



GenFlex™ EZ TPO InvisiWeld™  
Guide for Applicators

April 2026

**NOTE:** The contents of this guide are considered accurate at the time of posting. All information contained within should be validated for accuracy as it relates to specific project conditions or requirements. Specific codes, uplifts or other factors may result in changes to the information contained within this document. Validate all specific conditions with a Regional Technical Coordinator prior to its use.

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## GENERAL

The following application guide provides the instructions for the installation of GenFlex Roofing Systems TPO membranes using GenFlex EZ TPO InvisiWeld™ system technology. Product Data Sheets, RhinoBond™ Tool Instruction manual (from OMG, Inc.) and other sections of the GenFlex Technical Specifications is necessary to ensure that the finished roof system is installed in compliance with GenFlex requirements and, therefore, eligible to receive a Roofing System Limited Warranty.

The GenFlex EZ TPO InvisiWeld roof system refers to an alternate attachment method (other than fully adhered and mechanically attached) to affix GenFlex TPO membranes to various approved substrates. Following the installation of the approved roof insulation using a special TPO coated InvisiWeld metal insulation plate, the membrane system is attached using a non-penetrating, induction welding technology, whereby the TPO membrane is welded to the plates using an induction welding tool provided by others. In doing so, the insulation plate acts as the point of attachment for both the membrane and the insulation.

**NOTE:** If a proposed application falls outside this specification, contact GenFlex Technical Services Department for additional information.

## JOB SITE CONSIDERATIONS (CAUTION AND WARNINGS)



It is the roofing contractor's responsibility to ensure that the substrate is acceptable for the GenFlex roof system. Amrize does not approve of or recognize the results of destructive testing by others for the purposes of project close-out or to satisfy contract requirements. Any damage caused by such testing may prevent Amrize from issuing a warranty. Amrize is not responsible for costs associated with repairs or enhancements performed to the roof system as a result of testing.

### Safety

1. Keep all adhesives, sealants and cleaning materials away from all ignition sources (i.e., flames, fire, sparks, etc.). Do not smoke while using these materials.
2. Consult container labels, Safety Data Sheets and Product Data Sheets for specific safety instructions for all products used on the project.

### Cautions

1. Care must be used when installing fasteners to avoid possible conduits and other piping, both in and under the deck.
2. Store GenFlex TPO membrane in the original undisturbed plastic wrap in a manner to protect it from damage.
3. Do not use oil-based or bituminous-based roof cement, mastics or caulks in direct contact with GenFlex EZ TPO membranes.
4. Insulation must be properly stored and protected from ignition sources, moisture, and damage.
5. Follow all Occupational Safety and Health Administration (OSHA), National Roofing Contractors Association (NRCA) and other industry recommendations for fire and fall protection.

### Correct Substrate Defects

1. Defects in the substrate that require corrective action before work can commence should be brought to the attention of the General Contractor or Owner in writing and addressed by them.
2. For re-roofing applications, remove existing roof system components as specified by the project designer and documents. Components or conditions that are discovered during installation that could be detrimental to the performance of the new roof system should be brought to the attention of the project designer for corrective action.
3. Good roofing practice requires a complete removal of the existing roof to the structural deck if soundness and integrity of the existing roof system cannot be verified. Recovering an existing roof system with a new roof is an alternative to removing existing roof components. Nondestructive testing, however, in conjunction with examination of core cuts, must be performed to determine the condition of the existing roof system and decking.
4. The building owner or project designer is responsible for assuring that all wet or damaged insulation and/or substrates are removed and replaced in re-roofing applications. A reliable diagnostic technique is taking and evaluating a series of roof core cuts. There are three other techniques available to make this determination by

indirect means: nuclear moisture detection, infrared thermography, and electric capacitance. These techniques provide measurement of factors that can be associated with the presence of moisture, which can then be correlated to the roofing cuts to verify the results of the nondestructive testing.

5. Invisiweld applications are not intended to be used directly over a non-insulated substrate. A suitable insulation board or cover board should be used when installing this system.

### Rooftop Moisture

Ponding water, snow, frost, dew, and ice must be removed from the substrates/work surfaces before installing the EZ TPO InvisiWeld system.

### Prepare Surfaces

Acceptable substrates to receive the EZ TPO InvisiWeld system must be properly prepared before membrane installation. The surface(s) must be relatively even, clean, dry, smooth, and free of sharp edges, fins, loose or foreign materials, oil, grease, and other materials that may damage the membrane. Rough surfaces that could damage the membrane must be overlaid with acceptable insulation.

### Fill Voids

All surface voids of the immediate substrate to receive EZ TPO InvisiWeld system greater than ¼" (6 mm) wide must be filled with insulation or other approved filler.

### Vapor Retarder

Install vapor retarder as specified by the project designer.

### Concrete Additives

Concrete Additives can have a negative impact on the adhesion of asphaltic membranes and insulation products. The concrete supplier/installer should verify that any additives in the mix will not render the deck unsuitable for roofing application. GenFlex does not accept surface-applied curing compounds for warranted systems.

<p><b>!</b> Amrize does not accept for warranty any concrete substrates that have been sealed with chemical sealers or silicon surface treatments.</p>
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## WOOD NAILER LOCATION AND INSTALLATION

Wood nailers shall be installed as specified by the project designer or as noted in GenFlex details and the system design guide.

### Chemical Treated Wood Nailer

Chemical treating for fire resistance or other purposes (other than pressure treating for rot resistance, i.e., CCA, ACZA, CBA, ACQ or other copper treatments) may affect the performance of the GenFlex membrane and accessories. Submit MSDS sheets with active ingredients listed for any chemically treated lumber not listed that will contact the membrane. Contact a Regional Technical Coordinator to evaluate compatibility.

### Position Wood Nailer

Total wood nailer height must match the total thickness of roof insulation installed, with a ⅛" (3 mm) gap between each nailer length and at each nailer intersection.

### Secure Wood Nailer

Wood nailers shall be firmly fastened to the deck or building. Mechanically fasten wood nailers to resist a minimum 200 lb (890 N) force in any direction typically 12" (305 mm) on center. Refer to attachment requirements as specified by the project designer.

## Taper Wood Nailer

The wood nailer shall be tapered (as required) so the top surface of the wood nailer abutting the insulation matches the height of the insulation.

## Size of Wood Nailer

All wood nailers shall extend into the field of the roof a minimum of ½" (13 mm) beyond any metal edged detail.

## Wood Nailer by Others

Make these specifications and details available when others will install nailers. Work that compromises the integrity of the system may jeopardize the warranty.

**!** **NOTE:** Because of recent EPA regulations regarding treated wood, new treatments for lumber may be highly corrosive to fasteners. Contact the fastener manufacturer for recommendations on fasteners if attaching nailers that have been treated with corrosive materials.

# INSULATION ATTACHMENT

## Compatibility for Metal Decks

Minimum 1½" (38.1 mm) insulation thickness is required over metal decks to ensure proper operation of induction welding equipment.

## Install Insulation

Install only as much GenFlex insulation as can be covered with roofing membrane and completed/made watertight before the end of the day's work and before the onset of inclement weather.

## Fit Insulation

Neatly fit insulation at all penetrations, projections, and nailers. Insulation should fit loosely, filling any gaps greater than ¼" (6 mm) with acceptable insulation or filler. Edges of insulation boards running parallel with the deck should be fully supported by the deck's top flange. Under no circumstance should the membrane be left unsupported over a space greater than ¼" (6 mm). Tapered insulation with acceptable facer for bonding must be installed around roof drains to provide proper slope for drainage as shown in GenFlex details.

## Stagger Insulation Joints

When installing multiple layers of insulation, all joints between layers shall be staggered 6" (152 mm) min.

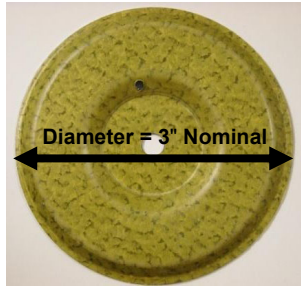
# MECHANICAL ATTACHMENT OF INSULATION

## Insulation Installation

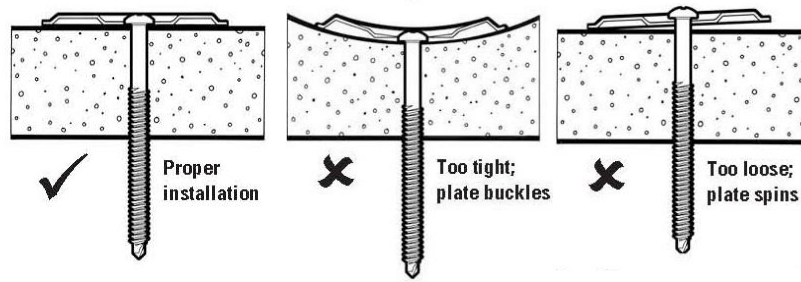
The insulation shall be attached to decking before installation of EZ TPO InvisiWeld Membrane System. This can be accomplished by the mechanical attachment of the insulation using an approved GenFlex fastener and the InvisiWeld insulation attachment plate (as shown in Detail EZT-IW-01). Refer to GenFlex's Product Data Sheet #1111 for product data and application data on the InvisiWeld and InvisiWeld-S plate. The fastener type and density are dependent on the deck type, wind uplift design requirements and the manufacturer's recommendations.

## Caution

Special care should be taken when fastening plates, so as not to overdrive or under-drive the fasteners into the structural deck (as illustrated in Figure 3). Overdriving the fasteners will result in a deformation or "cupping" of the plate and will result in an uneven or inadequate bond to the membrane, when welded. Under-driving the fastener will result in a loose plate with insufficient clamping force and a protruding fastener head that could cause damage to the membrane during welding and through normal roof traffic.



**Figure 2.**  
GenFlex EZ TPO  
InvisiWeld Plate



**Figure 3.** Proper Installation of Plate

## Mechanical Attachment

GenFlex InvisiWeld or InvisiWeld-S Insulation plates and GenFlex approved fasteners as follows:

- Refer to InvisiWeld Insulation attachment patterns (as shown in Detail #EZT-IW-07) for the specific attachment pattern and fastening rates. Refer also to specific code requirement for project fastening requirements.
- Refer to Product Data Sheet of fastener selected for attachment to determine deck penetration requirements as shown in the cross section on Detail EZT-IW-02.
- When installing a multilayer insulation assembly, the fastening pattern is determined by the type and thickness of the top layer of insulation.
- Ensure that the fasteners are fully seated but not overdriven. Overdriven fasteners will “cup” insulation plates, reducing their effectiveness.
- Multiple layers of insulation may be installed using a common fastener. Fasteners should be sized to accommodate the total thickness of insulation plus any required substrate penetration.

**NOTE:** For easier plate identification beneath the TPO membrane when attaching insulation or cover board, follow a linear or grid pattern as shown in Detail EZT-IW-07 or the Attachment Guide for the specified InvisiWeld fastening pattern. Additionally, fastening in a linear or grid pattern allows for easier induction weld inspection and quality control.

## FM APPROVAL REQUIREMENTS - INSULATION ATTACHMENT

FM attachment requirements and patterns may differ from those required by GenFlex. More stringent attachment rates should be used in this case. If the project is FM insured, then consult a Regional Technical Coordinator to discuss differences between the two requirements. The attachment rates listed below are based off listed assemblies within RoofNav and are believed to be current. All assemblies and attachment rates should be validated against current information and tested assemblies before using for bidding or installation.

- For specific reference to the FM requirements for the InvisiWeld system, refer to FM Global Property Loss Prevention Data Sheets 1-29, for the prescriptive enhanced fastening rates for corner and perimeter areas, as required for the FM insured building.
- Generally, for a point attached system, increased fastening density is obtained by decreasing the spacing between fastener points in one or both directions. Ensure that the total tributary area to each fastener is no more than 67% and 50% in the perimeter and corners, respectively, of the FM Approved roof field spacing. It is also acceptable to find a tested assembly that meets the uplift requirements of each zone.
- The tables below illustrate the InvisiWeld, and InvisiWeld-S plate and fastener densities required to meet typical FM requirements for the field, perimeter, and corner fastening of the roof system. Layouts for the fastening patterns are shown in Detail EZT-IW-07 or in the Attachment Guide. The tables explain typical FM requirements for fastening enhancements when liner rows of plate bonded fastening is used. This type of attachment may require additional insulation presecurement. Review the RoofNav number completely to verify.

Table 1 below illustrates the InvisiWeld fastener densities required to meet typical FM requirements for the field, perimeter and corner fastening of the roof system.

**Table 1**

INVISIWELD ATTACHMENT RATE (SEE TESTED ASSEMBLIES FOR ADDITIONAL INFORMATION)					
Uplift Rating	Field	Perimeter	Corner	Assembly (See Notes)	RoofNav #
1-90	6	9	12	TPO, ISO, Steel Deck Field rate based on tested assembly.	250651-0-0
	5.33 Contributory Area (CA)	Reduce the field CA by no less than 67%	Reduce the field CA by no less than 50%		
<b>NOTE:</b> 1. Field/Zone 1 rating in any location does not exceed Class 1-90. 2. Building is in non-tropical cyclone-prone region and Field/Zone 1 rating does not exceed Class 1-105. 3. Validate all attachment rates against tested assemblies. See table below for example. 4. Rates above are based on contributory area rates. 5. 0.045" (1.14 mm) thick GenFlex EZ TPO approved for 15-year warranties. 6. 0.060" (1.52 mm) thick or greater required for 20-year or greater warranties. 7. 0.060" (1.52 mm) thick or greater required for any increased wind speed warranties. 8. If RoofNav listing has linear rows listed instead of contributory area, decrease the spacing between rows by a minimum 67% for the perimeters and 50% for the corners. These assemblies may still require preliminary securement fasteners to be installed. See the RoofNav listing for details.					

**Table 2**

InvisiWeld Attached Membrane – Membrane Securement Enhancements	
Prescriptively enhance by reducing the distance between rows of roof cover fasteners and stress plates from the Zone 1 spacing using the following:	
Zone 2:	Decrease spacing between fastener points in one or both directions. Ensure the total tributary area to each fastener is not more than 67% of the FM approved spacing used for Zone 1
Zone 3:	Decrease spacing between fastener points in one or both directions. Ensure the total tributary area to each fastener is not more than 50% of the FM approved spacing used for Zone 1
<b>Note:</b> Pre-securement of the insulation may be required. See tested assembly for validation. When rows of fasteners are used Install all rows of roof cover fasteners perpendicular to the ribs of the roof deck to better distribute the wind load and prevent deck failure.	
<b>Example:</b> Zone 1: 24"x 24" pattern (6 fasteners per board or a tributary area of 4 sq. ft. per fastener) Zone 2: 16" x 24" pattern (12 fasteners per board or a tributary area of 2.68 sq. ft. per fastener) Due to rib spacing you may need: 12" x 24" pattern (14 per board or tributary area of 2.28 sq. ft. per fastener) Zone 3: 12" x 24" pattern (tributary area of 2 sq. ft. per fastener)	

## USE OF AIR OR VAPOR BARRIER WITH INVISIWELD SYSTEM

When an approved air or vapor barrier is used in conjunction with the GenFlex EZ TPO InvisiWeld or InvisiWeld-S system, give special attention to the number of fasteners used in the system to secure the insulation. At a minimum, the fastener density for attaching insulation boards in systems with an air/vapor barrier is 1 per 4 ft<sup>2</sup> (1 per 0.4 m<sup>2</sup>), or 8 per 4' x 8' (1.2 m x 2.4 m) board. Since the wind load on the insulation board will be greater when an air/vapor barrier is used, the prescriptive perimeter and corner enhancements will follow those of fully adhered systems with the same number of fasteners per unit area but arranged in straight linear fashion (see Detail EZT-IW-07 or the Attachment Guide).

**Table 3**

Minimum Fastening Requirements for InvisiWeld System with Air Barrier			
Insulation Thickness	Attachment per 4' x 8' (1.2 m x 2.4 m) Insulation Board		
	Field	Perimeter	Corner
0.5" to 1.4" (13 to 36 mm)	16	16	16
1.5" to 1.9" (38 to 48 mm)	12	12	12
2" or greater (51 mm or greater)	8	8	8

**NOTE:**  
 Minimum Fastening Requirements for field, perimeter, and corner areas using the prescriptive enhancements for insulation attachment – Refer to FM Approvals LPDS 1-29 Section 2.2.2.2 for FM insured projects or project designed around FM specifications. The rates listed in the table above are for warranty purposes only. If specific uplifts are specified/required, then attachment rates should be validated by a tested assembly. When increased wind speed coverage is requested then the rates listed above may change. Consult with a GenFlex Representative or Building Systems Advisor for more information.

## GENFLEX EZ TPO MEMBRANE ATTACHMENT

1. Beginning at low point of roof, place membrane without stretching over substrate and allow to relax at least 30 minutes before attachment or splicing. In colder weather allow for longer relax time.
2. Lay out the membrane panels so that the field and flashing splices are positioned to shed water. Seam overlaps may be placed over InvisiWeld or InvisiWeld-S plate. Welding of the plate will not be affected. However, seaming of the involved area may be affected due to the robotic welder tracking over the plate.
3. Install membrane without wrinkles and without gaps or fish-mouths in seams; complete splices and test all seams in accordance with published specifications and details.
4. Welding equipment shall be provided by others but approved for use by Amrize Building Envelope LLC. for use with EZ TPO membrane. For information beyond the scope of this document, contact a Regional Technical Coordinator or local Field Technical Representative. We encourage roofing contractors intending to use the equipment to successfully complete a training course provided by Amrize Building Envelope LLC. prior to plate welding.
5. Perform the tool calibration with the induction welding tool.
  - **For OMG RhinoBond Tool:** Make test welds with the EZ TPO membrane and InvisiWeld plate. Weld some spare membrane to the plates at various energy settings of the induction welder. Perform a peel test at the different energy settings. Then set the device at the lowest setting that creates a bond that covers 100% of the bonding area of the InvisiWeld plate.
  - **For SFS Intec, isoweld 3000 Tool:** Perform the automatic calibration using the calibration template, a spare piece of the field TPO membrane, and an InvisiWeld-S plate. Ensure that the project parameters are set correctly, i.e., roof membrane thickness and type. With the thermal probe in place over the field membrane under the temperature conditions to be calibrated, follow the calibration function instructions in the tool’s operating manual. Move the tool setting to “Calibration”, with the welding inductor over the membrane piece, the InvisiWeld-S plate and calibration template, press “Start”. Once a beeping sound is heard, the tool has been calibrated.
  - **NOTE:** Both tools require calibration:
    - Every morning before starting work.
    - When moving to another building site.
    - When working with a different thickness material.
    - Change from 110V to 230V, or vice versa.
    - Change of electrical source.
6. All membrane to be welded shall be clean and dry.
7. Follow induction tool manufacturer’s printed guidelines. Activate the weld between the EZ TPO membrane and InvisiWeld plate using the electromagnetic induction device as supplied by others. The induction coil, demarked by a red circle on the OMG RhinoBond tool, or by the area within the calibration template on the SFS isoweld 3000 tool, must be positioned over the center of the InvisiWeld plate, ± 1" (25 mm). Cycle time will be affected by available power. Use at least a 12-gauge power cord, no more than 100' (30.5 m) in length.

1. Making a TPO template of the base of the OMG RhinoBond Welder and cutting out a plate sized hole in the center is helpful to ensure accuracy of the welder placement.
2. Place hole over plate and make two (2) pencil marks on perpendicular edges of the outer edge of the template to properly position base of welder.
8. When the induction welding cycle is complete, immediately place a magnetic cooling clamp over the welded EZ TPO membrane and plate assembly. This will ensure that there is adequate compression of the membrane to the plate during cooling, affecting a proper weld. The magnetic cooling clamp device must be left in place for at least 60 seconds while the weld cools and sets.
9. Repeat steps 7 and 8 for every InvisiWeld plate in the roofing assembly.
10. The bottom of the induction welder and the magnetic clamps must be frequently wiped clean of debris to prevent scarring of the EZ TPO membrane.
11. Continuous welding operations will cause the temperature of the magnetic clamps to rise. Should the temperature build up to the point that surface melting of the TPO membrane becomes visually evident, cool the magnetic clamps by dipping them into a pail of clean water as often as required to avoid damaging the membrane.
12. Secure membrane at all locations where membrane terminates at a roof edge as indicated or as recommended by published GenFlex specification. **InvisiWeld Plates may be used for base tie-in securement. Do not use InvisiWeld Plates for roof edge securement.**

## MEMBRANE SEAMING

### General

The following information provides for typical set up and heat welding of GenFlex EZ TPO membrane. For information beyond the scope of this document, we encourage installers to contact a Regional Technical Coordinator or local Field Technical Representative.

**Ensure proper welds are being achieved. If welding problems occur validate the following:**

- Ensure the weld area is clean, dry, and free of contaminants prior to welding.
- If cleaning occurs completely dry area prior to welding.
- Perform test welds with scrap membrane to dial in the proper welding temperatures.
- Perform test welds prior to job start, after breaks in installation, and during temperature swings.

**! NOTE: Once weld areas have cooled, validate weld is fully bonded and no gaps, fish mouths, pin holes or cold welds exist. Probe all welds to verify weld is completed properly.**

**NOTE: It is important to verify that welds completed at any transition from machine to hand application is completed properly. Validate weld transition is fully bonded and no gaps, fish mouths, pin holes or cold welds exist. Probe all welds to verify weld is completed properly.**

**NOTE: Lap membrane to cover membrane printed areas (lap lines, fastener location marks and product identifications printing) whenever possible.**

### Equipment and Test Splice Requirements

- The air intake, temperature and speed of the welder shall be adjusted to provide proper seam strength.
- An ample power source shall be provided for all heat welding equipment. A dedicated generator must be provided for each robotic welder. For specifics on welding equipment and generator, consult the welder manufacturer's data sheets.
- Adjust the welding equipment according to membrane thickness and varying weather conditions. It is recommended that this be completed using spare material before starting welding of the finished roofing material. In addition, destructive tests shall be completed at the beginning of each day of welding and every time there is an interruption in the welding process (i.e., power failure, welder shut down, change in job site conditions, after lunch, etc.) to verify adequate seam strength.

## Automatic Welder Settings:

**IMPORTANT! Before completing any welding on the field of membrane, adjust automatic welder settings to accommodate ambient conditions. Validate that settings will accomplish proper welds by performing TEST welds will scrap membrane material.**

GenFlex EZ TPO allows for successful welding through a wide range of automatic welder settings for temperature and momentum. Typical settings near the center of this welding range are as follows (ambient temperatures between 20 °F to 90 °F and -6.7 °C to 32.2 °C):

- Leister Varimat - Temperature: 1000 °F (538 °C) Air Flow: 80%, Speed: 11.5' (3.5 m) min.
- Leister Varimat V2 - Temperature: 1100 °F (593 °C) Air Flow: 70%, Speed: 12.5' (3.8 m) min.
- Contact a Regional Technical Coordinator for additional information.

## Cleaning the Lap Splice Area

If membrane has been exposed for more than 12 hours or become contaminated with dirt, debris, or moisture, it must be cleaned. Wearing chemical resistant gloves and using a clean white cotton rag dampened with GenFlex Clear Solvent Cleaner, thoroughly clean the area involved on both sheets at least 6"(15.24 cm) wide prior to any welding activity. For aged membrane, or when additional cleaning is desired, a GenFlex Scrub Pad moistened with Clear Solvent Cleaner may be used to clean the weld area, followed by wiping with a clean white cotton rag dampened with Clear Solvent Cleaner. Allow cleaner to flash off completely, **as residual cleaner can contaminate the membrane bond.**

## Hot Air Weld Lap Splices

- Horizontal field welds should be completed first. Wherever possible, field splices on the horizontal surface (including flashing) are to be completed using an automatic heat welder that has been designed for hot air welding of thermoplastic membranes. For specifics on welding equipment and generator, consult the equipment manufacturer's data sheet.
- Seams made with the automatic welder shall be a minimum of 1.5" (38 mm) wide. Seams made with hand welders shall be a minimum of 2" (50 mm) wide. Use silicone hand rollers to assure proper compression of the heated surfaces as hand welding proceeds. **NOTE: It is important to verify that welds completed at any transition from machine to hand application are completed properly. Validate weld transition is fully bonded and no gaps, fish mouths, pin holes or cold welds exist. Probe all welds when the material is cool to ensure that the weld has been completed properly.**
- On vertical surface welds, or where an automatic welder is not practical, hand welders shall be used.

## T-Joint and Membrane Transition Patches

Install T-Joint patches at reinforced membrane seam intersections when membrane thicker than 0.045" (1.14 mm) is used. Membrane to receive T-joint cover shall have the edge chamfered by heating and rolling to minimize any step-down. Also install T-Joint patches wherever reinforced membrane seams extend through angle changes of 2:12 or greater. Refer to Lap Splice and T-Joint Detail Section of GenFlex's Technical Manual.

## Seam Inspection

Probe all completed welds with a dull cotter pin puller type tool to verify seam integrity, paying special attention to hand welded areas (i.e., corners, t-joints, angle changes, robot welder starts and stops, etc.). Do not probe welds until they have cooled. Any welds found to be insufficiently fused need to be repaired daily. Avoid damaging membrane when checking welds. **NOTE: It is important to verify that welds completed at any transition from machine to hand application is completed properly. Validate weld transition is fully bonded and no gaps, fish mouths, pin holes or cold welds exist. Probe all welds after the materials have cooled, to verify weld is completed properly.**

## Cut Edge Sealant

All membrane lap edges with exposed scrim (cut edges) shall be sealed with GenFlex TPO Cut Edge Sealant or GenFlex TPO Cut Edge LVOC Sealant.

## ADDITIONAL MEMBRANE SECUREMENT AND BASE TIE-IN FLASHING

### Provide Membrane Securement

Secure the membrane at all locations where the membrane undergoes an angle change greater than 1" (25 mm) in 12" (25 mm in 305 mm). This typically occurs at roof edges, curbs, wall intersections, parapets, etc. GenFlex offers several options for base tie-in on InvisiWeld systems. Where InvisiWeld or InvisiWeld-S plates are used as a base tie-in, the InvisiWeld or InvisiWeld-S plate outside edge must be 1" (25 mm) away from the transition and spaced 12" (305 mm) o.c.. Refer to GenFlex EZ TPO Base Tie-In details and Product Data Sheets for additional information.

## FLASHING-PENETRATIONS

### General

1. Remove all loose existing flashing (i.e., lead flashings, bituminous materials, mastics, etc.).
2. Flash all penetrations that pass through the EZ TPO membrane in accordance with GenFlex standard TPO details as indicated in the Technical Information Manual.
3. The flashing seal must be made directly to the penetration.

### Pipes, Round Supports, Structural Steel Tubing, etc.

1. Flash pipes with GenFlex EZ TPO Pre-molded Pipe Flashing wherever possible. Do not split TPO pre-molded pipe flashings to assist in their installation.
2. Refer to the GenFlex Product Data Sheet for minimum and maximum pipe diameters that can be successfully flashed with GenFlex EZ TPO Pre-Molded Pipe Flashings.
3. GenFlex manufactures custom pipe flashings in round, square and conical shape, with or without a split. Contact a GenFlex Sales Representative for additional information.

### Roof Drains (Cast Iron Only)

1. Remove all existing flashing (including lead flashing), roofing materials and cement from the existing drain in preparation for EZ TPO membrane and GenFlex Water Stop sealant.
2. Provide a clean, even finish on the mating surfaces between the clamping ring and the drain bowl.
3. Install tapered insulation with acceptable bonding surfaces around the drain to provide a smooth transition from the roof surface to the drain. Slope into drain shall not exceed 1" in 12" (25 mm in 305 mm).
4. Position the EZ TPO membrane, then cut a hole for the roof drain to allow a ½" (13 mm) minimum and ¾" (19 mm) maximum overhang inside the clamping ring.
5. Using a punch or other suitable device, make round holes (sized to receive clamping bolts) in the membrane to align with clamping bolts. Do not cut the membrane back to the bolt holes.
6. Install GenFlex Waterstop sealant on the clamping ring seat flange below the membrane. Use a minimum of one half of a 10-ounce (295 CC) tube for a 10" (250 mm) drain.
7. Install the roof drain clamping ring and clamping bolts. Tighten the clamping bolts to achieve constant compression of the Waterstop sealant.
8. Retrofit or Insert Drains are an option for installation when existing drains are not suited for reuse or for re-roofing situations where existing drain sumps exceed GenFlex's minimum requirements. Contact GenFlex Regional Coordinator for more information prior to use.

### Pipe Clusters and Unusual Shaped Penetrations

1. Fabricate GenFlex EZ TPO Coated metal penetration pockets to allow a minimum clearance of 1" (25 mm) between the penetrations and all sides of the pocket.
2. Secure GenFlex GenPocket T penetration pockets, and flash per current GenFlex details.
3. Fill penetration pockets with GenFlex Pourable Sealer to shed water from penetrations. GenFlex Pourable Sealer shall be poured to a depth of 2" (50 mm) minimum.
4. GenFlex EZ TPO Non-Reinforced flashing may also be used for some details.

### Hot Pipes

1. Protect EZ TPO components from direct contact with steam or heat sources that exceed the in-service temperature of 160 °F (71 °C).

2. Roof penetrations exceeding 160 °F (71 °C) shall be flashed to an intermediate, or separator sleeve per GenFlex details to protect EZ TPO components from direct heat sources.

### Flexible Penetrations

Flexible roof penetrations shall be flashed by means of a watertight gooseneck set in Waterstop sealant, secured to the deck, and flashed in accordance with GenFlex details.

### Scuppers

1. Remove any existing scuppers and install a new scupper sleeve fabricated from GenFlex EZ TPO coated metal, or customized prefabricated scupper.
2. Secure new scupper to the structure.
3. Flash new scupper in accordance with GenFlex Details.

### Expansion Joints

1. Install expansion joints in accordance with GenFlex details where specified by project designer.
2. Flash expansion joints in accordance with GenFlex details.

## FLASHINGS: WALLS, PARAPETS, MECHANICAL CURBS, ETC.

### General

- Using the largest piece(s) of continuous GenFlex EZ TPO membrane, flash all walls, parapets, curbs, etc., to the height of 8" (203 mm) minimum or as specified by the project designer.
- Install additional membrane securement and base tie-ins as previously described.
- Provide membrane termination in accordance with GenFlex specifications and details.
- TPO membrane can be installed up to a maximum height of 72" (182.9 cm) without intermittent attachment as long as the following conditions are present:
  - Wall surface is smooth without noticeable high spots or depressions: such as plywood, poured or pre-cast concrete, hollow core block or masonry walls where mortar joints are flush with masonry surface, **AND**
  - The termination of membrane flashing is a Termination Bar or membrane flashing extending completely under coping to the outside wall to the outside face edge.
  - Intermittent termination IS REQUIRED:
    - When flashing heights exceed 72" (182.9 cm), intermittent termination is required at 36" o.c (91.44 cm) on center beyond the maximum height.
    - When the wall surface does not meet the conditions stated above, intermittent termination is required at 36" o.c (91.44 cm).
    - When the wall or substrate is non-structural (see detail EZT-T-26), intermittent termination is required at 36" o.c (91.44 cm).

### Evaluate Bonding Substrate (Add acceptable bonding substrate as required.)

The following substrates require the installation of 5/8" (16 mm) exterior grade or "Wolmanized" plywood, anchored in accordance with project designer's requirements: interior gypsum board, stucco, cobblestone, textured masonry, exterior gypsum panels, corrugated metal panels, and all other uneven or loose substrates.

### Curb and Base Flashing with EZ TPO Membrane

1. Apply EZ TPO Bonding Adhesive, GenFlex Water-based Bonding Adhesive, or LVOC Bonding Adhesive at about the same time to both the membrane flashing and the surface to receive the flashing at about the same time to allow approximately the same drying time.
  - a) **NOTE:** When using EZ TPO Membrane as flashing and EZ TPO Bonding Adhesive or Water-Based Bonding Adhesive, the adhesive must be applied to both the flashing and the curb as a contact adhesive.
2. Apply GenFlex's EZ TPO Bonding or Water-Based Bonding Adhesive by rolling the adhesive on the mating surfaces evenly, avoiding puddles or globs, at the specified coverage rate. Refer to the Product Data Sheets for the specific adhesive.
3. Allow flash off period for bonding adhesive.

4. Test bonding adhesive for readiness. Touch the bonding adhesive surface with a clean, dry finger to be certain that the adhesive does not stick or string. As you are touching the adhesive, push straight down to check for stringing, and push forward on the adhesive at an angle to ensure that the adhesive is ready throughout its thickness. If either motion exposes wet or stringy adhesive when the finger is lifted, then the adhesive is not ready for bonding. Flash off time will vary depending on ambient air conditions. This is especially true for water-based adhesives. GenFlex Water-Based Bonding Adhesive will change appearance from opaque to nearly transparent, indicating it is ready for bonding. Coverage rate will differ with varying substrates and ambient conditions.
5. Once bonding adhesive has properly flashed off, evenly roll the membrane flashing up the vertical substrate, and take care to avoid wrinkles.
6. Broom the membrane flashing after bonding, using a stiff push broom to ensure proper contact and bonding.
7. Complete the splice between the membrane base flashing and the main roof EZ TPO membrane by hot air welding. Complete lap splices in accordance with GenFlex details.
8. Install termination of base flashing in accordance with GenFlex details.
9. The membrane can be installed up to a maximum height of 72" (182.9 cm) without intermittent attachment as long as the following conditions are present:
  - a) Wall surface is smooth without noticeable high spots or depressions: such as plywood, poured or pre-cast concrete, hollow core block or masonry walls where mortar joints are flush with masonry surface, **AND**
  - b) The termination of membrane flashing is a Termination Bar or membrane flashing extending completely under coping to the outside wall to the outside face edge.
10. Intermittent termination *IS REQUIRED*:
  - a) When flashing heights exceed 72" (182.9 cm), intermittent termination is required at 36" o.c (91.44 cm) on center beyond the maximum height.
  - b) When the wall surface does not meet the conditions stated above, intermittent termination is required at 36" o.c (91.44 cm).
  - c) When the wall or substrate is non-structural (see detail EZT-T-26), intermittent termination is required at 36" o.c (91.44 cm).

## FLASHING - GRAVEL STOPS OR ROOF EDGE METALS

Use GenFlex Roof Edge Systems or other product as indicated. Install in accordance with GenFlex details.

1. Use EZ TPO Coated Metal per GenFlex details.
  - a) When using GenFlex TPO Coated Metal, a perimeter EZ TPO sheet must be placed parallel to metal edge with selvage edge positioned to weld to the edge metal.
  - b) Coated metal edge detail must provide enough room to permit T-joint cover or strip-in of details with sufficient width wood nailer for support.
2. Use other metals formed as needed for special conditions and flashed using TPO Peel & Stick Flashing.
  - a) Install gravel stop metal as specified by project designer. Flange of gravel stop metal shall be flashed using EZ TPO Peel & Stick Flashing. Maximum warranty length for this detail is 20 years.
  - b) Apply GenFlex EZ TPO Clear Primer to flange of gravel stop/edge metal with Scrub pad and handle with long back and forth strokes with heavy pressure on splicing area. Stir the EZ TPO Clear Primer before and during use. Dip the GenFlex Scrub pad into the EZ TPO Clear Primer, keeping the pad flat. Change pads every 200' (61 m) or when pad no longer holds the proper amount of EZ TPO Clear Primer.
  - c) Allow a brief flash off time – usually less than 10 minutes – for the EZ TPO Clear Primer before applying EZ TPO Peel & Stick Flashing.
  - d) Install EZ TPO Peel & Stick Flashing, centered over the flange edge of the gravel stop/edge metal. Using a silicone coated rubber roller, roll the EZ TPO Peel & Stick Flashing immediately after installation of EZ TPO Peel & Stick Flashing.

## MEMBRANE REPAIR

1. Repair punctures/cuts/damage to EZ TPO membrane with like materials. The repair material shall be heat welded EZ TPO membrane with 2" (50.8 mm) minimum extended past the damaged area in all directions. Round all corners of the repair piece. **Example:** a pinhole will require a minimum 4" x 4" (102 mm x 102 mm) patch.

2. Inspect the plates. At each InvisiWeld or InvisiWeld-S bonded plate location, the condition of the plate bonded or attached membrane should be inspected for membrane abrasion at the plate peripheral edges, and for any debris, or holes in the membrane over the plate. If any abrasion or membrane damage is found, the entire area must be patched with a minimum 4" x 4" (102 mm x 102 mm) patch that covers the plate area completely. An EZ TPO T-joint cover may also be used to repair a pinhole over InvisiWeld plate.

**NOTE:** For inspection purposes, GenFlex recommends the use of a bathroom plunger to inspect the individual InvisiWeld or InvisiWeld-S plate welds. By applying the rubber end of a plunger to the membrane adjacent to the welded InvisiWeld plate and pulling upwards, the condition of the weld can be assessed. This is an effective method to ensure that no InvisiWeld or InvisiWeld-S plate welds were missed during installation.

3. Clean the membrane. When repairing "in-service" GenFlex EZ TPO Membrane it is necessary to remove accumulated field dirt. The membrane is properly prepared by scrubbing with a scrub brush and warm soapy water, rinsing with clear water, drying with clean cloths, then wiping with a clean cotton cloth dipped in GenFlex Clear Solvent Cleaner.
4. Install repair per membrane hot air welding procedures.
5. Multiple Repairs. If the membrane is damaged in more than six (6) locations in a 100 ft<sup>2</sup> area, new membrane extending 6" (152.4 mm) beyond the border of the damaged area must be installed over existing membrane in accordance with published GenFlex specifications. Secure the replacement membrane in the same manner as the existing membrane. Contact a Regional Technical Coordinator with questions on how to address comprehensive damage.

## TEMPORARY CLOSURE

Temporary closures to ensure that moisture does not damage any completed section of the new roofing system are the responsibility of the roofing contractor. This is not covered under any GenFlex warranty.

1. At the completion of each day's work or before the onset of inclement weather, a watertight temporary seal must be established by the roofing applicator at any loose edge of membrane.
2. Install temporary seal or flashing strip to ensure that moisture does not flow beneath or damage any completed section of the new roofing system.
3. Membrane contaminated with the sealant or flashing used as a night seal must be cut away and discarded prior to resumption of work.

See GenFlex Vapor Shield™ Membrane Product Data Sheet for further information.

## ROOF WALKWAYS

Install walkways in locations as specified by the project designer in accordance with GenFlex requirements.

Walkways shall consist of 30" (762 mm) wide GenFlex TPO Walkway Pad. Heat weld the edges of the walkway material to the EZ TPO membrane using the proper welding procedures.

## SHEET METAL WORK

### General

- Sheet metal work is not waterproofing. The installed membrane roofing system must be made watertight before metal application.
- No roof system is complete until all the edges are terminated in such a way as to prevent water infiltration into the roofed structure. This typically involves the use of manufactured or shop fabricated metal detailing, such as coping caps, gravel stops, roof edging, flashing and counter-flashing components.
- All sheet metal work should be fabricated and installed according to SMACNA and National Roofing Contractors Association (NRCA) guidelines in accordance with local building code. Unless specifically agreed to in writing by GenFlex, prior to installation, sheet metal work manufactured by others is not included in the GenFlex warranty coverage.
- Contact GenFlex Regional Technical Coordinators for more information on GenFlex approved metal profiles for factory fabricated materials and warranty coverage.
- For all other sheet metal work not supplied by GenFlex, refer to fabrication and installation requirements established by the project designer.

## CLEAN UP

If required by the specifier to ensure the aesthetics of the GenFlex EZ TPO membrane, (i.e., handprints, footprints, general traffic grime, industrial pollutants, and environmental dirt), the membrane may be cleaned by scrubbing with non-abrasive soapy water and rinsing the area completely with clean water. GenFlex Clear Solvent Cleaner can be used sparingly to clean small areas of membrane.

### Cleaning Procedure for In-Service Thermoplastic Membrane

1. Ensure that the existing area to which new thermoplastic membrane is to be mated is clean, smooth, and free of all contaminants.
2. Thoroughly clean this area with detergent and water. It is recommended that a water-soluble granular cleaner be used such as T-M-T brand, which is manufactured by the U.S. Borax Company. Liquid cleaners tend to leave a film residue that can interfere with heat-weld quality. The cleaner must be completely rinsed/removed from areas where welding may occur and allowed to completely dry before any welding is performed.
3. It is recommended that a polypropylene scouring pad be used for maximum cleaning. This is the type manufactured by 3M. Coupled with the granular detergent it allows for enough abrasive action to thoroughly clean the sheet without causing damage to it.

**! NOTE: DO NOT USE STEEL WIRE BRUSHES UNDER ANY CIRCUMSTANCES.**

4. It is imperative that the area be thoroughly rinsed several times to remove all cleaner and contaminants before heat welding. Further, the area must be allowed to dry completely before continuing. If blisters form upon heat welding, the area has not been allowed to dry sufficiently and heat welding should discontinue.
5. After allowing to dry sufficiently, the heat-welding areas on the existing membrane shall be cleaned a second time with denatured alcohol and wiped clean with a clean cotton rag to remove all surface impediments and eliminate any surface curing which may have occurred.

**! THOROUGH CLEANING WITH DENATURED ALCOHOL IS THE MOST CRITICAL PROCEDURE TO ENSURE THE PERFORMANCE OF THE NEW TO EXISTING MEMBRANE HEAT-WELD.**

6. All heat welding shall be in accordance with GenFlex thermoplastic details and specifications as published. Keep in mind that the existing sheet is aged, which may call for more allowance. Care should be taken not to overheat and scorch either membrane.
7. Upon completion, allow newly welded seams to cool.

**! IMPORTANT: ALL WELDS MUST BE THOROUGHLY PROBED AND CHECKED FOR COMPLETE INTEGRITY AND REWELDED OR STRIPPED IN AS REQUIRED.**

## GenFlex EZ TPO INVISIWELD SYSTEM – METAL BUILDING RECOVER

### Prepare Substrate

- A dry, clean, and smooth substrate shall be prepared to receive the GenFlex EZ TPO InvisiWeld system.
- The applicator shall inspect the substrate for defects, such as excessive surface roughness, contamination, structural inadequacy, or any other condition that may adversely affect the quality of work.
- The substrate shall be clean, smooth, dry, and free of flaws, sharp edges, loose and foreign material, oil and grease. Roofing shall not start until all defects have been corrected.
- All roof surfaces shall be free of water, ice, and snow.
- Compressible fill material or spray, expanding urethane foam shall be used to minimize air infiltration under wood nailers for corrugated metal roof panels.
- The GenFlex EZ TPO InvisiWeld system shall be applied over compatible or acceptable substrates only.

## Install Insulation

- Approved Insulation fill material, with a minimum compressive strength of 20 psi (140 kPa) must be inserted in the existing metal standing seam roof panel to provide a level substrate for installation of the approved cover board or insulation boards, as shown in Detail EZT-IW-02. The fill layer must be cut to fit inside the metal panel seam and secured in place to fit flush with the top of the standing seam.  
**NOTE:** For Factory Mutual insured buildings, polystyrene insulation may not be applied directly to steel deck.
- Insulation shall be installed according to insulation manufacturer's instructions.
- Top layer of insulation shall be the membrane underlayment or substrate, cover board or any other approved GenFlex insulation product. Edges shall be butted together with no gaps greater than ¼" (6 mm).
- Insulation shall be neatly cut to fit around penetrations and projections with gaps not exceeding ¼" (6 mm).
- Install tapered insulation around drains as necessary to promote positive drainage.
- Do not install more insulation board than can be covered with GenFlex TPO membrane by the end of each workday or before the onset of inclement weather.
- Use at least 2 layers of insulation when the total insulation thickness for the overlayment (not including flute fill layer) exceeds 2.5" (64 mm). Stagger joints at least 12" (305 mm) between layers.

## Attach Insulation

- Insulation shall be mechanically fastened to metal building panels or to the structural deck with approved GenFlex fasteners and InvisiWeld or InvisiWeld-S plates.
- Attachment rate shall be according to GenFlex and FM (if insured by FM) recommendations for fastening rates and patterns for the InvisiWeld system into metal purlins, but not less than 1 fastener per 6.4 ft<sup>2</sup> (0.6 m<sup>2</sup>) or 5 fasteners per 4' x 8' (1.2 m x 2.4 m) board. Refer to the GenFlex Attachment Guide for additional information.
- The quantity and locations of the fasteners and plates shall also cause the insulation boards to rest evenly on the roof deck/substrate. Each insulation board shall be installed tightly against the adjacent boards on all sides.
- Along with the purlin attached InvisiWeld Plates, use standard GenFast #14 or #15 fasteners and GenFast 3" Insulation plates to ensure each 4' x 8' (1.2 m x 2.4 m) board of insulation has at least 5 fasteners and plates, one in each corner and one at the board mid center point.
- Install fasteners in accordance with GenFlex specifications, with a minimum penetration of 1" (25 mm) through the structural deck.
- GenFlex suggests fastening tools with a depth locator and torque-limiting attachment to assist in proper securement.

## Attach to Purlins

Fasten the insulation so the InvisiWeld or InvisiWeld-S plate and GenFlex Purlin or RetroDriller fastener will be centered over the structural purlin at a density according to GenFlex's and the wind design requirements. Fasteners must be tight enough that the InvisiWeld or InvisiWeld-S plate does not turn, but not so tight as to deform the InvisiWeld plate.

**!** **NOTE:** The minimum fastening requirement for the InvisiWeld metal roof recover system is at a purlin spacing of 10' (3 m) at a fastener spacing of 12" o.c. (305 mm) in the field of the roof. The minimum fastening for the perimeter and corner areas is at a purlin spacing of 5' (1.5 m) at a fastener spacing of 6" o.c. (150 mm).

## Perimeter and Corner Areas

- Perimeter and corner area are determined by building height, width, and other conditions according to ASCE 7 guidelines, GenFlex's Technical or FM LPDS 1-29 (if insured by Factory Mutual).
- To meet the perimeter and corner uplift requirements, increase the fastening density by decreasing the spacing between fasteners along each fastener row in the perimeter and corner areas. GenFlex Purlin or RetroDriller fastener spacing shall be a maximum of 60 percent of the field spacing for the perimeter and 40 percent of the field spacing for the corner, but never closer than 3" (76 mm).
- See Detail EZT-IW-04 (≤ 60' height or less), Metal Building Retrofit and Attachment Guide for more details. Contact a Regional Technical Coordinator for buildings over 60' in height.  
**NOTE:** Perimeter area is defined as the outer boundary of the roof. If the roof is broken into different levels, each roof area shall be treated as an individual roof with its outer boundary considered a perimeter. The ridge is defined as the high point of the roof area formed by two intersecting planes. Each side of the ridge is considered a perimeter area when the slope is ≥ 1.5:12. Contact the designer of record for validation. Typically, internal expansion joints and firewalls are not considered to be full perimeters. Refer to Factory Mutuals Data Sheet 1-28 for more information.
- Fastening enhancements based on warranty requirements. Factory Mutual LPDS 1-31 Section 3.4.4.1 may call for alternate enhancements. Consult FM LPDS 1-31 for more information.

## Fastener Securement Validation

- Fastener pullout tests shall be conducted on the metal roofing deck with approved fasteners by the manufacturer of the fasteners, or the specifier/designer for the project. A minimum of 15 pullouts for up to 50,000 ft<sup>2</sup> (4,650 m<sup>2</sup>) of which 8 are to be in perimeter and corner zones; and seven additional pullouts for each additional 50,000 ft<sup>2</sup> (4,650 m<sup>2</sup>) or portion thereof.
- Fasten the insulation so that the InvisiWeld or InvisiWeld-S plate and GenFlex Purlin or RetroDriller Fastener (depending on pullout value) are installed directly into the purlin through the insulation according to GenFlex's specifications and any other wind design requirements. Fasteners must be tight enough that the InvisiWeld plate does not turn, but not so tight as to deform the plate.
- InvisiWeld re-cover system over metal roof – typical ridge detail – See Detail EZT-IW-05
- InvisiWeld re-cover system over metal roof – typical eave detail – See Detail EZT-IW-06
- For additional wind requirement information for the InvisiWeld Roofing System over a metal building, please direct all questions to a Regional Technical Coordinator.

## WARRANTY COVERAGE

### Acceptable Fasteners

The following fasteners are acceptable for use and eligible for warranty with the GenFlex EZ TPO InvisiWeld system:

1. GenFast #14 Fasteners (Max 15 yr, New Construction)
2. GenFast #15 WH Fasteners
3. GenFast Purlin Fasteners
4. GenFast RetroDrillers

### Acceptable Roof Deck Types

The following roof deck types are acceptable for use and eligible for warranty with the GenFlex EZ TPO InvisiWeld System:

1. Steel Decks
2. Wood Decks
3. Structural Concrete Decks

### Acceptable Roof Insulation

The following roof insulation types are acceptable for use as substrates and eligible for warranty with the GenFlex EZ TPO InvisiWeld System:

1. GenFlex ½" HD ISO
2. GenFlex GL ISO
3. GenFlex CG ISO
4. DensDeck® cover board
5. SECUROCK®

**!** **NOTE:** Induction welding should not be used to attach membrane (with plate and induction welding tool) directly over extruded polystyrene (XPS) or foil faced insulation boards. For expanded polystyrene (EPS) insulation boards, cardboard discs must be used in conjunction with IW Plates.

## AVAILABLE ROOF WARRANTIES

- The following table shows the roof warranties, warranty duration, and system components available for the GenFlex EZ TPO InvisiWeld system for new construction or re-cover applications.
- For additional warranty information on the application of the GenFlex EZ TPO InvisiWeld system, please contact a Regional Technical Coordinator.

**Table 4**

<b>GENFLEX EZ TPO INVISIWELD™ SYSTEM ATTACHMENT REQUIREMENTS - WARRANTY TERMS AND CONDITIONS</b>								
GenFlex Warranty	GenFlex Fastener	Membrane / Insulation Attachment (per 4' x 8' board)			Additional Insulation Attachment When Vapor Barrier is Used			
		F	P	C	F	P	C	
10 or 15 Years, New Construction	GenFast #14	6	10	12	See Table 3. Varies by Insulation Top Layer Thickness	F	P	C
15 Years, Re-cover (Note 1)	GenFast #15	6	10	12				
20 Years, (Note 1)	GenFast #15	6	10	12				
72 mph Wind Speed Coverage	GenFast #15	6	10	12				
80 mph Wind Speed Coverage	GenFast #15	8	12	16				
<b>For all Wind Speed Warranties above 80 mph, contact GenFlex Technical Services at 1-800-428-4511</b>								
<b>METAL BUILDING RECOVER</b>								
		F	P	C	F	P	C	
10, 15, or 20 Years	Membrane - Purlin or RetroDriller Fastener	12.0" o.c. (305 mm)	6.0" o.c. (152 mm)	6.0" o.c. (152 mm)	N/A			
	Insulation - GenFast #15	5	5	5	Contact your GenFlex Technical Services Advisor			
<b>NOTE:</b> Membrane must be attached to InvisiWeld plates that are installed directly into purlins with GenFast Purlin or RetroDriller fasteners, at a maximum of 10' o.c. in the field and 5' o.c. for perimeter and corners purlin spacing.								
<b>NOTE(S):</b>								
<ol style="list-style-type: none"> <li>For 15-year warranties, membrane must be 0.045" or greater, and for 20-year warranties, membrane must be 0.060" or 0.080" (1.52 or 2.03 mm) thickness.</li> <li>Cover board selection may alter these attachment rates. Consult your Technical Services Advisor.</li> <li>F = Field; P = Perimeter; C = Corner</li> </ol>								

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