be specified in the Installation Instructions section of this evaluation report.

**General installation Requirements:**

All International Residential Code (IRC) and the International Building Code (IBC) requirements must be satisfied and manufacturer's installation instructions followed, unless otherwise specified by this product evaluation.

**Membrane Attachment:** The membrane must be mechanically attached to the roof deck through the insulation board using the fasteners and plates specified in this evaluation report. The fasteners must be placed through the fastening tabs unless otherwise noted in this evaluation report. Also, the membrane must be fully adhered using the adhesives specified in this evaluation report. The following two lap types are used:

**Standard Lap:** The standard lap consists of placing the fasteners in the 3" or 6" wide preformed tab. The fastener placement must be through the centerline of the tab in the 3 inch wide tab. However, for the 6" wide tab, the fastener placement must be 2/3 the distance from the factory heat weld.

**Fasteners:** Fasteners must be of sufficient length to penetrate into and through the steel deck a minimum of 1/2" or 3/4" or the plywood deck or fully penetrate into the wood boards.

**Installation:** Installation must be in accordance with the following assemblies:

**Limitations and Installation:**

TABLE 1: FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (TEAR-OFF) WOOD DECK, (OPTIONAL) INSULATION, MECHANICALLY ATTACHED ROOF COVER						
Assembly No.	Substrate	Slip Sheet/Thermal Barrier	Insulation Layer(s)		Roof Cover	
			Type	Attachment	Membrane	Fasteners
1	Nominal 5/8" Type B-C APA Rated plywood at max. 24" spans	(Optional) Any UL Classified slip sheet or slip sheet for fire resistance considerations	(Optional) Any thickness ISOGARD HD, RESISTA, ISOGARD HD Composite, ISO 95+ GL	Preliminarily fastened	UltraPly TPO (45-mil)	Firestone Heavy-Duty Fasteners and Firestone HD Seam Plates (2-3/8" diameter x 0.0376" thick)
2			(Optional) Any thickness GenFlex HD ISO, Coated Glass Facer, GenFlex HD Composite ISO or GenFlex ISO Insulation	Preliminarily fastened	GenFlex EZ TPO (45-mil)	GenFlex Heavy Duty Fasteners with GenFlex HD Seam Plates (2-3/8" diameter x 0.0376" thick)
<b>Note:</b>		Min. 6" wide side laps are sealed with a 1.5" wide heat weld. Center rows are stripped in with 6" wide strips of UltraPly TPO or GenFlex EZ TPO with min. 1.5" heat weld on all sides. Use fasteners long enough for minimum 1/2" penetration through the underside of the plywood deck.				
<b>Roof Cover Attachment</b>						
<b>Design Pressure (psf)</b>			<b>In-Lap Attach</b>		<b>Center Row(s) Attach</b>	
			<b>Max. Fastener Spacing (inch)</b>	<b>Max. Lap Row Spacing (inch)</b>	<b>Max. Fastener Spacing (inch)</b>	<b>Min. # of Rows</b>
0 < P ≤ -52.5			6	72	N/A	N/A

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (TEAR-OFF) WOOD DECK, (OPTIONAL) INSULATION, MECHANICALLY ATTACHED ROOF COVER						
Assembly No.	Substrate	Slip Sheet/Thermal Barrier	Insulation Layer(s)		Roof Cover	
			Type	Attachment	Membrane	Fasteners
3	Min. 19/32" plywood	(Optional) Any UL Classified slip sheet or slip sheet for fire resistance considerations	(Optional) Any thickness ISOGARD HD, RESISTA, ISOGARD HD Composite, ISO 95+ GL	Preliminarily fastened	UltraPly TPO (45-mil)	Firestone Heavy-Duty Fasteners and Firestone HD Seam Plates (2-3/8" diameter x 0.0376" thick)
4			(Optional) Any thickness GenFlex HD ISO, Coated Glass Facer, GenFlex HD Composite ISO or GenFlex ISO Insulation	Preliminarily fastened	GenFlex EZ TPO (45-mil)	GenFlex Heavy Duty Fasteners with GenFlex HD Seam Plates (2-3/8" diameter x 0.0376" thick)
<b>Note:</b>		Min. 5.5" wide side laps are sealed with a continuous 5" wide heat weld, encapsulating the fasteners within the weld. Center rows are stripped in with 6" wide strips of UltraPly TPO or GenFlex EZ TPO with min. 1.5" heat weld on all sides. Use fasteners long enough for minimum 1/2" penetration through the underside of the plywood deck.				
<b>Design Pressure (psf)</b>		<b>Roof Cover Attachment</b>				
		<b>In-Lap Attach</b>			<b>Center Row(s) Attach</b>	
		<b>Max. Fastener Spacing (inch)</b>	<b>Max. Lap Row Spacing (inch)</b>	<b>Max. Fastener Spacing (inch)</b>	<b>Min. # of Rows</b>	
0 < P ≤ -60		6	90.5	N/A	N/A	

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION, REROOF (TEAR-OFF) or RECOVER STEEL DECK, INSULATION, MECHANICALLY ATTACHED ROOF COVER					
Assembly No.	Substrate	Insulation Layer(s)		Roof Cover	
		Type	Attachment	Membrane	Fasteners
5	Min. 22 ga., Type B, Grade 33 steel at max 6' spans	0.5" to 4" ISO 95+ GL, 1" to 4" RESISTA or 2" to 4" ISOGARD HD Composite followed by an optional top insulation layer of 0.5" ISOGARD HD, 0.25" to 0.625" DensDeck, SECUROCK Glass-Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board	Preliminarily fastened	UltraPly TPO (60-mil)	2" long Firestone Heavy-Duty Fasteners and Firestone HD Seam Plates (2-3/8" diameter x 0.0376" thick)
6		0.5" to 4" GenFlex ISO Insulation, 1" to 4" Coated Glass Facer or 2" to 4" GenFlex HD Composite ISO followed by an optional top insulation layer of 0.5" GenFlex HD ISO, 0.25" to 0.625" DensDeck, SECUROCK Glass-Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board	Preliminarily fastened	GenFlex EZ TPO (60-mil)	2" long GenFlex Heavy Duty Fasteners with GenFlex HD Seam Plates (2-3/8" diameter x 0.0376" thick)
<b>Note:</b>		Min. 6.0" wide side laps are sealed with a continuous 1.5" wide heat weld, encapsulating the fasteners within the weld.			
<b>Design Pressure (psf)</b>		<b>Roof Cover Attachment</b>			
		<b>In-Lap Attach</b>		<b>Center Row(s) Attach</b>	
		<b>Max. Fastener Spacing (inch)</b>	<b>Max. Lap Row Spacing (inch)</b>	<b>Max. Fastener Spacing (inch)</b>	<b>Min. # of Rows</b>
0 < P ≤ -60		6	114	N/A	N/A

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION, REROOF (TEAR-OFF) or RECOVER LIGHTWEIGHT CONCRETE DECK, INSULATION, MECHANICALLY ATTACHED ROOF COVER							
Assembly No.	Substrate	Lightweight Concrete	Existing Roof	Insulation Layer(s)		Roof Cover	
				Type	Attachment	Membrane	Fasteners
7	Min. 22 ga., Type B, Grade 33 steel at max 5' spans	Min. 1/4" slurry coat of min. 200 psi, Elastizell Cellular Lightweight Concrete followed by 1" EPS board and a 2" top coat	SBS modified roofing	Min. 0.5" ISO 95+ GL	Preliminarily fastened	UltraPly TPO (45-mil)	Firestone Heavy-Duty Fasteners and Firestone HD Seam Plates (2-3/8" diameter x 0.0376" thick)
8				Min. 0.5" GenFlex ISO Insulation	Preliminarily fastened	GenFlex EZ TPO (45-mil)	GenFlex Heavy Duty Fasteners with GenFlex HD Seam Plates (2-3/8" diameter x 0.0376" thick)
<b>Note:</b>			Min. 6.0" wide side laps are sealed with a continuous 1.5" wide heat weld.				
<b>Design Pressure (psf)</b>			<b>Roof Cover Attachment</b>				
			<b>In-Lap Attach</b>			<b>Center Row(s) Attach</b>	
			<b>Max. Fastener Spacing (inch)</b>	<b>Max. Lap Row Spacing (inch)</b>	<b>Max. Fastener Spacing (inch)</b>	<b>Min. # of Rows</b>	
			0 < P ≤ -45	6	114	N/A	N/A

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (TEAR-OFF) WOOD DECK, (OPTIONAL) BASE INSULATION, TOP INSULATION, MECHANICALLY ATTACHED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attachment	Type	Attachment	Membrane	Fasteners
9	Nominal 15/32" No. 2 Type APA Rated plywood at max. 24" spans	(Optional) Min. 1" ISO 95+ GL or RESISTA	Loose-laid	Min. 0.25" DensDeck, SECUROCK Glass Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board, 1" RESISTA, 0.5" ISOGARD HD or 1.5" ISOGARD HD Composite	Preliminarily fastened	UltraPly TPO (60-mil) or UltraPly TPO (80-mil)	Firestone Heavy-Duty Fasteners with Firestone HD Seam Plates (3" diameter x 0.0376" thick)
10		(Optional) Min. 1" GenFlex ISO Insulation or Coated Glass Facer		Min. 0.25" DensDeck, SECUROCK Glass Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board, 1" Coated Glass Facer, 0.5" GenFlex HD ISO or 1.5" GenFlex HD Composite ISO	Preliminarily fastened	GenFlex EZ TPO (60-mil) or GenFlex EZ TPO (80-mil)	GenFlex Heavy Duty Fasteners with GenFlex HD Seam Plates (3" diameter x 0.0376"thick)
<b>Note:</b>			Min. 6" wide side laps are sealed with a continuous 1.5" wide heat weld. Use fasteners long enough for minimum 3/4" penetration through the underside of the plywood deck.				
<b>Design Pressure (psf)</b>			<b>Roof Cover Attachment</b>				
			<b>In-Lap Attach</b>			<b>Center Row(s) Attach</b>	
			<b>Max. Fastener Spacing (inch)</b>	<b>Max. Lap Row Spacing (inch)</b>	<b>Max. Fastener Spacing (inch)</b>	<b>Min. # of Rows</b>	
0 < P ≤ -45			5	114	N/A	N/A	

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (TEAR-OFF) WOOD DECK, (OPTIONAL) BASE INSULATION, TOP INSULATION, MECHANICALLY ATTACHED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attachment	Type	Attachment	Membrane	Fasteners
11	Nominal 7/16" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 1" ISO 95+ GL or RESISTA	Loose-laid	Min. 0.25" DensDeck, SECUROCK Glass-Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board	Preliminarily fastened	UltraPly TPO (45-mil)	Firestone Heavy-Duty Fasteners with Firestone HD Seam Plates (2" diameter x 0.0376" thick)
12		(Optional) Min. 1" GenFlex ISO Insulation or Coated Glass Facer			Preliminarily fastened	GenFlex EZ TPO (45-mil)	GenFlex Heavy Duty Fasteners with GenFlex HD Seam Plates (2" diameter x 0.0376" thick)
<b>Note:</b>			Min. 6" wide side laps are sealed with a continuous 1.5" wide heat weld. Use fasteners long enough for minimum 3/4" penetration through the underside of the plywood deck.				
<b>Design Pressure (psf)</b>		<b>Roof Cover Attachment</b>					
		<b>In-Lap Attach</b>			<b>Center Row(s) Attach</b>		
		<b>Max. Fastener Spacing (inch)</b>	<b>Max. Lap Row Spacing (inch)</b>	<b>Max. Fastener Spacing (inch)</b>	<b>Min. # of Rows</b>		
$0 < P \leq -45$		6	42	N/A		N/A	

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (TEAR-OFF) WOOD DECK, (OPTIONAL) BASE INSULATION, TOP INSULATION, MECHANICALLY ATTACHED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attachment	Type	Attachment	Membrane	Fasteners
13	Nominal 19/32" No. 2 Type APA Rated plywood at max. 24" spans	(Optional) Min. 1" ISO 95+ GL or RESISTA	Loose-laid	Min. 0.25" DensDeck, SECUROCK Glass-Mat	Preliminarily fastened	UltraPly TPO (45-mil)	Firestone Heavy-Duty Fasteners with Firestone HD Seam Plates (2" diameter x 0.0376" thick)
14		(Optional) Min. 1" GenFlex ISO Insulation or Coated Glass Facer		Roof Board or SECUROCK Gypsum-Fiber Roof Board	Preliminarily fastened	GenFlex EZ TPO (45-mil)	GenFlex Heavy Duty Fasteners with GenFlex HD Seam Plates (2" diameter x 0.0376" thick)
<b>Note:</b>			Min. 6" wide side laps are sealed with a continuous 1.5" wide heat weld. Use fasteners long enough for minimum 3/4" penetration through the underside of the plywood deck.				
<b>Design Pressure (psf)</b>			<b>Roof Cover Attachment</b>				
			<b>In-Lap Attach</b>			<b>Center Row(s) Attach</b>	
			<b>Max. Fastener Spacing (inch)</b>	<b>Max. Lap Row Spacing (inch)</b>	<b>Max. Fastener Spacing (inch)</b>	<b>Min. # of Rows</b>	
0 < P ≤ -45			24	42	N/A	N/A	

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (TEAR-OFF) WOOD DECK, (OPTIONAL) BASE INSULATION, TOP INSULATION, MECHANICALLY ATTACHED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attachment	Type	Attachment	Membrane	Fasteners
15	Nominal 19/32" No. 2 Type APA Rated OSB at max. 24" spans	(Optional) Min. 1" ISO 95+ GL or RESISTA	Loose-laid	Min. 0.25" DensDeck, SECUROCK Glass-Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board	Preliminarily fastened	UltraPly TPO (45-mil)	Firestone Heavy-Duty Fasteners with Firestone HD Seam Plates (2" diameter x 0.0376" thick)
16		(Optional) Min. 1" GenFlex ISO Insulation or Coated Glass Facer			Preliminarily fastened		
<b>Note:</b>			Min. 6" wide side laps are sealed with a continuous 1.5" wide heat weld. Use fasteners long enough for minimum 3/4" penetration through the underside of the plywood deck.				
<b>Design Pressure (psf)</b>			<b>Roof Cover Attachment</b>				
			<b>In-Lap Attach</b>			<b>Center Row(s) Attach</b>	
			<b>Max. Fastener Spacing (inch)</b>	<b>Max. Lap Row Spacing (inch)</b>	<b>Max. Fastener Spacing (inch)</b>	<b>Min. # of Rows</b>	
0 < P ≤ -45			18	42	N/A	N/A	

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (TEAR-OFF) WOOD DECK, (OPTIONAL) BASE INSULATION, TOP INSULATION, MECHANICALLY ATTACHED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attachment	Type	Attachment	Membrane	Fasteners
17	Nominal 7/16" No. 2 Type APA Rated plywood at max. 24" spans	(Optional) Any polyiso insulation layer of any combination	Loose-laid	Min. 0.25" DensDeck or SECUROCK Gypsum-Fiber Roof Board, 1" ISO 95+ GL or RESISTA, 0.5" ISOGARD HD or 1.5" ISOGARD HD Composite	Preliminarily fastened	UltraPly TPO (45-mil)	Firestone Heavy Duty Fasteners and Firestone UltraPly TPO InvisiWeld Plates (2" diameter x 0.017" to 0.023" thick), heat-welded to stress plates using InvisiWeld Tool
18				Min. 0.25" DensDeck or SECUROCK Gypsum-Fiber Roof Board, 1" GenFlex ISO Insulation or Coated Glass Facer, 0.5" GenFlex HD ISO or 1.5" GenFlex HD Composite ISO	Preliminarily fastened	GenFlex EZ TPO (45-mil)	GenFlex Heavy Duty Fasteners and EZ TPO InvisiWeld Plates (2" diameter x 0.017" to 0.023" thick), heat-welded to stress plates using InvisiWeld Tool
<b>Note:</b>			Min. 2" wide side laps are sealed with a continuous 1.5" wide heat weld. Use fasteners long enough for minimum 3/4" penetration through the underside of the plywood deck.				
<b>Design Pressure (psf)</b>			<b>Roof Cover Attachment</b>				
			<b>In-Lap Attach</b>			<b>Center Row(s) Attach</b>	
			<b>Max. Fastener Spacing (inch)</b>	<b>Max. Lap Row Spacing (inch)</b>	<b>Max. Fastener Spacing (inch)</b>	<b>Min. # of Rows</b>	
0 < P ≤ -75			6	96	N/A	N/A	

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (TEAR-OFF) STEEL DECK, (OPTIONAL) BASE INSULATION, TOP INSULATION, MECHANICALLY ATTACHED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attachment	Type	Attachment	Membrane	Fasteners
19	Min. 22 ga., Type B, Grade 33 steel at max 6' spans	(Optional) Any polyiso insulation layer of any combination	Loose-laid	Min. 0.5" ISOGARD HD, 1" ISO 95+ GL or RESISTA, 0.25" DensDeck or SECUROCK Glass-Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board or 1.5" ISOGARD HD Composite	Preliminarily fastened	UltraPly TPO (45-mil)	Firestone Heavy-Duty Plus Fasteners with Firestone HD Plus Seam Plates (2-3/8" diameter x 0.0376" thick)
20				Min. 0.5" GenFlex HD ISO, 1" GenFlex ISO Insulation or Coated Glass Facer, 0.25" DensDeck or SECUROCK Glass- Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board or 1.5" GenFlex HD Composite ISO	Preliminarily fastened	GenFlex EZ TPO (45-mil)	GenFlex Heavy Duty Plus Fasteners with GenFlex HD Plus Seam Plates (2- 3/8" diameter x 0.0376"thick)
<b>Note:</b>		<b>Min. 6" wide side laps are sealed with a continuous 1.5" wide heat weld.</b>					
<b>Design Pressure (psf)</b>		<b>Roof Cover Attachment</b>					
		<b>In-Lap Attach</b>			<b>Center Row(s) Attach</b>		
		<b>Max. Fastener Spacing (inch)</b>	<b>Max. Lap Row Spacing (inch)</b>	<b>Max. Fastener Spacing (inch)</b>	<b>Min. # of Rows</b>		
0 < P ≤ -45		12	90	N/A	N/A		
45 < P ≤ -67.5		6	114	N/A	N/A		

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (TEAR-OFF) STEEL DECK, BASE INSULATION, TOP INSULATION, MECHANICALLY ATTACHED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attachment	Type	Attachment	Membrane	Fasteners
21	Min. 22 ga., Type B, Grade 33 steel at max 6' spans	Min. 1" ISO 95+ GL or RESISTA	Loose-laid	Min. 0.25" DensDeck, SECUROCK Glass Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board, 1" RESISTA and 1.5" ISO 95+ GL or ISOGARD HD Composite	Preliminarily fastened	UltraPly TPO (60-mil) or UltraPly TPO (80-mil)	Firestone Heavy-Duty Plus Fasteners with Firestone HD Plus Seam Plates (3" diameter x 0.0376" thick)
22		Min. 1" GenFlex ISO Insulation or Coated Glass Facer	Loose-laid	Min. 0.25" DensDeck, SECUROCK Glass Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board, 1" Coated Glass Facer and 1.5" GenFlex ISO Insulation or GenFlex HD Composite ISO	Preliminarily fastened	GenFlex EZ TPO (60-mil) or GenFlex EZ TPO (80-mil)	GenFlex Heavy Duty Plus Fasteners with GenFlex HD Plus Seam Plates (3" diameter x 0.0376"thick)
<b>Note:</b>			Min. 6" wide side laps are sealed with a continuous 1.5" wide heat weld. Use fasteners long enough for minimum ¾" penetration through the underside of the steel deck.				
<b>Design Pressure (psf)</b>		<b>Roof Cover Attachment</b>					
		<b>In-Lap Attach</b>			<b>Center Row(s) Attach</b>		
		<b>Max. Fastener Spacing (inch)</b>	<b>Max. Lap Row Spacing (inch)</b>	<b>Max. Fastener Spacing (inch)</b>	<b>Min. # of Rows</b>		
0 < P ≤ -67.5		6	114	N/A	N/A		

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (TEAR-OFF) STEEL DECK, BASE INSULATION, TOP INSULATION, MECHANICALLY ATTACHED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attachment	Type	Attachment	Membrane	Fasteners
23	Min. 22 ga., Type B, Grade 33 steel at max 6 ft spans	Min. 1" ISO 95+ GL or RESISTA	Loose-laid	Min. 0.25" DensDeck, SECUROCK Glass Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board, 0.5" ISOGARD HD, 1" RESISTA and 1.5" ISO 95+ GL or 2" ISOGARD HD Composite	Preliminarily fastened	UltraPly TPO (60-mil) or UltraPly TPO (80-mil)	Firestone Heavy-Duty Plus Fasteners with Firestone HD Plus Seam Plates (3" diameter x 0.0376" thick)
24		Min. 1" GenFlex ISO Insulation or Coated Glass Facer	Loose-laid	Min. 0.25" DensDeck, SECUROCK Glass Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board, 0.5" GenFlex HD ISO, 1" Coated Glass Facer and 1.5" GenFlex ISO Insulation or 2" GenFlex HD Composite ISO	Preliminarily fastened	GenFlex EZ TPO (60-mil) or GenFlex EZ TPO (80-mil)	GenFlex Heavy Duty Plus Fasteners with GenFlex HD Plus Seam Plates (3" diameter x 0.0376" thick)
<b>Note:</b>			Min. 6" wide side laps are sealed with a continuous 1.5" wide heat weld. Use fasteners long enough for minimum ¼" penetration through the underside of the steel deck.				
<b>Design Pressure (psf)</b>			<b>Roof Cover Attachment</b>				
			<b>In-Lap Attach</b>			<b>Center Row(s) Attach</b>	
			<b>Max. Fastener Spacing (inch)</b>	<b>Max. Lap Row Spacing (inch)</b>	<b>Max. Fastener Spacing (inch)</b>	<b>Min. # of Rows</b>	
0 < P ≤ -52.5			6	114	N/A	N/A	

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (TEAR-OFF) STEEL DECK, BASE INSULATION, (OPTIONAL) TOP INSULATION, MECHANICALLY ATTACHED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attachment	Type	Attachment	Membrane	Fasteners
25	Min. 22 ga., Type B, Grade 33 steel at max 6 ft spans	Min. 0.5" ISO 95+ GL or RESISTA or 1.5" ISOGARD HD Composite	Loose-laid	(Optional) Min. 0.25" DensDeck or SECUROCK Gypsum-Fiber Roof Board or 0.5" ISOGARD HD	Preliminarily fastened	UltraPly TPO (45-mil)	Firestone Heavy-Duty Plus Fasteners with Firestone HD Plus Seam Plates (3" diameter x 0.0376" thick)
26		Min. 0.5" GenFlex ISO Insulation or Coated Glass Facer or 1.5" GenFlex HD Composite ISO	Loose-laid	(Optional) Min. 0.25" DensDeck or SECUROCK Gypsum-Fiber Roof Board or 0.5" GenFlex HD ISO	Preliminarily fastened	GenFlex EZ TPO (45-mil)	GenFlex Heavy Duty Plus Fasteners with GenFlex HD Plus Seam Plates (3" diameter x 0.0376" thick)
<b>Note:</b>			Min. 6" wide side laps are sealed with a continuous 1.5" wide heat weld.				
<b>Design Pressure (psf)</b>		<b>Roof Cover Attachment</b>					
		<b>In-Lap Attach</b>			<b>Center Row(s) Attach</b>		
		<b>Max. Fastener Spacing (inch)</b>	<b>Max. Lap Row Spacing (inch)</b>	<b>Max. Fastener Spacing (inch)</b>	<b>Min. # of Rows</b>		
0 < P ≤ -52.5		6	90	N/A	N/A		

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (TEAR-OFF) STEEL DECK, BASE INSULATION, (OPTIONAL) TOP INSULATION, MECHANICALLY ATTACHED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attachment	Type	Attachment	Membrane	Fasteners
27	Min. 22 ga., Type B, Grade 33 steel at max 6 ft spans	Min. 0.5" ISO 95+ GL or RESISTA or 1.5" ISOGARD HD Composite	Loose-laid	(Optional) Min. 0.25" DensDeck or SECUROCK Gypsum-Fiber Roof Board or 0.5" ISOGARD HD	Preliminarily fastened	UltraPly TPO (45-mil)	Firestone Heavy-Duty Fasteners with Firestone HD Seam Plates (3" diameter x 0.0376" thick)
28		Min. 0.5" GenFlex ISO Insulation or Coated Glass Facer or 1.5" GenFlex HD Composite ISO	Loose-laid	(Optional) Min. 0.25" DensDeck or SECUROCK Gypsum-Fiber Roof Board or 0.5" GenFlex HD ISO	Preliminarily fastened	GenFlex EZ TPO (45- mil)	GenFlex Heavy Duty Fasteners with GenFlex HD Seam Plates (3" diameter x 0.0376"thick)
<b>Note:</b>		Min. 7" wide side laps are sealed with a continuous 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Roof Cover Attachment</b>					
		<b>In-Lap Attach</b>			<b>Center Row(s) Attach</b>		
		<b>Max. Fastener Spacing (inch)</b>	<b>Max. Lap Row Spacing (inch)</b>	<b>Max. Fastener Spacing (inch)</b>	<b>Min. # of Rows</b>		
0 < P ≤ -60		6	89	N/A	N/A		

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off)									
STEEL DECK, LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, MECHANICALLY ATTACHED ROOF COVER									
Assembly No.	Substrate	Vapor Barrier		Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach	Type	Attach
29	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	V-Force Vapor Barrier Membrane, 3" wide side laps	Self-adhered	Min. 1.5" ISO 95+ GL or (optional) any polyiso insulation layer of any combination	Loose-Laid	Min. 0.5" ISO 95+ GL, RESISTA or ISOGARD HD Composite	Firestone Insulation Fastening Plates with Heavy Duty Fasteners	UltraPly TPO (45-mil)	Firestone Heavy-Duty Fasteners with Firestone HD Seam Plates (2-3/8" diameter x 0.0376" thick)
30				Min. 1.5" GenFlex ISO Insulation or (optional) any polyiso insulation layer of any combination	Loose-Laid	Min. 0.5" GenFlex ISO Insulation, Coated Glass Facer or GenFlex HD Composite ISO	GenFast 3" Round Insulation Plates with GenFlex Heavy Duty Fasteners	GenFlex EZ TPO (45-mil)	GenFlex Heavy Duty Fasteners with GenFlex HD Seam Plates (2-3/8" diameter x 0.0376"thick)
<b>Note:</b>		Membrane is laid over substrate; 6" wide side laps sealed with a 1.5" wide heat weld. Attached in-lap 12" o.c., side laps spaced 142" o.c.							
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>							
		<b>Density (ft<sup>2</sup> / fastener)</b>				<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -52.5		5.33				3		6	

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, (OPTIONAL) LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, MECHANICALLY ATTACHED ROOF COVER									
Assembly No.	Substrate	Vapor Barrier		Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach	Type	Attach
31	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	V-Force Vapor Barrier Membrane, 3" wide side laps	Self-adhered	(Optional) Any polyiso insulation layer of any combination	Loose-Laid	Min. 0.5" ISO 95+ GL, RESISTA or ISOGARD HD Composite	Firestone Insulation Fastening Plates with Heavy Duty Fasteners	UltraPly TPO (45-mil)	Firestone Heavy-Duty Fasteners and Firestone HD Seam Plates (2-3/8" diameter x 0.0376" thick)
32						Min. 0.5" GenFlex ISO Insulation, Coated Glass Facer or GenFlex HD Composite ISO	GenFast 3" Round Insulation Plates with GenFlex Heavy Duty Fasteners		GenFlex EZ TPO (45-mil)
<b>Note:</b>		Membrane is laid over substrate; 6" wide side laps sealed with a 1.5" wide heat weld. Attached in-lap 12" o.c., side laps spaced 114" o.c.							
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>							
		<b>Density (ft<sup>2</sup> / fastener)</b>				<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		8.0				2		4	

**Limitations and Installation (cont.):**

<b>TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off)</b> <b>STEEL DECK, (OPTIONAL) LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, MECHANICALLY ATTACHED ROOF COVER</b>										
Assembly No.	Substrate	Thermal Barrier	Vapor Barrier		Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Type	Attach	Type	Attach	Type	Attach	Type	Attach
33	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	Min. 0.25" SECUROCK Gypsum-Fiber Roof Board, loose-laid	V-Force Vapor Barrier Membrane, 3" wide side laps	Self-adhered	(Optional) Any polyiso insulation layer of any combination	Loose-Laid	Min. 3" ISO 95+ GL or RESISTA	Firestone Insulation Fastening Plates with Heavy Duty Fasteners	UltraPly TPO (45-mil)	Firestone Heavy-Duty Fasteners and Firestone HD Seam Plates (2-3/8" diameter x 0.0376" thick)
34							Min. 3" GenFlex ISO Insulation or Coated Glass Facer	GenFast 3" Round Insulation Plates with GenFlex Heavy Duty Fasteners	GenFlex EZ TPO (45-mil)	GenFlex Heavy Duty Fasteners with GenFlex HD Seam Plates (2-3/8" diameter x 0.0376" thick)
<b>Note:</b>		Membrane is laid over substrate; 6" wide side laps sealed with a 1.5" wide heat weld. Attached in-lap 12" o.c., side laps spaced 114" o.c.								
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>								
		<b>Density (ft<sup>2</sup> / fastener)</b>			<b>Parts per 4 x 4' board</b>			<b>Parts per 4 x 8' board</b>		
0 < P ≤ -52.5		4.0			4			8		

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, (OPTIONAL) LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, MECHANICALLY ATTACHED ROOF COVER									
Assembly No.	Substrate	Vapor Barrier		Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach	Type	Attach
35	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	V-Force Vapor Barrier Membrane, 3" wide side laps	Self-adhered	(Optional) Any polyiso insulation layer of any combination	Loose-Laid	Min. 3" ISO 95+ GL, RESISTA or ISO GARD HD Composite	Firestone Insulation Fastening Plates with Heavy Duty Fasteners	UltraPly TPO (45-mil)	Firestone Heavy-Duty Fasteners and Firestone HD Seam Plates (2-3/8" diameter x 0.0376" thick)
36						Min. 3" GenFlex ISO Insulation, Coated Glass Facer or GenFlex HD Composite ISO	GenFast 3" Round Insulation Plates with GenFlex Heavy Duty Fasteners		GenFlex EZ TPO (45-mil)
<b>Note:</b>		Membrane is laid over substrate; 6" wide side laps sealed with a 1.5" wide heat weld. Attached in-lap 12" o.c., side laps spaced 114" o.c.							
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>							
		<b>Density (ft<sup>2</sup> / fastener)</b>				<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		4.0				4		8	

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, (OPTIONAL) LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, MECHANICALLY ATTACHED ROOF COVER									
Assembly No.	Substrate	Vapor Barrier		Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach	Type	Attach
37	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	Two layers of V-Force Vapor Barrier Membrane, 3" wide side laps	Self-adhered	(Optional) Any polyiso insulation layer of any combination	Loose-Laid	Min. 3" ISO 95+ GL, RESISTA or ISOGARD HD Composite	Firestone Insulation Fastening Plates with Heavy Duty Fasteners	UltraPly TPO (45-mil)	Firestone Heavy-Duty Fasteners and Firestone HD Seam Plates (2-3/8" diameter x 0.0376" thick)
38						Min. 3" GenFlex ISO Insulation, Coated Glass Facer or GenFlex HD Composite ISO	GenFast 3" Round Insulation Plates with GenFlex Heavy Duty Fasteners		GenFlex EZ TPO (45-mil)
<b>Note:</b>		Membrane is laid over substrate; 6" wide side laps sealed with a 1.5" wide heat weld. Attached in-lap 12" o.c., side laps spaced 142" o.c.							
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>							
		<b>Density (ft<sup>2</sup> / fastener)</b>				<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -82.5		5.33				3		6	

**Limitations and Installation (cont.):**

TABLE 1 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, MECHANICALLY ATTACHED INSULATION, MECHANICALLY ATTACHED ROOF COVER								
Assembly No.	Substrate	Thermal Barrier	Vapor Barrier		Insulation Layer (s)		Roof Cover	
		Type	Type	Attach	Type	Attach	Type	Attach
39	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	0.25" DensDeck Prime, loose-laid	V-Force Vapor Barrier Membrane, 3" wide side laps	Self-adhered	Min. 2" ISO 95+ GL or RESISTA	Insulation layer mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	Firestone Heavy-Duty Fasteners and Firestone HD Seam Plates (2-3/8" diameter x 0.0376" thick)
40					Min. 2" GenFlex ISO Insulation or Coated Glass Facer	Insulation layer mechanically fastened with GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil)	GenFlex Heavy Duty Fasteners with GenFlex HD Seam Plates (2-3/8" diameter x 0.0376" thick)
<b>Note:</b>		Membrane is laid over substrate; 6" wide side laps sealed with a 1.5" wide heat weld. Attached in-lap 12" o.c., side laps spaced 114" o.c.						
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>						
		<b>Density (ft<sup>2</sup> / fastener)</b>			<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		4.0			4		8	

**Limitations and Installation (cont.):**

TABLE 2: FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (TEAR-OFF) WOOD DECK, (OPTIONAL) INSULATION, PLATE-BONDED ROOF COVER						
Assembly No.	Substrate	Slip Sheet/Thermal Barrier	Base Insulation Layer (s)		Roof Cover	
			Type	Attachment	Membrane	Fasteners
41	Nominal 5/8" Type B-C APA Rated plywood at max. 24-inch spans	(Optional) Any UL Classified slip sheet or slip sheet for fire resistance considerations	(Optional) 0.5" ISOGARD HD or any thickness RESISTA, ISOGARD HD Composite, ISO 95+ GL	Firestone Heavy Duty Fasteners and Firestone UltraPly TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	Heat-welded to stress plates using InvisiWeld Tool
42			(Optional) 0.5" GenFlex HD ISO or any thickness Coated Glass Facer, GenFlex HD Composite ISO or GenFlex ISO Insulation	GenFlex Heavy Duty Fasteners and EZ TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil)	Heat-welded to stress plates using InvisiWeld Tool
<b>Note:</b>		Membrane is laid over substrate; side laps sealed with a 1.5" wide heat weld. Use fasteners long enough for minimum 1/2" penetration through the underside of the plywood deck.				
<b>Design Pressure (psf)</b>		<b>Roof Cover Attachment</b>				
		<b>Max. Fastener Spacing (inch o.c.)</b>			<b>Max. Row Spacing (inch o.c.)</b>	
0 < P ≤ -45		6			72	

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, LOOSE-LAID INSULATION, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER								
Assembly No.	Substrate	Base Insulation Layer (s)		Base Sheet		Roof Cover		Design Pressure (psf)
		Type	Attach	Type	Attach	Type	Attach	
43	Min. 22 ga., Type B, Grade 33 steel	Min. 0.5" ISO 95+ GL or RESISTA	Loose-Laid	MB Base, 2" side lap	Mechanically fastened with min. 2-7/8" long Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO XR 100 or UltraPly TPO XR 115	Hot-asphalt, at a rate of 25-30 lb/sq.	-45
44		Min. 0.5" GenFlex ISO Insulation or Coated Glass Facer			Mechanically fastened with min. 2-7/8" long GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)	Hot-asphalt, at a rate of 25-30 lb/sq.	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (TEAR-OFF) WOOD DECK, (OPTIONAL) INSULATIONS, PLATE-BONDED ROOF COVER						
Assembly No.	Substrate	Slip Sheet/Thermal Barrier	Base Insulation Layer (s)		Roof Cover	
			Type	Attachment	Membrane	Fasteners
45	Nominal 5/8" Type B-C APA Rated plywood at max. 24-inch spans	(Optional) Any UL Classified slip sheet or slip sheet for fire resistance considerations	(Optional) 0.5" ISOGARD HD or any thickness RESISTA, ISOGARD HD Composite, ISO 95+ GL	Firestone Heavy Duty Fasteners and Firestone UltraPly TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	Heat-welded to stress plates using InvisiWeld Tool
46			(Optional) 0.5" GenFlex HD ISO or any thickness Coated Glass Facer, GenFlex HD Composite ISO or GenFlex ISO Insulation	GenFlex Heavy Duty Fasteners and EZ TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil)	Heat-welded to stress plates using InvisiWeld Tool
<b>Note:</b>		Membrane is laid over substrate; side laps sealed with a 1.5" wide heat weld. Use fasteners long enough for minimum 1/2" penetration through the underside of the plywood deck.				
<b>Design Pressure (psf)</b>		<b>Roof Cover Attachment</b>				
		<b>Max. Fastener Spacing (inch o.c.)</b>			<b>Max. Row Spacing (inch o.c.)</b>	
0 < P ≤ -82.5		6			60	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, (OPTIONAL) MECHANICALLY ATTACHED INSULATION, PLATE-BONDED ROOF COVER					
Assembly No.	Substrate	Insulation Layer(s)		Roof Cover	
		Type	Attach	Membrane	Attach
47	Nominal 15/32" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 1" ISO 95+ GL or RESISTA, loose-laid followed by 0.25" DensDeck, SECUROCK Glass Mat Roof Board, SECUROCK Gypsum-Fiber Roof Board, min. 1" RESISTA, min. 0.5" ISOGARD HD or min. 1.5" ISOGARD HD Composite	Top layer mechanically fastened with Firestone Heavy Duty Fasteners and Firestone UltraPly TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil), UltraPly TPO (60-mil) or UltraPly TPO (80-mil)	Heat-welded to stress plates using InvisiWeld Tool
48		(Optional) Min. 1" GenFlex ISO Insulation or Coated Glass Facer, loose-laid followed by 0.25" DensDeck, SECUROCK Glass Mat Roof Board, SECUROCK Gypsum-Fiber Roof Board, min. 1" Coated Glass Facer, min. 0.5" GenFlex HD ISO or min. 1.5" GenFlex HD Composite ISO	Top layer mechanically fastened with GenFlex Heavy Duty Fasteners and EZ TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil), GenFlex EZ TPO (60-mil) or GenFlex EZ TPO (80-mil)	Heat-welded to stress plates using InvisiWeld Tool
<b>Note:</b>		Membrane is laid over substrate; side laps sealed with a 1.5" wide heat weld. Use fasteners long enough for minimum ¼" penetration through the underside of the plywood deck.			
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>			
		<b>Density (ft<sup>2</sup> / fastener)</b>	<b>Parts per 4 x 4' board</b>	<b>Parts per 4 x 8' board</b>	
0 < P ≤ -52.5		4.0	4	8	
		2.67	6	12	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, (OPTIONAL) LOOSE-LAID BASE INSULATION, MECHANICALLY ATTACHED TOP INSULATION, PLATE-BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
49	Nominal 19/32" No. 2 Type APA Rated OSB at max. 24-inch spans	(Optional) Min. 1" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.25" DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	2" Firestone Heavy Duty Fasteners and Firestone UltraPly TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	Heat-welded to stress plates using InvisiWeld Tool
50		(Optional) Min. 1" GenFlex ISO Insulation or Coated Glass Facer			2" GenFlex Heavy Duty Fasteners and EZ TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil)	Heat-welded to stress plates using InvisiWeld Tool
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		5.33		3		6	
		4.0		4		8	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER STEEL DECK, MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER					
Assembly No.	Substrate	Insulation Layer(s)		Roof Cover	
		Type	Attach	Membrane	Attach
51	Min. 22 ga., Type B, Grade 33 steel at max 6 ft spans	1.5" to 4" ISO 95+ GL	Insulation layer mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil) or UltraPly TPO (60-mil)	UltraPly Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal.
52		1.5" to 4" GenFlex ISO Insulation	Insulation layer mechanically fastened with GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil) or GenFlex EZ TPO (60-mil)	EZ TPO Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal.
<b>Note:</b>		Membrane is laid over substrate; side laps sealed with a 1.5" wide heat weld.			
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>			
		<b>Density (ft<sup>2</sup> / fastener)</b>	<b>Parts per 4 x 4' board</b>	<b>Parts per 4 x 8' board</b>	
0 < P ≤ -60.0		1.78	9	18	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off)					
STEEL DECK, MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER					
Assembly No.	Substrate	Insulation Layer(s)		Roof Cover	
		Type	Attach	Membrane	Attach
53	Min. 22 ga., Type B, Grade 80 steel at max 6 ft spans	Min. 2" ISO 95+ GL, RESISTA, ISOGARD HD, DensDeck Prime and SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with Firestone Heavy-Duty Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO SA (45-mil)	Self-adhered
		Min. 2" ISO 95+ GL, ISOGARD HD and SECUROCK Gypsum-Fiber Roof Board		UltraPly TPO (45-mil)	UltraPly Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal.
54		Min. 2" GenFlex ISO Insulation, Coated Glass Facer, GenFlex HD ISO, DensDeck Prime and SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with GenFlex Heavy Duty Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	EZ TPO Peel and Stick HW (45-mil)	Self-adhered
		Min. 2" GenFlex ISO Insulation, GenFlex HD ISO and SECUROCK Gypsum-Fiber Roof Board		GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal.
<b>Note:</b>		Membrane is laid over substrate; side laps sealed with a 1.5" wide heat weld.			
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>			
		<b>Density (ft<sup>2</sup> / fastener)</b>	<b>Parts per 4 x 4' board</b>	<b>Parts per 4 x 8' board</b>	
0 < P ≤ -90.0		1.0	16	32	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL OR CONCRETE DECK, LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER									
Assembly No.	Substrate	Vapor Barrier		Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach	Type	Attach
55	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans or structural concrete	(Optional) 4-6 mil thick polyethylene air barrier	Min. 2" wide laps sealed with duct tape	Min. 1.5" ISO 95+ GL (Flat or Tapered), RESISTA (Flat or Tapered), ISOGARD HD Composite, ACFoam-II or min. 1.4" ACFoam-II or ISO 95+ GL	Loose-Laid	Min. 0.5" SECUROCK Gypsum Fiber Roof Board	Firestone Insulation Fastening Plates with Firestone All-Purpose Fasteners and AP AccuTrac Kits, IF-L-70x70 Insulation Plates with IsoFast #12 Belted Fasteners and IsoFast #15 Belted Fasteners, Pre-Assembled Heavy-Duty Fasteners with Insulation Plates (steel only) or Firestone Insulation Fastening Plates with Heavy Duty Fasteners and Concrete Drive Fasteners (concrete only)	UltraPly TPO (45-mil) or UltraPly TPO (60-mil)	Firestone Water Based Bonding Adhesive-P at 240 ft <sup>2</sup> /gal or UltraPly Bonding Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 60 ft <sup>2</sup> /gal
		(Optional) Min. ¼" DensDeck followed by self-adhered V-Force Vapor Barrier Membrane over DensDeck primed with V-Force SB Primer	Loose laid						
56	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans or structural concrete	(Optional) 4-6 mil thick polyethylene air barrier	Min. 2" wide laps sealed with duct tape	Min. 1.5" GenFlex ISO Insulation (Flat or Tapered), Coated Glass Facer (Flat or Tapered), GenFlex HD Composite ISO, ACFoam-II or min. 1.4" ACFoam-II or GenFlex ISO Insulation	Loose-Laid	Min. 0.5" SECUROCK Gypsum Fiber Roof Board	GenFast 3" Round Insulation Plates with GenFast AP Fasteners and AP AccuTrack Kits, IF-L-70x70 Insulation Plates with IsoFast #12 Belted Fasteners and IsoFast #15 Belted Fasteners, GenFlex Pre-Assembled Heavy-Duty Fasteners and Insulation Plates (steel only) or GenFast 3" Round Insulation Plates with GenFlex Heavy Duty Fasteners and GenFast Concrete Drive Fasteners (concrete only)	GenFlex EZ TPO (45-mil) or GenFlex EZ TPO (60-mil)	GenFlex Water Based Bonding Adhesive (P) at 240 ft <sup>2</sup> /gal or EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC-1168, at a rate of 60 ft <sup>2</sup> /gal
		(Optional) Min. ¼" DensDeck followed by self-adhered V-Force Vapor Barrier Membrane over DensDeck primed with V-Force SB Primer	Loose laid						
<b>Note:</b>		Membrane is laid over substrate; side laps sealed with a 1.5" wide heat weld.							
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>							
		<b>Density (ft<sup>2</sup> / fastener)</b>				<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		4.0				4		8	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, (OPTIONAL) LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, PLATE-BONDED ROOF COVER									
Assembly No.	Substrate	Vapor Barrier		Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach	Type	Attach
57	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	V-Force Vapor Barrier Membrane	Self-adhered	(Optional) Any polyiso insulation layer of any combination	Loose-Laid	Min. 2.5" ISO 95+ GL, RESISTA or ISOGARD HD Composite	Firestone Heavy Duty Fasteners and Firestone UltraPly TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	Heat- welded to stress plates using InvisiWeld Tool
58						Min. 2.5" GenFlex ISO Insulation, Coated Glass Facer or GenFlex HD Composite ISO	GenFlex Heavy Duty Fasteners and EZ TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)		GenFlex EZ TPO (45-mil)
<b>Note:</b>		Membrane is laid over substrate; 3" side laps sealed with a 1.5" wide heat weld.							
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>							
		<b>Density (ft<sup>2</sup> / fastener)</b>				<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -52.5		4.0				4		8	

**Limitations and Installation (cont.):**

<b>TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off)                      STEEL DECK, (OPTIONAL) LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, PLATE-BONDED ROOF COVER</b>										
Assembly No.	Substrate	Thermal Barrier	Vapor Barrier		Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Type	Attach	Type	Attach	Type	Attach	Type	Attach
59	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	0.25" SECUROCK Gypsum-Fiber Roof Board, loose-laid	V-Force Vapor Barrier Membrane, 3" wide side laps	Self-adhered	(Optional) Any polyiso insulation layer of any combination	Loose-Laid	Min. 2.5" ISO 95+ GL, RESISTA or ISOGARD HD Composite	Firestone Heavy Duty Fasteners and Firestone UltraPly TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	Heat-welded to stress plates using InvisiWeld Tool
60							Min. 2.5" GenFlex ISO Insulation, Coated Glass Facer or GenFlex HD Composite ISO	GenFlex Heavy Duty Fasteners and EZ TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)		GenFlex EZ TPO (45-mil)
<b>Note:</b>		Membrane is laid over substrate; 3" side laps sealed with a 1.5" wide heat weld.								
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>								
		<b>Density (ft<sup>2</sup> / fastener)</b>			<b>Parts per 4 x 4' board</b>			<b>Parts per 4 x 8' board</b>		
0 < P ≤ -52.5		4.0			4			8		

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER STEEL OR CONCRETE DECK, LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
61	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans or structural concrete	Min. 1.5" ISO 95+ GL (Flat or Tapered), RESISTA (Flat or Tapered), ISOGARD HD Composite, ACFoam-II or min. 1.4" ACFoam-II or ISO 95+ GL	Loose-Laid	Min. 0.5" SECUROK Gypsum Fiber Roof Board	Insulation layer mechanically fastened with Firestone Insulation Fastening Plates with Firestone All-Purpose Fasteners and AP AccuTrac Kits, IF-L-70x70 Insulation Plates with IsoFast #12 Belted Fasteners and IsoFast #15 Belted Fasteners, Pre-Assembled Heavy-Duty Fasteners with Insulation Plates (steel only) or Firestone Insulation Fastening Plates with Heavy Duty Fasteners and Concrete Drive Fasteners (concrete only)	UltraPly TPO (45-mil) or UltraPly TPO (60-mil)	Firestone Water Based Bonding Adhesive-P at 240 ft <sup>2</sup> /gal or UltraPly Bonding Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 60 ft <sup>2</sup> /gal
62		Min. 1.5" GenFlex ISO Insulation (Flat or Tapered), Coated Glass Facer (Flat or Tapered), GenFlex HD Composite ISO, ACFoam-II or min. 1.4" ACFoam-II or GenFlex ISO Insulation	Loose-Laid		Insulation layer mechanically fastened with GenFast 3" Round Insulation Plates with GenFast AP Fasteners and AP AccuTrack Kits, IF-L-70x70 Insulation Plates with IsoFast #12 Belted Fasteners and IsoFast #15 Belted Fasteners, GenFlex Pre-Assembled Heavy-Duty Fasteners and Insulation Plates (steel only) or GenFast 3" Round Insulation Plates with GenFlex Heavy Duty Fasteners and GenFast Concrete Drive Fasteners (concrete only)	GenFlex EZ TPO (45-mil) or GenFlex EZ TPO (60-mil)	GenFlex Water Based Bonding Adhesive (P) at 240 ft <sup>2</sup> /gal or EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC-1168, at a rate of 60 ft <sup>2</sup> /gal
<b>Note:</b>		Membrane is laid over substrate; side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -82.5		4.0		4		8	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
63	Min. 22 ga., Type B, Grade 33 steel	Min. 0.5" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.5" DensDeck Prime	Insulation layer mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	UltraPly Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal
64		Min. 0.5" GenFlex ISO Insulation or Coated Glass Facer	Loose-Laid		Insulation layer mechanically fastened with GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		2.67		6		12	

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, LOOSE-LAID INSULATION, (OPTIONAL) MECHANICALLY ATTACHED TOP INSULATION, PLATE-BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
65	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	Min. 0.5" ISO 95+ GL or RESISTA or 1.5" ISOGARD HD Composite	Loose-Laid	(Optional) Min. 0.25" DensDeck or SECUROCK Gypsum-Fiber Roof Board or 0.5" ISOGARD HD	Firestone Heavy Duty Fasteners and Firestone UltraPly TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	Heat-welded to stress plates using InvisiWeld Tool
66		Min. 0.5" GenFlex ISO Insulation or Coated Glass Facer or 1.5" GenFlex HD Composite ISO	Loose-Laid	(Optional) Min. 0.25" DensDeck or SECUROCK Gypsum-Fiber Roof Board or 0.5" GenFlex HD ISO	GenFlex Heavy Duty Fasteners and EZ TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil)	Heat-welded to stress plates using InvisiWeld Tool
<b>Note:</b>		Min. 3.5" wide side laps are sealed with a continuous 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		4.0		4		8	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
67	Min. 22 ga., Type B, Grade 33 steel	Min. 0.5" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.5" SECUROCK Gypsum- Fiber Roof Board	Insulation layer mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	UltraPly Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal
68		Min. 0.5" GenFlex ISO Insulation or Coated Glass Facer	Loose-Laid		Insulation layer mechanically fastened with GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		4.0		4		8	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, (OPTIONAL) LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
69	Nominal 15/32" Type APA Rated plywood at max. 24-inch spans	(Optional) Any polyiso insulation layer of any combination	Loose-Laid	Min. 0.5" SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	UltraPly Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal
70					Insulation layer mechanically fastened with GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -67.5		1.78		9		18	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, (OPTIONAL) LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
71	Nominal 15/32" Type APA Rated plywood at max. 24-inch spans	(Optional) Any polyiso insulation layer of any combination	Loose-Laid	Min. 1.0" RESISTA	Insulation layer mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	UltraPly Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal
72				Min. 1.0" Coated Glass Facer	Insulation layer mechanically fastened with GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		1.6		10		20	

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
73	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	Min. 1" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.25" SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (2-1/4" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	Single-Ply LVOC Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal
74		Min. 1" GenFlex ISO Insulation or Coated Glass Facer			Insulation layer mechanically fastened with GenFast AP Fasteners and GenFast Round Insulation Plates (2-1/4" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive LVOC, at a rate of 45-60 ft <sup>2</sup> /gal
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		1.78		9		18	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
75	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	Min. 2" ISO 95+ GL or RESISTA	Insulation layer mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (2-7/8" diameter x 0.017" to 0.023" thick)	None	N/A	UltraPly TPO (45-mil)	UltraPly Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal
76		Min. 2" GenFlex ISO Insulation or Coated Glass Facer				GenFlex EZ TPO (45- mil)	EZ TPO Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		2.67		6		12	

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, (OPTIONAL) LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, PLATE-BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
77	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	(Optional) Any polyiso insulation layer of any combination	Loose- Laid	Min. 0.5" ISOGARD HD, 1" ISO 95+ GL or RESISTA, 0.25" DensDeck or SECUROCK Glass-Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board or 1.5" ISOGARD HD Composite	Firestone Heavy Duty Fasteners and Firestone UltraPly TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	Heat-welded to stress plates using InvisiWeld Tool
78				Min. 0.5" GenFlex HD ISO, 1" GenFlex ISO Insulation or Coated Glass Facer, 0.25" DensDeck or SECUROCK Glass-Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board or 1.5" GenFlex HD Composite ISO	GenFlex Heavy Duty Fasteners and EZ TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil)	Heat-welded to stress plates using InvisiWeld Tool
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -75.0		2.67		6		12	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
79	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	Min. 0.5" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.5" ISOGARD HD, 1" ISO 95+ GL or RESISTA, 0.25" DensDeck or SECUROCK Glass-Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board or 1.5" ISOGARD HD Composite	Firestone Heavy Duty Fasteners and Firestone UltraPly TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	UltraPly Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal
80		Min. 0.5" GenFlex ISO Insulation or Coated Glass Facer		Min. 0.5" GenFlex HD ISO, 1" GenFlex ISO Insulation or Coated Glass Facer, 0.25" DensDeck or SECUROCK Glass-Mat Roof Board or SECUROCK Gypsum-Fiber Roof Board or 1.5" GenFlex HD Composite ISO	GenFlex Heavy Duty Fasteners and EZ TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -82.5		1.78		9		18	

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
81	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	Min. 0.5" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.5" SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with 2-1/4" Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	Single-Ply LVOC Bonding Adhesive, at a rate of 45-60 gal/sq.
82		Min. 0.5" GenFlex ISO Insulation or Coated Glass Facer			Insulation layer mechanically fastened with 2-1/4" GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive LVOC, at a rate of 45-60 gal/sq.
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -60.0		1.78		9		18	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER					
Assembly No.	Substrate	Insulation Layer		Roof Cover	
		Type	Attach	Type	Attach
83	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	Min. 1.0" RESISTA or min. 0.5" ISO 95+ GL or RESISTA	Insulation layer mechanically fastened with 2-1/4" Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45-mil)	UltraPly Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal
84		Min. 1.0" Coated Glass Facer or min. 0.5" GenFlex ISO Insulation or Coated Glass Facer	Insulation layer mechanically fastened with 2-1/4" GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.			
<b>Design Pressure (psf)</b>		Insulation Attachment			
		Density (ft <sup>2</sup> / fastener)	Parts per 4 x 4' board	Parts per 4 x 8' board	
0 < P ≤ -52.5		1.6	10	20	

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER WOOD DECK, MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER					
Assembly No.	Substrate	Insulation Layer(s)		Roof Cover	
		Type	Attach	Membrane	Attach
85	Min. 15/32" CDX plywood	Min. 1" ISOGARD HD	Insulation layer mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO	UltraPly Bonded Adhesive at a rate of 60-65 gal/sq.
86		Min. 1" GenFlex HD ISO	Insulation layer mechanically fastened with GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO	EZ TPO Bonding Adhesive at a rate of 60-65 ft <sup>2</sup> /gal.
<b>Design Pressure (psf)</b>		Insulation Attachment			
		Density (ft <sup>2</sup> / fastener)	Parts per 4 x 4' board	Parts per 4 x 8' board	
0 < P ≤ -45.0		1.33	12	24	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER WOOD DECK, MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER					
Assembly No.	Substrate	Insulation Layer(s)		Roof Cover	
		Type	Attach	Membrane	Attach
87	Min. 15/32" CDX plywood	Min. 0.25" DensDeck or min. 0.5" SECUROCK Gypsum-Fiber Roof Board or min. 1" ISOGARD HD	Insulation layer mechanically fastened with Firestone Heavy-Duty Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO	UltraPly Bonded Adhesive at a rate of 60-65 gal/sq.
88		Min. 0.25" DensDeck or min. 0.5" SECUROCK Gypsum-Fiber Roof Board or min. 1" GenFlex HD ISO	Insulation layer mechanically fastened with GenFlex Heavy Duty Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO	EZ TPO Bonding Adhesive at a rate of 60-65 ft <sup>2</sup> /gal.
Design Pressure (psf)		Insulation Attachment			
		Density (ft <sup>2</sup> / fastener)	Parts per 4 x 4' board	Parts per 4 x 8' board	
0 < P ≤ -45.0		1.33	12	24	

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER WOOD DECK, MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER					
Assembly No.	Substrate	Insulation Layer(s)		Roof Cover	
		Type	Attach	Membrane	Attach
89	Min. 15/32" CDX plywood	Min. 1" ISOGARD HD	Insulation layer mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO	UltraPly Bonded Adhesive at a rate of 60-65 gal/sq.
90		Min. 1" GenFlex HD ISO	Insulation layer mechanically fastened with GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ TPO	EZ TPO Bonding Adhesive at a rate of 60-65 ft <sup>2</sup> /gal.
Design Pressure (psf)		Insulation Attachment			
		Density (ft <sup>2</sup> / fastener)	Parts per 4 x 4' board	Parts per 4 x 8' board	
0 < P ≤ -45.0		2.0	8	16	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, (OPTIONAL) LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
91	Nominal 19/32" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 0.5" or 1" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.25" DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with 1-5/8" Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO SA (45-mil)	Self-adhered
						UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq. or Firestone Water Based Bonding Adhesive-P, at a rate of 100-120 gal/sq.
						UltraPly TPO XR 100	Hot-asphalt, at a rate of 25-30 lb/sq.
92	Nominal 19/32" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 0.5" or 1" GenFlex ISO Insulation or Coated Glass Facer	Loose-Laid	Min. 0.25" DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with 1-5/8" GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	EZ TPO Peel and Stick HW (45-mil)	Self-adhered
						GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq. or GenFlex Water Based Bonding Adhesive (P), at a rate of 100-120 gal/sq.
						GenFlex EZ Fleece Backed TPO (45-mil)	Hot-asphalt, at a rate of 25-30 lb/sq.
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		2.13		8		15	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, (OPTIONAL) LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
93	Nominal 7/16" No. 2 Type APA Rated OSB at max. 24-inch spans	(Optional) Min. 1" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.25" DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with 1-1/4" Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO SA (45-mil)	Self-adhered
						UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq. or Firestone Water Based Bonding Adhesive-P, at a rate of 100-120 gal/sq.
						UltraPly TPO XR 100	XR Stick Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons or Hot-asphalt, at a rate of 25-30 lb/sq.
94	Or 19/32" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 1" GenFlex ISO Insulation or Coated Glass Facer	Loose-Laid	Min. 0.25" DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with 1-1/4" GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	EZ TPO Peel and Stick HW (45-mil)	Self-adhered
						GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq. or GenFlex Water Based Bonding Adhesive (P), at a rate of 100-120 gal/sq.
						GenFlex EZ Fleece Backed TPO (45-mil)	Low Rise Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons or Hot-asphalt, at a rate of 25-30 lb/sq.
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		2.67		6		12	
		2.13		8		15	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
95	Min. 22 ga., Type B, Grade 33 steel	Min. 0.5" or 1" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.5" SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with Firestone All- Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO SA (45- mil)	Self-adhered
						UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq. or Firestone Water Based Bonding Adhesive-P, at a rate of 100-120 gal/sq.
						UltraPly TPO XR 100	Hot-asphalt, at a rate of 25-30 lb/sq.
96	Min. 22 ga., Type B, Grade 33 steel	Min. 0.5" or 1" GenFlex ISO Insulation or Coated Glass Facer	Loose-Laid	Min. 0.5" SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	EZ TPO Peel and Stick HW (45-mil)	Self-adhered
						GenFlex EZ TPO (45- mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq. or GenFlex Water Based Bonding Adhesive (P), at a rate of 100-120 gal/sq.
						GenFlex EZ Fleece Backed TPO (45-mil)	Hot-asphalt, at a rate of 25-30 lb/sq.
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		4.0		4		8	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, (OPTIONAL) LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
97	Nominal 15/32" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 0.5" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.5" DensDeck Prime	Insulation layer mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO SA (45-mil)	Self-adhered
						UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq. or Firestone Water Based Bonding Adhesive-P, at a rate of 100-120 gal/sq.
						UltraPly TPO XR 100	XR Bonding Adhesive, at a rate of 70-90 gal/sq. or Hot-asphalt, at a rate of 25-30 lb/sq. or Millennium PG-1 Fleeceback Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons
98	Nominal 15/32" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 0.5" GenFlex ISO Insulation or Coated Glass Facer	Loose-Laid	Min. 0.5" DensDeck Prime	Insulation layer mechanically fastened with GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	EZ TPO Peel and Stick HW (45-mil)	Self-adhered
						GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq. or GenFlex Water Based Bonding Adhesive (P), at a rate of 100-120 gal/sq.
						GenFlex EZ Fleece Backed TPO (45-mil)	GenFlex Fleece Backed Bonding Adhesive, at a rate of 70-90 gal/sq. or Hot-asphalt, at a rate of 25-30 lb/sq. or Millennium PG-1 Fleeceback Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		1.78		9		18	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, (OPTIONAL) LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
99	Nominal 19/32" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 0.5" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.5" ISOGARD HD	Insulation layer mechanically fastened with 1-5/8" Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO SA (60-mil)	Self-adhered
						UltraPly TPO (60-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq. or Firestone Water Based Bonding Adhesive-P, at a rate of 100-120 gal/sq.
100		(Optional) Min. 0.5" GenFlex ISO Insulation or Coated Glass Facer		Min. 0.5" GenFlex HD ISO	Insulation layer mechanically fastened with 1-5/8" GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	EZ TPO Peel and Stick HW (60-mil)	Self-adhered
						GenFlex EZ TPO (60-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq. or GenFlex Water Based Bonding Adhesive (P), at a rate of 100-120 gal/sq.
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>			<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>
0 < P ≤ -45.0		2.13			8		15

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, (OPTIONAL) LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
101	Nominal 19/32" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 0.5" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.5" DensDeck Prime	Insulation layer mechanically fastened with 1-5/8" Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO SA (60-mil)	Self-adhered
						UltraPly TPO (60-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq. or Firestone Water Based Bonding Adhesive-P, at a rate of 100-120 gal/sq.
102		(Optional) Min. 0.5" GenFlex ISO Insulation or Coated Glass Facer			Insulation layer mechanically fastened with 1-5/8" GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	EZ TPO Peel and Stick HW (60-mil)	Self-adhered
						GenFlex EZ TPO (60-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq. or GenFlex Water Based Bonding Adhesive (P), at a rate of 100-120 gal/sq.
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		2.67		6		12	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, (OPTIONAL) LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
103	Nominal 15/32" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 0.5" ISO 95+ GL or RESISTA	Loose-Laid	Min. 1.5" RESISTA	Insulation layer mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO SA (45-mil)	Self-adhered
						UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq. or Firestone Water Based Bonding Adhesive-P, at a rate of 100-120 gal/sq.
						UltraPly TPO XR 100	XR Stick Membrane Adhesive or Millennium PG-1 Fleeceback Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons
104		(Optional) Min. 0.5" GenFlex ISO Insulation or Coated Glass Facer		Min. 1.5" Coated Glass Facer	Insulation layer mechanically fastened with GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	EZ TPO Peel and Stick HW (45-mil)	Self-adhered
						GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq. or GenFlex Water Based Bonding Adhesive (P), at a rate of 100-120 gal/sq.
						GenFlex EZ Fleece Backed TPO (45-mil)	Low Rise Membrane Adhesive or Millennium PG-1 Fleeceback Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -60.0		1.78		9		18	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO - NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, LOOSE-LAID INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Type	Attach
105	Min. 22 ga., Type B, Grade 33 steel max 6 ft spans	Min. 0.5" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.5" SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with 2-1/4" Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO (45- mil)	UltraPly Bonded Adhesive or Single-Ply LVOC Bonding Adhesive, at a rate of 45-60 gal/sq.
106		Min. 0.5" GenFlex ISO Insulation or Coated Glass Facer			Insulation layer mechanically fastened with 2-1/4" GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)		
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>	<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>		
0 < P ≤ -60.0		2.13	8		15		
60.0 < P ≤ -67.5		1.6	10		20		

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, (OPTIONAL) LOOSE-LAID BASE INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Membrane	Attach
107	Nominal 15/32" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 1" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.5" SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with 2-1/4" Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO SA (45-mil)	Self-adhered
						UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq.
108	Nominal 15/32" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 1" GenFlex ISO Insulation or Coated Glass Facer	Loose-Laid	Min. 0.5" SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with 2-1/4" Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	EZ TPO Peel and Stick HW (45-mil)	Self-adhered
						GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq.
Design Pressure (psf)		Insulation Attachment					
		Density (ft <sup>2</sup> / fastener)	Parts per 4 x 4' board		Parts per 4 x 8' board		
0 < P ≤ -67.5		1.78	9		18		

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, (OPTIONAL) LOOSE-LAID BASE INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Membrane	Attach
109	Nominal 15/32" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 0.5" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.5" DensDeck Prime	Insulation layer mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO SA (45-mil)	Self-adhered
						UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq. or Firestone Water Based Bonding Adhesive-P, at a rate of 100-120 gal/sq.
						UltraPly TPO XR 100	XR Stick Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons or Hot-asphalt, at a rate of 25-30 lb/sq.
110	Nominal 15/32" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 0.5" GenFlex ISO Insulation or Coated Glass Facer	Loose-Laid	Min. 0.5" DensDeck Prime	Insulation layer mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	EZ TPO Peel and Stick HW (45-mil)	Self-adhered
						GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq. or GenFlex Water Based Bonding Adhesive (P), at a rate of 100-120 gal/sq.
						GenFlex EZ Fleece Backed TPO (45-mil)	Low Rise Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons or Hot-asphalt, at a rate of 25-30 lb/sq.
Design Pressure (psf)		Insulation Attachment					
		Density (ft <sup>2</sup> / fastener)		Parts per 4 x 4' board		Parts per 4 x 8' board	
0 < P ≤ -52.5		1.78		9		18	

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, (OPTIONAL) LOOSE-LAID BASE INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Membrane	Attach
111	Nominal 15/32" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 1" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.25" SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with 1-1/4" Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO SA (45-mil)	Self-adhered
						UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq. or Firestone Water Based Bonding Adhesive-P, at a rate of 100-120 gal/sq.
						UltraPly TPO XR 100	XR Stick Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons or Hot-asphalt, at a rate of 25-30 lb/sq.
112		(Optional) Min. 1" GenFlex ISO Insulation or Coated Glass Facer			Insulation layer mechanically fastened with 1-1/4" Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	EZ TPO Peel and Stick HW (45-mil)	Self-adhered
						GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq. or GenFlex Water Based Bonding Adhesive (P), at a rate of 100-120 gal/sq.
						GenFlex EZ Fleece Backed TPO (45-mil)	Low Rise Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons or Hot-asphalt, at a rate of 25-30 lb/sq.
Design Pressure (psf)		Insulation Attachment					
		Density (ft <sup>2</sup> / fastener)	Parts per 4 x 4' board		Parts per 4 x 8' board		
0 < P ≤ -45.0		1.6	10		20		

**Limitations and Installation (cont.):**

TABLE 2 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, (OPTIONAL) LOOSE-LAID BASE INSULATION, MECHANICALLY ATTACHED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Type	Attach	Membrane	Attach
113	Nominal 15/32" No. 2 Type APA Rated plywood at max. 24-inch spans	(Optional) Min. 1" ISO 95+ GL or RESISTA	Loose-Laid	Min. 0.5" SECUROCK Gypsum-Fiber Roof Board	Insulation layer mechanically fastened with 1-5/8" Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO SA (45-mil)	Self-adhered
						UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq.
114		(Optional) Min. 1" GenFlex ISO Insulation or Coated Glass Facer			Insulation layer mechanically fastened with 1-5/8" Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	EZ TPO Peel and Stick HW (45-mil)	Self-adhered
						GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq.
Design Pressure (psf)		Insulation Attachment					
		Density (ft <sup>2</sup> / fastener)	Parts per 4 x 4' board		Parts per 4 x 8' board		
0 < P ≤ -52.5		2.13	8		15		

**Limitations and Installation (cont.):**

TABLE 3: FIRESTONE ULTRAPLY TPO AND GENFLEX TPO – NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Membrane	Fastener	Membrane	Attachment
115	Nominal 19/32" No. 2 Type APA Rated plywood at max. 24-inch spans	Min. 2" RESISTA	Mechanically fastened with min. 3-1/4" long Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	None	N/A	UltraPly TPO SA (60-mil)	Self-adhered
						UltraPly TPO (60-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq. or Firestone Water Based Bonding Adhesive-P, at a rate of 100-120 gal/sq.
116	Nominal 19/32" No. 2 Type APA Rated plywood at max. 24-inch spans	Min. 2" Coated Glass Facer	Mechanically fastened with min. 3-1/4" long GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	None	N/A	EZ TPO Peel and Stick HW (60-mil)	Self-adhered
						GenFlex EZ TPO (60-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq. or GenFlex Water Based Bonding Adhesive (P), at a rate of 100-120 gal/sq.
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -45.0		4.0		4		8	

**Limitations and Installation (cont.):**

TABLE 3 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX TPO – NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Membrane	Fastener	Membrane	Attachment
117	Nominal 15/32" No. 2 Type APA Rated plywood at max. 24-inch spans	Min. 1.5" ISOGARD HD Composite	Mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	None	N/A	UltraPly TPO SA (60-mil)	Self-adhered
						UltraPly TPO (60-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq. or Firestone Water Based Bonding Adhesive-P, at a rate of 100-120 gal/sq.
						UltraPly TPO XR 100	XR Stick Membrane Adhesive or Millennium PG-1 Fleeceback Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons
118	Nominal 15/32" No. 2 Type APA Rated plywood at max. 24-inch spans	Min. 1.5" GenFlex HD Composite	Mechanically fastened with GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	None	N/A	EZ TPO Peel and Stick HW (60-mil)	Self-adhered
						GenFlex EZ TPO (60-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq. or GenFlex Water Based Bonding Adhesive (P), at a rate of 100-120 gal/sq.
						GenFlex EZ Fleece Backed TPO (45-mil)	Low Rise Membrane Adhesive or Millennium PG-1 Fleeceback Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>	<b>Insulation Attachment</b>						
	<b>Density (ft<sup>2</sup> / fastener)</b>	<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>			
0 < P ≤ -45.0	2.67	6		12			

Limitations and Installation (cont.):

TABLE 3 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX TPO – NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Membrane	Fastener	Membrane	Attachment
119	Min. 22 ga., Type B, Grade 33 steel at max 6 ft spans	Min. 2" ISO 95+ GL	Mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	(Optional) <b>Middle Insulation:</b> Min. 0.5" ISO 95+ GL or RESISTA followed by <b>Top Insulation:</b> Min. 0.5" ISOGARD HD	I.S.O. Twin Pack Adhesive, 6" or 12" o.c., ½"-¾" wide ribbons or Firestone I.S.O. Stick Adhesive or Firestone I.S.O. FIX II Adhesive, 12" o.c., ¾"-1" wide ribbons	UltraPly TPO SA (45-mil)	Self-adhered
						UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq. or Firestone Water Based Bonding Adhesive-P, at a rate of 100-120 gal/sq.
						UltraPly TPO XR 100	XR Stick Membrane Adhesive or Millennium PG-1 Fleeceback Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons or Hot-asphalt, at a rate of 25-30 lb/sq.
120		Min. 2" GenFlex ISO Insulation	Mechanically fastened with GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	(Optional) <b>Middle Insulation:</b> Min. 0.5" GenFlex ISO or Coated Glass Facer followed by <b>Top Insulation:</b> Min. 0.5" GenFlex HD ISO	OlyBond 500, 6" or 12" o.c., ½"-¾" wide ribbons or GenFlex One Step Insulation Adhesive or GenFlex I.S.O. FIX II Adhesive, 12" o.c., ¾"-1" wide ribbons	EZ TPO Peel and Stick HW (45-mil)	Self-adhered
						GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq. or GenFlex Water Based Bonding Adhesive (P), at a rate of 100-120 gal/sq.
						GenFlex EZ Fleece Backed TPO (45-mil)	Low Rise Membrane Adhesive or Millennium PG-1 Fleeceback Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons or Hot-asphalt, at a rate of 25-30 lb/sq.
<b>Note:</b>		Membrane is laid over substrate; 2" wide side laps sealed with a 1.5" wide heat weld.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>	<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>		
0 < P ≤ -60.0		1.78	9		18		
60.0 < P ≤ -67.5		1.78	9		18		

**Limitations and Installation (cont.):**

TABLE 3 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX TPO – NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Membrane	Fastener	Membrane	Attachment
121	Min. 22 ga., Type B, Grade 33 steel at max 6 ft spans	Min. 2" ISO 95+ GL	Mechanically fastened with min. 2-7/8" long Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	Min. 0.25" SECUROCK Gypsum-Fiber Roof Board	Firestone I.S.O. Stick Adhesive, 6" o.c., 3/4"-1" wide ribbons	UltraPly TPO (45-mil)	Single-Ply LVOC Bonding Adhesive, at a rate of 45-60 gal/sq.
122		Min. 2" GenFlex ISO Insulation	Mechanically fastened with min. 2-7/8" long GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)		GenFlex One Step Insulation Adhesive, 6" o.c., 3/4"-1" wide ribbons	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive LVOC, at a rate of 45-60 gal/sq.
<b>Note:</b>		Adhesive Ribbon Spacing Insulation & Coverboard: Continuous ribbons, 6-inch o.c.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -67.5		1.78		9		18	

**Limitations and Installation (cont.):**

TABLE 3 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX TPO – NEW CONSTRUCTION or REROOF (Tear-Off) STEEL DECK, MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Base Insulation		Top Insulation Layer (s)		Roof Cover	
		Type	Attach	Membrane	Fastener	Membrane	Attachment
123	Min. 22 ga., Type B, Grade 33 steel at max 6 ft spans	Min. 1.5" ISO 95+ GL or min. 0.5" ISO 95+ GL or RESISTA	Mechanically fastened with min. 2- 7/8" long Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	Min. 1.5" ISOGARD HD Composite	Firestone I.S.O. Stick Adhesive, 6" o.c., ¾"-1" wide ribbons	UltraPly TPO (45-mil)	UltraPly Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal.
124		Min. 1.5" GenFlex ISO Insulation or min. 0.5" GenFlex ISO Insulation or Coated Glass Facer	Mechanically fastened with min. 2- 7/8" long GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	Min. 1.5" GenFlex HD Composite	GenFlex One Step Insulation Adhesive, 6" o.c., ¾"-1" wide ribbons	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal.
<b>Note:</b>		Adhesive Ribbon Spacing Insulation & Coverboard: Continuous ribbons, 12-inch o.c.					
<b>Design Pressure (psf)</b>		<b>Insulation Attachment</b>					
		<b>Density (ft<sup>2</sup> / fastener)</b>		<b>Parts per 4 x 4' board</b>		<b>Parts per 4 x 8' board</b>	
0 < P ≤ -60.0		1.78		9		18	

TABLE 4: FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) GYPSUM DECK, BONDED INSULATION, BONDED ROOF COVER						
Assembly No.	Substrate	Insulation Layer(s)		Roof Cover		Design Pressure (psf)
		Type	Attach	Membrane	Attach	
125	Gypsum	Min. 0.5" ISOGARD HD	I.S.O. Twin Pack Adhesive, 12" o.c., ½"-¾" wide ribbons	UltraPly TPO (45-mil)	UltraPly Bonded Adhesive at a rate of 45-60 gal/sq.	-230
				UltraPly TPO XR 100 or UltraPly TPO XR 115	XR Stick Membrane Adhesive, 6" o.c. ¾"-1" wide ribbons	
Min. 0.5" GenFlex HD ISO		OlyBond 500, 12" o.c., ½"-3/4" wide ribbons	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive at a rate of 45-60 gal/sq.		
			GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)	Low Rise Membrane Adhesive, 6" o.c. ¾"-1" wide ribbons		

**Limitations and Installation (cont.):**

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, BONDED INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Lightweight Concrete	Insulation Layer(s)		Roof Cover		Design Pressure (psf)
			Type	Attach	Membrane	Attach	
127	Structural concrete	Min. 1/8" slurry coat of min. 300 psi, Elastizell Cellular Lightweight Concrete with 1" EPS board and a 2" top coat	Min. 0.25" DensDeck Prime	I.S.O. Stick Adhesive, 12" o.c., 3/4"-1" wide ribbons	UltraPly TPO (45-mil) or UltraPly TPO (60-mil)	UltraPly Bonded Adhesive at a rate of 45-60 gal/sq.	-158
			Min. 0.5" ISOGARD HD	I.S.O. Twin Pack Insulation Adhesive, 12" o.c., 1/2"-3/4" wide ribbons			
128			Min. 0.25" DensDeck Prime	GenFlex One Step Insulation Adhesive, 12" o.c., 3/4"-1" wide ribbons	GenFlex EZ TPO (45-mil) or UltraPly TPO (60-mil)	EZ TPO Bonding Adhesive at a rate of 45-60 gal/sq.	
			Min. 0.5" GenFlex HD ISO	OlyBond 500, 12" o.c., 1/2"-3/4" wide ribbons			

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, BONDED INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Lightweight Concrete	Insulation Layer(s)		Roof Cover		Design Pressure (psf)
			Type	Attach	Membrane	Attach	
129	Structural concrete	Min. 1/8" slurry coat of min. 300 psi, Celcore Cellular Lightweight Concrete composed with MF with Celcore HS Rheology Modifying Admixture followed by 1" EPS board and a 2" top coat. Celcore PVA curing compound is applied at 300 ft <sup>2</sup> /sq.	Min. 0.25" DensDeck Prime	I.S.O. Stick Adhesive, 12" o.c., 3/4"-1" wide ribbons	UltraPly TPO (45-mil) or UltraPly TPO (60-mil)	UltraPly Bonded Adhesive at a rate of 45-60 gal/sq.	-133.5
			Min. 0.5" ISOGARD HD	I.S.O. Twin Pack Insulation Adhesive, 12" o.c., 1/2"-3/4" wide ribbons			
130			Min. 0.25" DensDeck Prime	GenFlex One Step Insulation Adhesive, 12" o.c., 3/4"-1" wide ribbons	GenFlex EZ TPO (45-mil) or UltraPly TPO (60-mil)	EZ TPO Bonding Adhesive at a rate of 45-60 gal/sq.	
			Min. 0.5" GenFlex HD ISO	OlyBond 500, 12" o.c., 1/2"-3/4" wide ribbons			

**Limitations and Installation (cont.):**

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, BONDED INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Lightweight Concrete	Insulation Layer(s)		Roof Cover		Design Pressure (psf)
			Type	Attach	Membrane	Attach	
131	Structural concrete	Min. 1/8" slurry coat of min. 200 psi, Elastizell Cellular Lightweight Concrete with 1" EPS board and a 2" top coat	Min. 0.25" DensDeck Prime	I.S.O. Stick Adhesive, 12" o.c., 3/4"-1" wide ribbons	UltraPly TPO (45-mil) or UltraPly TPO (60-mil)	UltraPly Bonded Adhesive at a rate of 45-60 gal/sq.	-150
			Min. 0.5" ISOGARD HD	I.S.O. Twin Pack Insulation Adhesive, 12" o.c., 1/2"-3/4" wide ribbons			
132			Min. 0.25" DensDeck Prime	GenFlex One Step Insulation Adhesive, 12" o.c., 3/4"-1" wide ribbons	GenFlex EZ TPO (45-mil) or UltraPly TPO (60-mil)	EZ TPO Bonding Adhesive at a rate of 45-60 gal/sq.	
			Min. 0.5" GenFlex HD ISO	OlyBond 500, 12" o.c., 1/2"-3/4" wide ribbons			

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) CONCRETE DECK, BONDED INSULATION, BONDED ROOF COVER							
Assembly No.	Substrate	Insulation Layer(s)		Roof Cover		Design Pressure (psf)	
		Type	Attach	Membrane	Attach		
133	Structural concrete	Min. 1" ISO 95+ GL	Firestone I.S.O. FIX II Adhesive or Firestone I.S.O. Stick Adhesive, 12" o.c., 3/4"-1" wide ribbons	UltraPly TPO XR 100 or UltraPly TPO XR 115	XR Stick Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons	-150	
			Firestone I.S.O. Twin Pack Adhesive, 12" o.c., 1/2"-3/4" wide ribbons				
134		Min. 1" GenFlex ISO Insulation	GenFlex I.S.O. FIX II Adhesive or GenFlex One Step Insulation Adhesive, 12" o.c., 3/4"-1" wide ribbons	GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)	Low Rise Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons		
			OlyBond 500, 12" o.c., 1/2"-3/4" wide ribbons				

**Limitations and Installation (cont.):**

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off)						
CONCRETE DECK, BONDED INSULATION, BONDED ROOF COVER						
Assembly No.	Substrate	Insulation Layer(s)		Roof Cover		Design Pressure (psf)
		Type	Attach	Membrane	Attach	
135	Structural concrete	Min. 0.25" SECUROCK Gypsum-Fiber Roof Board	Firestone I.S.O. FIX II Adhesive or Firestone I.S.O. Stick Adhesive, 12" o.c., ¾"-1" wide ribbons		UltraPly TPO XR 100 or UltraPly TPO XR 115	XR Stick Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons
			Firestone I.S.O. Twin Pack Adhesive, 12" o.c., ½"-3/4" wide ribbons			
136			GenFlex I.S.O. FIX II Adhesive or GenFlex One Step Insulation Adhesive, 12" o.c., ¾"-1" wide ribbons		GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)	Low Rise Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons
			OlyBond 500, 12" o.c., ½"-3/4" wide ribbons			

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off)						
CONCRETE DECK, BONDED INSULATION, BONDED ROOF COVER						
Assembly No.	Substrate	Insulation Layer(s)		Roof Cover		Design Pressure (psf)
		Type	Attach	Membrane	Attach	
137	Structural concrete	Min. 0.25" SECUROCK Gypsum-Fiber Roof Board	Firestone I.S.O. FIX II Adhesive or Firestone I.S.O. Stick Adhesive, 12" o.c., ¾"-1" wide ribbons		UltraPly TPO (45-mil), UltraPly TPO (60-mil) or UltraPly TPO (80-mil)	UltraPly Bonded Adhesive, at a rate of 45-60 lbs/sq.
			Firestone I.S.O. Twin Pack Adhesive, 12" o.c., ½"-3/4" wide ribbons			
138			GenFlex I.S.O. FIX II Adhesive or GenFlex One Step Insulation Adhesive, 12" o.c., ¾"-1" wide ribbons		GenFlex EZ TPO (45-mil), GenFlex EZ TPO (60-mil) or GenFlex EZ TPO (80-mil)	EZ TPO Bonding Adhesive, at a rate of 45-60 lbs/sq.
			OlyBond 500, 12" o.c., ½"-3/4" wide ribbons			

**Limitations and Installation (cont.):**

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off)								
CONCRETE DECK, BONDED INSULATION, BONDED ROOF COVER								
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover		Design Pressure (psf)
		Type	Attach	Type	Attach	Membrane	Attach	
139	Structural concrete	Min. 1" ISO 95+ GL	Firestone I.S.O. FIX II Adhesive or Firestone I.S.O. Stick Adhesive, 12" o.c., ¾"-1" wide ribbons	Min. 0.25" DensDeck Prime	Firestone I.S.O. Stick Adhesive or Firestone I.S.O. FIX II Adhesive, 12" o.c., ¾"-1" wide ribbons or Firestone I.S.O. Twin Pack Adhesive, 12" o.c., ½"-3/4" wide ribbons	UltraPly TPO XR 100 or UltraPly TPO XR 115	XR Stick Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons	-163.5
			Firestone I.S.O. Twin Pack Adhesive, 12" o.c., ½"-3/4" wide ribbons	Min. 0.5" ISO GARD HD	Firestone I.S.O. Stick Adhesive or Firestone I.S.O. FIX II Adhesive, 12" o.c., ¾"-1" wide ribbons or Firestone I.S.O. Twin Pack Adhesive, 12" o.c., ½"-3/4" wide ribbons			
Min. 1" GenFlex ISO Insulation		GenFlex I.S.O. FIX II Adhesive or GenFlex One Step Insulation Adhesive, 12" o.c., ¾"-1" wide ribbons	Min. 0.25" DensDeck Prime	GenFlex One Step Insulation Adhesive or GenFlex I.S.O. FIX II Adhesive, 12" o.c., ¾"-1" wide ribbons or OlyBond 500, 12" o.c., ½"-3/4" wide ribbons	GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)	Low Rise Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons		
		OlyBond 500, 12" o.c., ½"-3/4" wide ribbons	Min. 0.5" GenFlex HD ISO	GenFlex One Step Insulation Adhesive or GenFlex I.S.O. FIX II Adhesive, 12" o.c., ¾"-1" wide ribbons or OlyBond 500, 12" o.c., ½"-3/4" wide ribbons				

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off)									
CONCRETE DECK, BONDED INSULATION, BONDED ROOF COVER									
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover		Design Pressure (psf)	
		Type	Attach	Type	Attach	Membrane	Attach		
141	Structural concrete	Min. 0.5" ISO GARD HD, ISO 95+ GL, DensDeck, DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board		Firestone I.S.O. Stick Adhesive, 12" o.c., ¾"-1" wide ribbons	None	N/A	UltraPly TPO	UltraPly Bonded Adhesive or Water Based Bonding Adhesive at a rate of 60-65 gal/sq.	-405
142		Min. 0.5" GenFlex HD ISO, GenFlex ISO Insulation, DensDeck, DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board		GenFlex One Step Insulation Adhesive, 12" o.c., ¾"-1" wide ribbons			GenFlex EZ TPO	EZ TPO Bonding Adhesive or GenFlex Water Based Bonding Adhesive at a rate of 60-65 gal/sq.	

**Limitations and Installation (cont.):**

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) CONCRETE DECK, BONDED INSULATION, BONDED ROOF COVER								
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover		Design Pressure (psf)
		Type	Attach	Type	Attach	Membrane	Attach	
143	Structural concrete	Min. 0.5" ISOGARD HD, ISO 95+ GL, DensDeck, DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	Firestone I.S.O. Twin Pack Adhesive, 12" o.c., ½"-3/4" wide ribbons	None	N/A	UltraPly TPO	UltraPly Bonded Adhesive or Water Based Bonding Adhesive, at a rate of 60-65 gal/sq.	-300
144		Min. 0.5" GenFlex HD ISO, GenFlex ISO Insulation, DensDeck, DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	OlyBond 500, 12" o.c., ½"-3/4" wide ribbons			GenFlex EZ TPO	EZ TPO Bonding Adhesive or GenFlex Water Based Bonding Adhesive, at a rate of 60-65 gal/sq.	

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, (OPTIONAL) LOOSE-LAID BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER								
Assembly No.	Substrate	Base Insulation Layer (s)		Top Insulation Layer (s)		Roof Cover		Design Pressure (psf)
		Type	Attach	Type	Attach	Membrane	Attach	
145	Min. 15/32" plywood	(Optional) Min. 0.25" DensDeck Prime	Firestone I.S.O. Stick Adhesive, 12" o.c., ¾"-1" wide ribbons	Min. 1" RESISTA or ISO 95+ GL	Firestone I.S.O. Stick Adhesive, 12" o.c., ¾"-1" wide ribbons	UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq.	-45
146			GenFlex One Step Insulation Adhesive, 12" o.c., ¾"-1" wide ribbons	Min. 1" Coated Glass Facer or GenFlex ISO Insulation	GenFlex One Step Insulation Adhesive, 12" o.c., ¾"-1" wide ribbons	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq.	

Limitations and Installation (cont.):

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off)								
STEEL DECK, BONDED INSULATION, BONDED ROOF COVER								
Assembly No.	Substrate	Vapor Barrier		Base Insulation Layer (s)		Roof Cover		Design Pressure (psf)
		Type	Attach	Type	Attach	Membrane	Attach	
147	Min. 22 ga., Type B, Grade 33 steel	V-Force Vapor Barrier Membrane, 3" wide side laps	Self-adhered	Min. 1.5" ISO 95+ GL	Firestone I.S.O. Stick Adhesive or Firestone I.S.O. Twin Pack, 12" o.c., 3/4"-1" wide ribbons	UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 ft <sup>2</sup> /gal.	-45
148				Min. 1.5" GenFlex ISO Insulation	GenFlex One Step Insulation Adhesive or OlyBond 500, 12" o.c., 3/4"-1" wide ribbons	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 ft <sup>2</sup> /gal.	

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off)										
STEEL DECK, BONDED INSULATION, BONDED ROOF COVER										
Assembly No.	Substrate	Thermal Barrier		Vapor Barrier		Base Insulation Layer (s)		Roof Cover		Design Pressure (psf)
		Type	Attach	Type	Attach	Type	Attach	Membrane	Attach	
149	Min. 22 ga., Type B, Grade 33 steel	Min. 0.5" DensDeck Prime	Firestone I.S.O. Stick Adhesive, 12" o.c., 3/4"-1" wide ribbons	BASEGARD SA, min. 3" wide side laps	Self-adhered	0.5" ISO 95+ GL	Hot-asphalt, at a rate of 20-40 lbs/sq.	UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 ft <sup>2</sup> /gal.	-45
150			GenFlex One Step Insulation Adhesive, 12" o.c., 3/4"-1" wide ribbons			Min. 0.5" GenFlex ISO Insulation	Hot-asphalt, at a rate of 20-40 lbs/sq.	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 ft <sup>2</sup> /gal.	

**Limitations and Installation (cont.):**

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off)						
STEEL DECK, BONDED INSULATION, BONDED ROOF COVER						
Assembly No.	Substrate	Base Insulation Layer (s)		Roof Cover		Design Pressure (psf)
		Type	Attach	Membrane	Attach	
151	Min. 22 ga., Type B, Grade 33 steel	Min. 1.5" ISO 95+ GL	Firestone I.S.O. Twin Pack or Firestone I.S.O. Stick Adhesive, 12" o.c., ¾"-1" wide ribbons	UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 ft <sup>2</sup> /gal.	-45
152		Min. 1.5" GenFlex ISO Insulation	OlyBond 500 or GenFlex One Step Insulation Adhesive, 12" o.c., ¾"-1" wide ribbons	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 ft <sup>2</sup> /gal.	

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off)								
STEEL DECK, BONDED INSULATION, BONDED ROOF COVER								
Assembly No.	Substrate	Vapor Barrier		Base Insulation Layer (s)		Roof Cover		Design Pressure (psf)
		Type	Attach	Type	Attach	Membrane	Attach	
153	Min. 22 ga., Type B, Grade 33 steel at max 6 ft spans	V-Force Vapor Barrier Membrane, 3" wide side laps	Self-adhered	Min. 2" ISO 95+ GL	Firestone I.S.O. Twin Pack, 6" o.c., ¾" wide ribbons	UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 ft <sup>2</sup> /gal.	-60
154				Min. 2" GenFlex ISO Insulation	OlyBond 500, 6" o.c., ¾" wide ribbons	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 ft <sup>2</sup> /gal.	
<b>Note:</b>		Membrane is laid over substrate; 3" wide side laps sealed with a 1.5" wide heat weld.						

## Limitations and Installation (cont.):

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off)						
STEEL DECK, BONDED INSULATION, BONDED ROOF COVER						
Assembly No.	Substrate	Base Insulation Layer (s)		Roof Cover		Design Pressure (psf)
		Type	Attach	Membrane	Attach	
155	Min. 22 ga., Type B, Grade 33 steel at max 6 ft spans	Min. 2" ISO 95+ GL	Firestone I.S.O. Twin Pack, 6" o.c., ¾" wide ribbons	UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 ft <sup>2</sup> /gal.	-75
156		Min. 2" GenFlex ISO Insulation	OlyBond 500, 6" o.c., ¾" wide ribbons	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 ft <sup>2</sup> /gal.	
<b>Note:</b>		Membrane is laid over substrate; sealed with a 1.5" wide heat weld at side laps.				

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off)								
CONCRETE DECK, BONDED INSULATION, BONDED ROOF COVER								
Assembly No.	Substrate	Vapor Barrier		Base Insulation Layer (s)		Roof Cover		Design Pressure (psf)
		Type	Attach	Type	Attach	Membrane	Attach	
157	Structural concrete (primed with V-Force WB Primer at a rate of 0.25 gal/sq.)	V-Force Vapor Barrier Membrane	Self- adhered	Min. 1.5" ISO 95+ GL	Firestone I.S.O. Stick Adhesive, 12" o.c., ¾"-1" wide ribbons	UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 ft <sup>2</sup> /gal.	-75
158				Min. 1.5" GenFlex ISO Insulation	GenFlex One Step Insulation Adhesive, 12" o.c., ¾"-1" wide ribbons	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 ft <sup>2</sup> /gal.	

Limitations and Installation (cont.):

TABLE 4 (CONTINUED): FIRESTONE ULTRAPLY TPO AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off)										
STEEL DECK, BONDED INSULATION, BONDED ROOF COVER										
Assembly No.	Substrate	Thermal Barrier		Vapor Barrier		Base Insulation Layer (s)		Roof Cover		Design Pressure (psf)
		Type	Attach	Type	Attach	Type	Attach	Membrane	Attach	
159	Min. 22 ga., Type B, Grade 33 steel	Min. 0.5" DensDeck Prime	Mechanically fastened at a rate of 12 fasteners per 4'x8' board (1: 2.67 ft <sup>2</sup> ) Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	V-Force Vapor Barrier Membrane, 3" wide side laps (primed with V-Force WB Primer at a rate of 150-200 ft <sup>2</sup> /gal.)	Self-adhered	Min. 1.5" ISO 95+ GL	Firestone I.S.O. Stick Adhesive, 12" o.c., ¾"-1" wide ribbons	UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 ft <sup>2</sup> /gal.	-45
160			Mechanically fastened at a rate of 12 fastener per 4'x8' board (1: 2.67 ft <sup>2</sup> ) GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)							

TABLE 5: FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER						
LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, MECHANICALLY ATTACHED ROOF COVER						
Assembly No.	Substrate	Lightweight Concrete	Existing Roof	Roof Cover		
				Membrane		Attach
161	Min. 22 ga., Type B, Grade 33 steel at max 6 ft spans	Min. 1/8" slurry coat of min. 300 psi, Celcore Cellular Lightweight Concrete with 1" EPS board and a 2" top coat	Single-Ply Membrane	UltraPly TPO (45-mil) or UltraPly TPO (60-mil)		Firestone Polymer Batten Strips and Firestone Heavy Duty Fasteners
162				GenFlex EZ TPO (45-mil) or GenFlex EZ TPO (60-mil)		GenFlex Polymer Batten Strips and GenFlex Heavy Duty Fasteners
<b>Note:</b>		6" wide membrane is laid over substrate; 2" side laps sealed with a 1.5" wide heat weld. Cover strip heat welded 1.5" over battens.				
<b>Design Pressure (psf)</b>		<b>Roof Cover Attachment</b>				
		<b>Max. Fastener Spacing (inch o.c.)</b>			<b>Max. Row Spacing (inch o.c.)</b>	
0 < P ≤ -97.5		6			48	

**Limitations and Installation (cont.):**

TABLE 5 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, MECHANICALLY ATTACHED ROOF COVER					
Assembly No.	Substrate	Lightweight Concrete	Existing Roof	Roof Cover	
				Membrane	Attach
163	Min. 22 ga., Type B, Grade 33 steel at max 6 ft spans	Min. 1/8" slurry coat of min. 300 psi, Celcore Cellular Lightweight Concrete with 1" EPS board and a 2" top coat	Single-Ply Membrane	UltraPly TPO XR 100 or UltraPly TPO XR 115	Firestone Polymer Batten Strips and Firestone Heavy Duty Fasteners
164				GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)	GenFlex Polymer Batten Strips and GenFlex Heavy Duty Fasteners
<b>Note:</b>		6" wide membrane is laid over substrate; 2" side laps sealed with a 1.5" wide heat weld. Cover strip heat welded 1.5" over battens.			
<b>Design Pressure (psf)</b>		<b>Roof Cover Attachment</b>			
		<b>Max. Fastener Spacing (inch o.c.)</b>		<b>Max. Row Spacing (inch o.c.)</b>	
0 < P ≤ -112.5		6		48	

TABLE 5 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, NON-INSULATED, MECHANICALLY ATTACHED ROOF COVER					
Assembly No.	Substrate	Roof Cover			
		Base Sheet	Attach	Membrane	Attach
165	Nominal 15/32" No. 2 Type APA Rated plywood at max. 24-inch spans	SBS Base-P	Mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick)	UltraPly TPO XR 100	Millennium PG-1 Fleeceback Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons
166			Mechanically fastened with GenFast AP Fasteners and GenFast 3" Round Insulation Plates (3" diameter x 0.017" to 0.023" thick)	GenFlex EZ Fleece Backed TPO (45-mil)	
<b>Note:</b>		2.5" side laps sealed with a 1.5" wide heat weld.			
<b>Design Pressure (psf)</b>		<b>Base Sheet Attachment</b>			
		<b>Max. Fastener Spacing (inch o.c.)</b>		<b>Max. Row Spacing (inch o.c.)</b>	
0 < P ≤ -45		12		12	

**Limitations and Installation (cont.):**

TABLE 5 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, NON-INSULATED, MECHANICALLY ATTACHED ROOF COVER			
Assembly No.	Substrate	Roof Cover	
		Membrane	Attach
167	Nominal 7/16" APA Rated Exposure 1 OSB	UltraPly TPO (45-mil)	UltraPly QuickSeam R.M.A. Strip, Firestone HD Seam Plates with 1-1/4" Firestone All-Purpose Fasteners
168		GenFlex EZ TPO (45-mil)	EZ Peel & Stick R.M.A. Strip, GenFlex HD Seam Plates with 1-1/4" GenFast AP Fasteners
<b>Note:</b>		TPO membrane primed at a rate of 200-250 ft <sup>2</sup> /gal with UltraPly TPO QuickPrime (GenFlex counterpart EZ Primer) prior to adhering the R.M.A. Strip (GenFlex counterpart EZ Peel & Stick R.M.A. Strip).	
<b>Design Pressure (psf)</b>		Roof Cover Attachment	
		Max. Fastener Spacing (inch o.c.)	Max. Row Spacing (inch o.c.)
0 < P ≤ -45		6	48

TABLE 5 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, NON-INSULATED, PLATE-BONDED ROOF COVER					
Assembly No.	Substrate	Thermal Barrier	Attach	Roof Cover	
				Membrane	Attach
169	Nominal 7/16" APA Rated Exposure 1 OSB	Min. 0.25" DensDeck or SECUROCK Gypsum-Fiber Roof Board	Loose-laid	UltraPly TPO (45-mil)	2" Firestone Heavy Duty Fasteners and Firestone UltraPly TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick) heat-welded to stress plates using InvisiWeld Tool
170				GenFlex EZ TPO (45-mil)	2" GenFlex Heavy Duty Fasteners and EZ TPO InvisiWeld Plates (3" diameter x 0.017" to 0.023" thick) heat-welded to stress plates using InvisiWeld Tool
<b>Design Pressure (psf)</b>		Roof Cover Attachment			
		Max. Fastener Spacing (inch o.c.)		Max. Row Spacing (inch o.c.)	
0 < P ≤ -45		24		48	

**Limitations and Installation (cont.):**

TABLE 5 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, MECHANICALLY ATTACHED ROOF COVER						
Assembly No.	Substrate	Lightweight Concrete	Roof Cover			
			Base Sheet	Attach	Membrane	Attach
171	Min. 22 ga., Type B, Grade 33 steel at max 5 ft spans	Min. 1/4" slurry coat of min. 359 psi, Celcore MF with Celcore HS Rheology Lightweight Concrete with 1" EPS board and a 2" top coat	SBS PolyBase	1.7" LWC Base-Ply Fasteners	UltraPly TPO XR 100	Millennium PG-1 Fleeceback Membrane Adhesive, 12" o.c. 1"-1.5" wide ribbons
172					GenFlex EZ Fleece Backed TPO (45-mil)	
<b>Note:</b>		Membrane is laid over substrate; 2" side laps sealed with a 1.5" wide heat weld.				
<b>Design Pressure (psf)</b>		<b>Base Sheet Attachment</b>				
		<b>Max. Fastener Spacing (inch o.c.)</b>		<b>Max. Row Spacing (inch o.c.)</b>		<b>Min. # of Staggered Rows</b>
0 < P ≤ -52.5		7		7		2

TABLE 5 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER CEMENTITIOUS WOOD FIBER DECK, NON-INSULATED, PLATE-BONDED ROOF COVER						
Assembly No.	Substrate	Existing Roof	Roof Cover			
			Base Sheet	Attach	Membrane	Attach
173	CWF panels 31" x 96" attached over structural supports spaced 4' o.c.	Single-Ply Roofing	SBS PolyBase	1.8" Two-Piece Impact Nails	UltraPly TPO XR 100	Millennium PG-1 Fleeceback Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons
174					GenFlex EZ Fleece Backed TPO (45-mil)	
<b>Note:</b>		Membrane is laid over substrate; 2.5" wide side laps sealed with a 1.5" wide heat weld.				
<b>Design Pressure (psf)</b>		<b>Base Sheet Attachment</b>				
		<b>Max. Fastener Spacing (inch o.c.)</b>		<b>Max. Row Spacing (inch o.c.)</b>		<b>Min. # of Staggered Rows</b>
0 < P ≤ -52.5		12		12		2
52.5 < P ≤ -67.5		9		9		2

**Limitations and Installation (cont.):**

TABLE 5 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) CEMENTITIOUS WOOD FIBER DECK, NON-INSULATED, PLATE-BONDED ROOF COVER					
Assembly No.	Substrate	Roof Cover			
		Base Sheet	Attach	Membrane	Attach
175	CWF	SBS PolyBase	1.8" Two-Piece Impact Nails	UltraPly TPO XR 100	Millennium PG-1 Fleeceback Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons
176				GenFlex EZ Fleece Backed TPO (45-mil)	
<b>Note:</b>		Membrane is laid over substrate; 2.5" wide side laps sealed with a 1.5" wide heat weld.			
<b>Design Pressure (psf)</b>		<b>Base Sheet Attachment</b>			
		<b>Max. Fastener Spacing (inch o.c.)</b>		<b>Max. Row Spacing (inch o.c.)</b>	<b>Min. # of Staggered Rows</b>
0 < P ≤ -90		7		7	2

TABLE 5 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, MECHANICALLY ATTACHED ROOF COVER					
Assembly No.	Substrate	Lightweight Concrete	Existing Roof	Roof Cover	
				Membrane	Attach
177	Min. 22 ga., Type B, Grade 33 steel at max 5 ft spans	Min. 1/4" slurry coat of min. 293 psi, Celcore MF with Celcore HS Rheology Lightweight Concrete with 1" EPS board and a 2" top coat	SBS Modified Roofing	UltraPly TPO XR 100	Millennium PG-1 Fleeceback Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons
178				GenFlex EZ Fleece Backed TPO (45-mil)	
<b>Note:</b>		5" wide inverted strips of membrane is laid over substrate; 3" side laps sealed with a 1.5" wide heat weld. Base strips fastened with Firestone Heavy Duty fasteners(GenFlex Heavy Duty fasteners) and Firestone HD Seam Plates (GenFlex HD Seam Plates)			
<b>Design Pressure (psf)</b>		<b>Roof Cover Attachment</b>			
		<b>Max. Fastener Spacing (inch o.c.)</b>		<b>Max. Row Spacing (inch o.c.)</b>	
0 < P ≤ -90		6		72	

**Limitations and Installation (cont.):**

TABLE 6: FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER					
Assembly No.	Substrate	Lightweight Concrete	Roof Cover		Design Pressure (psf)
			Membrane	Attach	
179	Structural concrete	Min. 1/8" slurry coat of min. 300 psi, Elastizell Cellular Lightweight Concrete with 1" EPS board and a 2" top coat	UltraPly TPO XR 100 or UltraPly TPO XR 115	XR Stick Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons	-136
			GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)	Low Rise Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons	
180	Structural concrete	Min. 1/8" slurry coat of min. 200 psi, Elastizell Cellular Lightweight Concrete with 1" EPS board and a 2" top coat	UltraPly TPO XR 100 or UltraPly TPO XR 115	XR Stick Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons	-128
			GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)	Low Rise Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons	

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER					
Assembly No.	Substrate	Lightweight Concrete	Roof Cover		Design Pressure (psf)
			Membrane	Attach	
181	Structural concrete	Min. 1/8" slurry coat of min. 300 psi, Celcore Cellular Lightweight Concrete composed with MF with Celcore HS Rheology Modifying Admixture followed by 1" EPS board and a 2" top coat. Celcore PVA curing compound is applied at 300 ft <sup>2</sup> /sq.	UltraPly TPO XR 100 or UltraPly TPO XR 115	XR Stick Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons	-144.5
182			GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)	Low Rise Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons	

**Limitations and Installation (cont.):**

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER					
Assembly No.	Substrate	Lightweight Concrete	Roof Cover		Design Pressure (psf)
			Membrane	Attach	
183	Structural concrete	Min. 1/8" slurry coat of min. 300 psi, Celcore Cellular Lightweight Concrete composed with MF with Celcore HS Rheology Modifying Admixture followed by 1" EPS board and a 2" top coat. Celcore PVA curing compound is applied at 300 ft <sup>2</sup> /sq.	UltraPly TPO (45-mil) or UltraPly TPO (60-mil)	UltraPly Bonded Adhesive at a rate of 45-60 gal/sq.	-133.5
184			GenFlex EZ TPO (45-mil) or GenFlex EZ TPO (60-mil)	EZ TPO Bonding Adhesive at a rate of 45-60 gal/sq.	

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER					
Assembly No.	Substrate	Lightweight Concrete	Roof Cover		Design Pressure (psf)
			Membrane	Attach	
185	Structural concrete	Min. 1/8" slurry coat of min. 200 psi, Cellular Lightweight Concrete with 1" EPS board and a 2" top coat	UltraPly TPO (45-mil) or UltraPly TPO (60-mil)	UltraPly Bonded Adhesive at a rate of 45-60 gal/sq.	-106.5
186			GenFlex EZ TPO (45-mil) or GenFlex EZ TPO (60-mil)	EZ TPO Bonding Adhesive at a rate of 45-60 gal/sq.	

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER					
Assembly No.	Substrate	Lightweight Concrete	Roof Cover		Design Pressure (psf)
			Membrane	Attach	
187	Structural concrete	Min. 1/4" slurry coat of min. 200 psi, Celcore Cellular Lightweight Concrete composed with MF with Celcore HS Rheology Modifying Admixture followed by 1" EPS board and a 2" top coat. Celcore PVA curing compound is applied at 300 ft <sup>2</sup> /sq.	UltraPly TPO (45-mil)	UltraPly Bonded Adhesive at a rate of 45-60 gal/sq.	-455
188			GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive at a rate of 45-60 gal/sq.	

**Limitations and Installation (cont.):**

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER						
Assembly No.	Substrate	Vapor Barrier	Lightweight Concrete	Roof Cover		Design Pressure (psf)
				Membrane	Attach	
189	Structural concrete	SBS Glass Base Torch, torch-applied	Min. 1/4" slurry coat of min. 200 psi, Celcore Cellular Lightweight Concrete composed with MF with Celcore HS Rheology Modifying Admixture followed by 1" EPS board and a 2" top coat. Celcore PVA curing compound is applied at 300 ft <sup>2</sup> /sq.	UltraPly TPO XR 100 or UltraPly TPO XR 115	XR Stick Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons	-350
190				GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)	Low Rise Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons	

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER						
Assembly No.	Substrate	Lightweight Concrete	Roof Cover		Design Pressure (psf)	
			Membrane	Attach		
191	Cementitious Wood Fiber	Min. 1/4" slurry coat of min. 200 psi, Celcore Cellular Lightweight Concrete composed with MF with Celcore HS Rheology Modifying Admixture followed by 1" EPS board and a 2" top coat. Celcore PVA curing compound is applied at 300 ft <sup>2</sup> /sq.	UltraPly TPO (45-mil)	UltraPly Bonded Adhesive at a rate of 45-60 gal/sq.	-155	
192			GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive at a rate of 45-60 gal/sq.		

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER						
Assembly No.	Substrate	Lightweight Concrete	Roof Cover		Design Pressure (psf)	
			Membrane	Attach		
193	Cementitious Wood Fiber	Min. 1/4" slurry coat of min. 200 psi, Celcore Cellular Lightweight Concrete composed with MF with Celcore HS Rheology Modifying Admixture followed by 1" EPS board and a 2" top coat. Celcore PVA curing compound is applied at 300 ft <sup>2</sup> /sq.	UltraPly TPO XR 100 or UltraPly TPO XR 115	XR Stick Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons	-160	
194			GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)	Low Rise Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons		

**Limitations and Installation (cont.):**

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER					
Assembly No.	Substrate	Lightweight Concrete	Roof Cover		Design Pressure (psf)
			Membrane	Attach	
195	Min. 22 ga., Type B, vented steel ASTM A 653 G90	Min. 1/4" slurry coat of min. 200 psi, Celcore Cellular Lightweight Concrete composed with MF with Celcore HS Rheology Modifying Admixture followed by 1" EPS board and a 2" top coat. Celcore PVA curing compound is applied at 300 ft <sup>2</sup> /sq.	UltraPly TPO (45-mil)	Single-Ply LVOC Bonding Adhesive, at a rate of 45-60 ft <sup>2</sup> /gal	-152.5
196			GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive LVOC, at a rate of 45-60 ft <sup>2</sup> /gal	

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER					
Assembly No.	Substrate	Lightweight Concrete	Roof Cover		Design Pressure (psf)
			Membrane	Attach	
197	Min. 22 ga., Type B, vented steel ASTM A 653 G90	Min. 1/4" slurry coat of min. 200 psi, Celcore Cellular Lightweight Concrete composed with MF with Celcore HS Rheology Modifying Admixture followed by 1" EPS board and a 2" top coat. Celcore PVA curing compound is applied at 300 ft <sup>2</sup> /sq.	UltraPly TPO (45-mil)	UltraPly Bonded Adhesive at a rate of 45-60 gal/sq.	-130
			GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive at a rate of 45-60 gal/sq.	
198	Min. 22 ga., Type B, vented steel ASTM A 653 G90	Min. 1/4" slurry coat of min. 200 psi, Celcore Cellular Lightweight Concrete composed with MF with Celcore HS Rheology Modifying Admixture followed by 1" EPS board and a 2" top coat. Celcore PVA curing compound is applied at 300 ft <sup>2</sup> /sq.	UltraPly TPO XR 100 or UltraPly TPO XR 115	XR Stick Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons	
			GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)	Low Rise Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons	

**Limitations and Installation (cont.):**

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER				
Assembly No.	Substrate	Roof Cover		Design Pressure (psf)
		Membrane	Attach	
199	Structural concrete	UltraPly TPO XR 100 or UltraPly TPO XR 115		-155.5
200		GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)		
			XR Stick Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons	
			Low Rise Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons	

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER					
Assembly No.	Substrate	Existing Roof	Roof Cover		Design Pressure (psf)
			Membrane	Attach	
201	Structural concrete	Granule Surfaced SBS Modified Roofing, torch-applied	UltraPly TPO XR 100 or UltraPly TPO XR 115		-125.5
202			GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)		
				XR Stick Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons	
				Low Rise Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons	

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER					
Assembly No.	Substrate	Existing Roof	Roof Cover		Design Pressure (psf)
			Membrane	Attach	
203	Structural concrete	Granule Surfaced SBS Modified Roofing	UltraPly TPO XR 115 or UltraPly TPO XR 135		-392.5
204			GenFlex EZ Fleece Backed TPO (60-mil) or GenFlex EZ Fleece Backed TPO (80-mil)		
				XR Stick Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons	
				Low Rise Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons	

**Limitations and Installation (cont.):**

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER					
Assembly No.	Substrate	Existing Roof	Roof Cover		Design Pressure (psf)
			Membrane	Attach	
205	Structural concrete	Smooth Surfaced Built-Up Roofing	UltraPly TPO XR 115 or UltraPly TPO XR 135	XR Stick Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons	-112.5
206			GenFlex EZ Fleece Backed TPO (60-mil) or GenFlex EZ Fleece Backed TPO (80-mil)	Low Rise Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons	

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION, REROOF (Tear-Off) or RECOVER CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER					
Assembly No.	Substrate	Existing Roof	Roof Cover		Design Pressure (psf)
			Membrane	Attach	
207	Structural concrete	Granule Surfaced APP Modified Roofing	UltraPly TPO XR 115 or UltraPly TPO XR 135	XR Stick Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons	-422.5
208			GenFlex EZ Fleece Backed TPO (60-mil) or GenFlex EZ Fleece Backed TPO (80-mil)	Low Rise Membrane Adhesive, 12" o.c. ¾"-1" wide ribbons	

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER						
Assembly No.	Substrate	Lightweight Insulating Concrete		Roof Cover		Design Pressure (psf)
		Type	Attach	Membrane	Attach	
209	Min. 22 ga., Type B, Grade 33 steel at max 6 ft spans	Cellular Lightweight Concrete, min. 300 psi, composed with Celcore MF with Celcore HS Rheology Modifying Admixture applied in min. 1/8" slurry coat with 1" EPS board and a 2" top coat. Celcore PVA curing compound is applied at 300 ft <sup>2</sup> /sq.	Secured to deck with Firestone Polymer Batten Strips spaced 18" o.c. with Firestone Heavy Duty fasteners 12" o.c.	UltraPly TPO XR 100 or UltraPly TPO XR 115	XR Stick Membrane Adhesive, 4" or 6" o.c., ¾"-1" wide ribbons	-75
210			Secured to deck with GenFlex Polymer Batten Strips spaced 18" o.c. with GenFlex Heavy Duty fasteners 12" o.c.	GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)	Low Rise Membrane Adhesive, 4" or 6" o.c., ¾"-1" wide ribbons	
<b>Note:</b>		Membrane is laid over substrate; 2.5" side laps sealed with a 1.5" wide heat weld.				

**Limitations and Installation (cont.):**

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER						
Assembly No.	Substrate	Lightweight Insulating Concrete		Roof Cover		Design Pressure (psf)
		Type	Attach	Membrane	Attach	
211	Min. 22 ga., Type B, Grade 33 steel at max 6 ft spans	Cellular Lightweight Concrete, min. 400 psi, applied in min. 1/8" slurry coat with 1" EPS board and a 2" top coat.	Secured to deck with Firestone Polymer Batten Strips spaced 18" o.c. with Firestone Heavy Duty fasteners 12" o.c.	UltraPly TPO XR 100 or UltraPly TPO XR 115	XR Stick Membrane Adhesive, 6" o.c., 3/4"-1" wide ribbons	-60
212			Secured to deck with GenFlex Polymer Batten Strips spaced 18" o.c. with GenFlex Heavy Duty fasteners 12" o.c.	GenFlex EZ Fleece Backed TPO (45-mil) or GenFlex EZ Fleece Backed TPO (60-mil)	Low Rise Membrane Adhesive, 6" o.c., 3/4"-1" wide ribbons	
<b>Note:</b>		Membrane is laid over substrate; 2.5" side laps sealed with a 1.5" wide heat weld.				

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) WOOD DECK, NON-INSULATED, BONDED ROOF COVER						
Assembly No.	Substrate	Thermal Barrier	Attach	Roof Cover		Design Pressure (psf)
				Membrane	Attach	
213	Min. 15/32" APA Rated Exposure 1 plywood	Min. 0.5" SECUROCK Gypsum-Fiber Roof Board	Thermal Barrier layer mechanically fastened with Firestone All-Purpose Fasteners and Firestone Insulation Fastening Plates (3" diameter x 0.017" to 0.023" thick) at a rate of 8 fasteners per 4'x8' (fastening density 1:4 ft <sup>2</sup> )	UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq.	-45
214				GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq.	

Limitations and Installation (cont.):

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off)						
WOOD DECK, NON-INSULATED, BONDED ROOF COVER						
Assembly No.	Substrate	Thermal Barrier	Attach	Roof Cover		Design Pressure (psf)
				Membrane	Attach	
215	Min. 7/16" APA Rated Exposure 1 OSB	Min. 0.25" DensDeck	I.S.O. Twin Pack Insulation Adhesive, 12" o.c., 3/4" wide ribbons	UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, Single-Ply LVOC Bonding Adhesive or Single-Ply LVOC Bonding Adhesive 1168, at a rate of 45-60 gal/sq.	-45
216			OlyBond 500, 6" or 12" o.c., 1/2"-3/4" wide ribbons	GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, EZ TPO Bonding Adhesive LVOC or EZ TPO Bonding Adhesive LVOC 1168, at a rate of 45-60 gal/sq.	

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off)						
LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER						
Assembly No.	Substrate	Lightweight Insulating Concrete		Roof Cover		Design Pressure (psf)
		Type	Attach	Membrane	Attach	
217	Min. 22 ga., Type B, Grade 33 steel at max 5 ft spans	Cellular Lightweight Concrete, min. 281 psi, composed with Celcore MF with Celcore HS Rheology Modifying Admixture applied in min. 1/4" slurry coat with 1" EPS board and a 2" top coat. Celcore PVA curing compound is applied at 300 ft <sup>2</sup> /sq.	Celcore SBS is applied in place, at a rate of 100 ft <sup>2</sup> /gal	UltraPly TPO XR 100	Millennium PG-1 Fleeceback Membrane Adhesive, 12" o.c. 3/4"-1" wide ribbons	-67.5
218				GenFlex EZ Fleece Backed TPO (45-mil)		
<b>Note:</b>		Membrane is laid over substrate; 2" side laps sealed with a 1.5" wide heat weld.				

**Limitations and Installation (cont.):**

TABLE 6 (CONTINUED): FIRESTONE ULTRAPLY AND GENFLEX EZ TPO – NEW CONSTRUCTION or REROOF (Tear-Off) LIGHTWEIGHT CONCRETE DECK, NON-INSULATED, BONDED ROOF COVER						
Assembly No.	Substrate	Lightweight Insulating Concrete		Roof Cover		Design Pressure (psf)
		Type	Attach	Membrane	Attach	
219	Min. 22 ga., Type B, Grade 33 steel at max 6 ft spans	Cellular Lightweight Concrete, min. 356 psi, composed with Celcore MF with Celcore HS Rheology Modifying Admixture applied in min. 1/4" slurry coat with 1" EPS board and a 2" top coat. Celcore PVA curing compound is applied at 300 ft <sup>2</sup> /sq.	Poured in place	UltraPly TPO (45-mil)	UltraPly Bonded Adhesive, at a rate of 45-60 gal/sq.	-67.5
220				GenFlex EZ TPO (45-mil)	EZ TPO Bonding Adhesive, at a rate of 45-60 gal/sq.	
<b>Note:</b>		Membrane is laid over substrate; 3" side laps sealed with a 1.5" wide heat weld.				

**Note:** Keep the manufacturer’s installation instructions available on the job site during the installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.