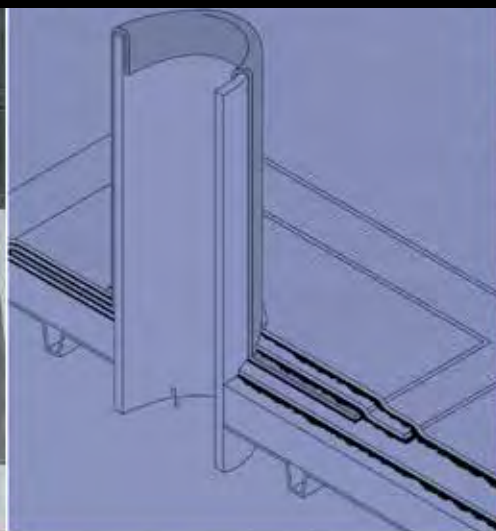


Technical Guide

Engineered Roof Systems



Contents

General Policy	1	Roof System Specifications	
		Paradiene 20/30 – Paradiene 20/30 FR:	
		Cold Adhesive Application	23
Product Information		Paradiene 20/30 TG Series:	
Paradiene 20/30	1	Torch Application	25
Paradiene 20/30 TG Series	2	Paradiene 20/20 Protected Membrane	29
Paradiene 20 TS	2	Veral: Torch/Hot Application	30
Paradiene 20 SA and Paradiene 20 TS SA	2	Parafor 50 LT: Cold Adhesive Application	32
Paradiene 30 BW	2	Teranap Plaza Deck/ Teranap	
Veral	2	Green Roofing: Torch Application	33
Parafor 50 LT and Parafor 50 TG	3	Parapro Roof Membrane	35
Teranap Green Roofing and Waterproofing	3		
Parapro Roof Membrane	3	Flashing Details	
Field Surfaced Membrane Systems	4	Paradiene 20/30, Paradiene 20/30 FR, Veral	36
Accessory Products	4	Teranap Plaza Deck/Teranap Green Roofing	40
Parafast Fastener Reference Chart	7	System Layouts	41
		Backnailing Information	42
General Requirements			
PA-311 Adhesive Application	8		
Cool Weather Application	8		
Torch Applicaton (CERTA)	9		
Roof Deck Requirements	11		
Siplast Lightweight Insulating Concrete	12		
Coverboard and Substrate Panel Usage	15		
Slope Requirements/Fastening Schedule	15		
Rigid Roof Insulation	16		
Insulation Adhesives	16		
Re-Cover	16		
Siplast Select Roofing Contractors	17		
Approvals/Classifications	17		
Guarantee	17		
Siplast Certificates of Analysis	17		
Siplast Roof Tag	17		
Product Reference Chart	18-22		

Siplast – A World Leader In High Performance Roofing and Waterproofing.

More than a roofing or waterproofing system – a partnership.

Great products don't always ensure a great roofing or waterproofing system – one that will still be in service long after the guarantee runs out. That kind of extraordinary performance takes a successful partnership – a partnership that combines quality products with thoughtful specifications, professional application, and responsible maintenance. It takes an engineered system from Siplast.

Siplast membrane products have changed the least, been in place the longest, and performed the best in more parts of the world than anyone else's. It's a history we're proud of, and a tradition we plan to continue.

If you want to create a great roofing/ waterproofing system, explore a partnership with Siplast. Please call 1-800-922-8800 or visit our Web site at www.siplast.com for more information.

General Policy

The following recommendations are based on past field experience under a wide variety of environmental and substrate conditions. They are meant as a guide to assist owners, specifiers, and roofing contractors in their consideration of the proper treatment of various roofing and waterproofing conditions. As each project is unique, these recommendations are not intended as absolute. Regional or specific job variances may take priority in some cases. Therefore, each project should be

considered individually, with specifications tailored to meet specific job conditions.

Siplast offers a variety of guarantee options on approved projects when Siplast materials are applied by Siplast Select Contractors when the system is constructed according to the appropriate Siplast specification, provided all required pre-job procedures have been followed. Siplast will issue no verbal or written guarantee other than those published by Siplast. Contact Siplast for guarantee options and related specification requirements.

On non-guaranteed systems, Siplast assumes no responsibility other than to supply quality materials in its usual manner. Siplast will provide no inspection services on non-guaranteed Siplast systems, nor will we write letters stating that we have examined plans, specifications, or details for such systems and found them acceptable for application of our materials.

Final responsibility for the design and appropriateness of any roofing or waterproofing system lies with the architect, engineer, roof consultant, and owner. By publishing the specifications and design criteria contained in this guide, Siplast should not be construed as having created any warranty, expressed or implied, other than that contained in our published Membrane Guarantee.

The information contained herein supersedes all previously published recommendations and specifications. Siplast reserves the right to change or modify any of the contents of this guide without prior notice.

Paradiene 20/30

Proven Performance in a Multi-Ply Elastomeric Roof System

When your project calls for a lightweight, highly flexible membrane with superior resistance to the elements, the optimum solution is Paradiene 20/30. Stresses imposed by contemporary roof designs require that roofs have exceptional elongation/recovery properties. Paradiene's finish and base plies consist of an elastomeric bitumen base – a unique blend of SBS and high quality proprietary bitumen – reinforced with a fiberglass mat. Paradiene 20/30 retains its elasticity through severe solar load, ultraviolet rays, thermal shocks, random ponding water, and extreme low temperature.

The Paradiene 20/30 System does not require the application of gravel or coatings, giving it a light installed weight of approximately 200 pounds per square. The system's granule surface allows easy inspection and repair.

Protection is an obvious advantage of the Paradiene system. That design also allows the practical advantage of choosing the application method and adhesive best suited for each job – one of Siplast's cold adhesive products, a torch, self-adhesive, or approved mopping asphalt.

Paradiene can be used over most decks and roof insulations on slopes up to ½-inch per foot when applied with approved mopping asphalt and 2½ inches when applied with one of Siplast's cold adhesives. For applications with slopes greater than 2½ inches, refer to

the slope requirements/ fastening schedule on page 17.

When a fire rating is required, Paradiene 30 FR is substituted for Paradiene 30. The enhanced fire resistant characteristics of this product are the result of a special manufacturing process that has qualified the Paradiene 20/30 FR System for a UL Class A rating.

The Paradiene 20/30 TG Series Features a Patented Grooved Torching Surface Designed for More Reliable Torching

All the performance advantages of the Paradiene System are available in a torch grade version. Paradiene 20/30 TG membranes are created by adding an additional layer of SBS – modified, torch grade asphalt and a polyolefin burn-off film to the standard Paradiene membranes.

Siplast TG Series products have a patented micro-grooved torching surface that allows more reliable torching than traditional flat-surfaced products. The micro-grooves provide additional surface area that makes quicker, more complete plastic burn-off possible.

The high quality modified asphalt blend, reinforcement, and overall membrane design of the TG Series are consistent with standard Paradiene membranes. The modified asphalt blend and controlled thickness allow TG Series products to be used without fastening on slopes up to 2½ inches per foot. For slopes greater than 2½ inches, refer to the slope requirements/fastening schedule on page 17.

Paradiene 20 TS With Heat-Activated Adhesive Stripes Provides Excellent Bonding in a Semi-Adhered Sheet

Paradiene 20 TS is a multi-functional, high performance, torch grade sheet designed for use as the base ply in Siplast multi-ply applications over primed, poured-in-place structural concrete decks and other

Siplast approved substrates.

Manufactured using patented production technology, Paradiene 20 TS consists of a Paradiene 20 SBS-modified bitumen base ply with a series of factory-applied, heat activated, modified bitumen, grooved adhesive stripes running parallel with the sheet on its back side.

Paradiene 20 TS is applied using conventional torch application procedures, although less heat is required to activate the TS adhesive stripes than is required when installing conventional torch grade products. The stripe pattern, together with a proprietary Syntan®¹ acrylic backing between the stripes, helps ensure uniform bonding of 50% of the total surface area of the sheet. The unique composition and design of the adhesive stripes provides an excellent bond to properly primed concrete, while also providing venting channels to dissipate any vapor pressure generated by latent moisture inherent in many poured-in-place concrete roof decks. This design enables Paradiene 20 TS to be applied directly to such decks, eliminating the costs of material and labor to install a venting base sheet.

Self-Adhesive Paradiene 20 SA and 20 TS SA Allow Installation of the Paradiene 20/30 System to be Completed in Less Time

When a self-adhesive base ply is required either to maximize installation efficiency or to meet local regulations, Paradiene 20 SA and Paradiene 20 TS SA offer an application option that doesn't compromise system quality.

Paradiene 20 SA is designed for fully adhered base ply applications, and incorporates a smooth, even layer of high grade, high-tack, self-adhesive bitumen blend on the back of our time-proven SBS-modified bitumen Paradiene 20 base ply. This self-adhesive bitumen layer is specifically formulated for optimum adhe-

sion in low-slope membrane applications. The back side of the sheet is lined with a high strength release film.

For applications that require a semi-adhered, self-adhesive base ply, Paradiene 20 TS SA offers a solution. This semi-adhered base ply is engineered to the same uniform bonding, partial attachment specifications as torch grade Paradiene 20 TS. Paradiene 20 TS SA consists of a Paradiene 20 base ply with a series of factory-applied, self-adhesive stripes running parallel with the sheet on its back side. Between the stripes, a proprietary Syntan acrylic coating helps ensure uniform bonding of 50% of the total surface area of the sheet by preventing the potential for undesired bonding over time.

Paradiene 30 BW Membranes Offer an Option for Cool Roofing Applications

Paradiene 30 BW membranes are high performance SBS-modified bitumen finish plies surfaced with highly reflective, bright white mineral granules - not films or coatings. BW membranes are available in FR and torch grade versions. Paradiene BW finish plies are California Title 24 Part 6 Compliant, are CRRC rated, and qualify for LEED certification points as defined by the United States Green Building Council.

Veral

The Stunning Metal Clad System Combining Design Flexibility and High Performance Protection

Veral's energy efficient, foil-faced surface lends a dramatic look to any project. Veral has an enviable performance record as the product of choice for sloped roofing and base flashing applications.

Veral utilizes the time-proven waterproofing characteristics of SBS-modified asphalt, the stability and strength of glass mat/glass scrim, and the protective qualities of metal foil. This combination creates a membrane that is tough, lightweight, long lasting, and weather-tight.

The Veral System is composed of two sheet components – a smooth-surfaced base ply (Paradiene 20 or Irex) and Veral. The finish ply, Veral, combines a glass mat/glass scrim-reinforced SBS-modified bitumen base with a protective foil facing. For applications requiring a white finish ply, Veral Spectra is available. Veral Spectra's protective aluminum foil facing is factory coated with a high performance, high-gloss white finish.

Because metal and asphaltic materials expand at different rates, special features have been engineered into Veral's design. Using a patented embossing system, small control channels are built into the metal facing. A thin layer of low-melt asphalt is factory-applied beneath these channels, allowing the metal to expand and contract independently of the modified bitumen base. The Veral System is preferably applied by torching, which utilizes the closely controlled modified bitumen in the sheets themselves.

The finished assembly provides a strong, flexible, glass-reinforced membrane, completely shielded from the elements. It can be used over most roof decks and insulations and on all slopes with drainage.

Parafor 50 LT and Parafor 50 TG Engineered Excellence in a Single-Ply System

The Siplast Parafor single-ply system is designed for sloped roofs. Parafor 50 LT is comprised of a base material that is a blend of elastomers and high quality asphalt with a polyester/fiberglass scrim reinforcement. This creates a tough, flexible sheet combining the stability and strength of fiberglass with the puncture resistance of polyester that can be applied with a torch, approved mopping asphalt, or one of Siplast's cold adhesive products.

Parafor 50 TG has a patented micro-grooved torching surface. The micro-grooves provide additional surface area

that allows more rapid torch application than is possible with Parafor 50 LT.

Parafor 50 LT and Parafor 50 TG are surfaced with mineral granules and can be used on all slopes with drainage and over all standard roof decks and insulations. Parafor 50 LT and Parafor 50 TG can be used as alternatives to Veral for base flashing applications. When used as a flashing membrane, Parafor 50 LT is applied in PA-828 Flashing Cement or SFT Cement. This lends an uncommon versatility to this durable and elastic product. Parafor 50 LT and Parafor 50 TG are UL Listed and FM Approved.

Teranap

The High Performance Solution for Plaza Deck and Green Roofing Applications

The Teranap Waterproofing System is a torch-applied SBS-modified bitumen system incorporating two membrane layers. The base ply, Paradiene 20 TG, is an elastomeric membrane engineered to retain its elasticity through the rigors of deck movement. The top ply, Teranap, consists of a nonwoven polyester mat impregnated and coated with SBS-modified bitumen.

Rolls of standard Teranap are 2 meters wide and 20 meters long. This coverage means a significant reduction in the number of seams as compared to projects using conventional modified bitumen waterproofing products. Teranap is also available in a 1-meter roll width for applications where a smaller roll is more practical and convenient, such as "set-back" roofs and high-rise projects. With fewer seams and enhanced flexibility, elasticity, and puncture resistance, the high performance Teranap Waterproofing System will stand up to the intense demands of plaza deck and green roofing applications for years.

The Teranap Waterproofing System can be specified with a wide variety of

surfacings for plaza deck applications, including pedestals and pavers, poured concrete, mortar and pavers, and road asphalt. Vegetated green roofing applications can be specified with many landscape options, including both extensive and intensive assemblies.

Parapro Roof Membrane

A Liquid-Applied Alternative to Traditional Roofing Plies for Specialized Applications

When project circumstances, local regulations, or a tight construction schedule make the application of roofing sheets difficult, Siplast offers a proven high-performance option: liquid-applied Parapro Roof Membrane. Parapro Roof Membrane is a seamless, fully reinforced waterproofing system that is used in conjunction with a Siplast Paradiene 20 P base ply or can be used as a stand-alone alternative to more traditional roofing plies. Because it is liquid-applied, completion of projects with difficult access and rooftop conditions such as excessive penetrations can be accomplished more efficiently with Parapro.

Paradiene 20 P series sheets are modified bitumen base plies specifically designed for use in Parapro Roof Membrane Systems. The top surface of the sheet is factory coated with proprietary Syntan acrylic coating. The white color of Syntan acrylic helps to reduce the surface temperature of Paradiene 20 P. This allows a greater window of opportunity for Parapro application in warm weather. Parapro Roof Membrane is built on advanced polymethyl methacrylate (PMMA) technology developed for demanding waterproofing applications. The science of PMMA gives Parapro Roof Membrane numerous advantages over other flame-free systems, including dramatically faster cure times than liquid-applied polyester and polyurethane products, and solvent-based cold adhesives. The Parapro waterproofing layer is rain proof in 30 minutes and is ready for foot traffic in two hours. Additionally, PMMA's

chemical resistance properties make Parapro a smart choice for roof areas requiring resistance to vegetable oils and many other substances that can negatively affect more traditional roofing products.

The Parapro Roof Membrane System can be surfaced with aggregate, and is available in light gray and white. Optional color finishes can be applied to the finished Parapro Roof Membrane, simplifying the application and maintenance of rooftop markings.

Parapro Roof Membrane Systems can be specified for green roofing applications. The root-resistant capabilities of Parapro make it an excellent option for both extensive and intensive green assemblies.

Field-Surfaced Membrane Systems

Paradiene 20/20 PR Gravel-Surfaced Systems

Paradiene 20/20 PR is the system of choice for specifications requiring a gravel-surfaced roof membrane. As with the standard Paradiene 20/30 System, the Paradiene 20/20 PR System utilizes a multi-ply design combined with the durability and strength of Paradiene 20 PR as the top roofing layer under aggregate surfacings. Paradiene 20 PR may be installed using approved mopping asphalt or one of Siplast's cold adhesive products. Paradiene 20 PR TG is available for torch applications. Gravel surfacings are field-applied in a flood coat of approved asphalt or one of Siplast's cold adhesive products.

Paradiene 20/20 PR gravel-surfaced roof systems are UL Listed as Class A Fire Rated Roof Coverings and are FM Approved as Class 1 Roof Covers.

Paradiene 20/20 Protected Membrane Systems

The Paradiene protected membrane specification incorporates two plies of Paradiene 20 TG, applied by torch, or two plies of Paradiene 20 fully adhered in

approved mopping asphalt to a poured-in-place structural concrete deck. A protection system consisting of polyethylene sheathing, approved extruded polystyrene insulation panels, and appropriate ballast or pavers is installed over the completed Paradiene Roof System.

Paradiene 20/20 protected membrane systems are UL Listed as Class A Fire Rated Roof Coverings.

Accessory Products

Parabase Plus and Parabase Plus P

On systems where the advantages of a highly flexible modified base sheet are required, Parabase Plus and Parabase Plus P are the solution. Parabase Plus is a modified bitumen coated fiberglass base sheet designed for use under guaranteed Siplast roof systems in certain nailable or asphalt applications. The top surface of the Parabase Plus P Sheet is factory-coated with white proprietary Syntan acrylic coating. Parabase Plus and Parabase Plus P meet or exceed ASTM D 4601, Type II requirements.

Parabase

Parabase is a non-porous, asphalt-coated, fiberglass base sheet designed for use under guaranteed Siplast roof systems in certain nailable or asphalt applications. Parabase meets or exceeds ASTM D 4601, Type II requirements.

Parabase FS

Parabase FS is a non-porous, asphalt-coated, fiberglass base sheet with a polyolefin film backing designed for use under guaranteed Siplast roof systems in certain nailable applications. It meets or exceeds ASTM D 4601, Type II requirements.

Paraglas

Paraglas is an asphalt-coated fiberglass ply sheet designed for use under certain guaranteed Siplast roof systems requiring a nailable or asphalt specification. Paraglas

meets or exceeds requirements of ASTM D 2178, Type IV.

Paradiene 40 FR and Paradiene 40 FR TG

Paradiene 40 FR is a high-tensile, granule-surfaced, multi-purpose membrane consisting of an elastomeric asphalt base and a fiberglass scrim/fiberglass mat composite reinforcement. Paradiene 40 FR is used as a finish ply in single layer and multi-layer applications, and as a base flashing material where granule-surfaced flashing sheets are required. Paradiene 40 FR, when used as a field membrane, can be applied with one of Siplast's cold adhesive products or approved mopping asphalt. Paradiene 40 FR TG is torch-applied. When used as a flashing membrane, Paradiene 40 FR is applied in PA-828 Flashing Cement or SFT Cement. Siplast Paradiene 40 FR is UL Listed and FM Approved.

Paradiene 40 FR TG has a patented micro-grooved torching surface that allows torch application of roofing and flashing membranes.

Paradiene 40 BW Membrane Offers an Option for Cool Roofing Applications

Paradiene 40 BW membranes are high performance SBS-modified bitumen finish plies surfaced with highly reflective, bright white mineral granules - not films or coatings. Paradiene 40 BW membranes are available in FR and torch grade versions.

Parafor 30 and Parafor 30 TG

Parafor 30 and Parafor 30 TG are granule-surfaced, multi-purpose membranes consisting of an elastomeric asphalt base and a fiberglass reinforced polyester mat. Parafor 30 is used as a base flashing material where granule-surfaced flashing sheets are required, and can be used as an alternative to Paradiene 30 in a Parafor 30/Paradiene 20 system. Siplast Parafor 30 and Parafor 30 TG are UL Listed and FM Approved.

Paratread

Paratread walkpad is designed as a protective course to be used on guaranteed Siplast roofs with anticipated high pedestrian traffic or mechanical abuse potential. It is composed of a traffic resistant, polymer-modified bitumen coating, reinforced with a polyester mat, and surfaced with mineral granules, offering a highly weather-resistant and long-lasting protective finish.

Paratread is designed to be applied using PA-1021 Plastic Cement, PA-828 Flashing Cement or SFT Cement. Panels can be cut from the roll in dimensions to meet design requirements. Paratread is not recommended for roofs having slopes in excess of 3 inches in 12 inches or in areas where ponding may occur.

PA-311 and PA-311 M Adhesives

PA-311 Adhesives are designed for use with Paradiene 20/30, Paradiene 20/20 PR, Paradiene 40 FR, and Parafor 50 LT Roof Systems. (PA-311 and PA-311 M are not approved for use with the Veral roof system.) PA-311 adhesive products are solvent-based adhesives that can be applied over approved substrates using a squeegee, spray, or the Paraflow PA-311 Adhesive Spreader. For coverage information refer to the PA-311 Adhesive Application section on page 10 of this guide.

Siplast SFT Adhesive

Siplast SFT Adhesive is a low-odor, single-component, moisture cured adhesive composed of a blend of proprietary polymers and asphalt, and is free from petroleum solvents. It is designed for use with Siplast Paradiene 20/30, Paradiene 40 FR, Veral, and Parafor 50 LT Roof Systems at roof inclines in excess of ¼-inch per foot. SFT Adhesive meets all roofing adhesive VOC regulations.

Parapro 123 Flashing System

The liquid-applied Parapro 123

Flashing System provides a proven, high-performance alternative to conventional flashing methods. The Parapro 123 Flashing System is a layered application. Comprised of thixotropic catalyzed polymethyl methacrylate (PMMA) resin encapsulating a layer of polyester fleece, the resilient flashing membrane is fully reinforced and seamless. Parapro is compatible with a wide range of substrate materials including SBS membranes, plastics, concrete, and steel.

Pro Matrix

Liquid-applied Pro Matrix provides an efficient solution for the most awkward, hard to address flashing situations. Pro Matrix is a fibrated PMMA resin developed for use in extreme situations where application of fleece-reinforced Parapro 123 Flashing is impractical.

PA-1021 Plastic Cement

PA-1021 Plastic Cement is a general purpose roof cement produced from refined asphalt and petroleum solvents with non-asbestos fibers added for reinforcement. It has a heavy mastic consistency, and can be applied with a trowel to dry, clean surfaces. PA-1021 meets or exceeds ASTM D 4586, Type II requirements.

PA-828 Flashing Cement

PA-828 Flashing Cement is specially formulated for use as a roofing membrane base flashing cement. It is produced from refined asphalt and petroleum solvents with non-asbestos fibers added for reinforcement and enhanced slump resistance, as compared to general-purpose plastic cement. PA-828 can be used alternatively to PA-1021 Plastic Cement as a mastic for setting all metal flanges and drain lead flashings. When installing wall flashing, PA-828 should be applied with a notched trowel to both the substrate and flashing sheet. PA-828 meets or exceeds the requirements of ASTM D 4586, Type II.

Siplast SFT Cement

Siplast SFT Cement is a low odor, high strength adhesive designed for use with Veral Aluminum base flashing systems, Paradiene 40 FR flashing systems, Parafor 30 flashing systems, and Parafor 50 LT flashing systems. SFT Cement is a single-component, moisture-cured adhesive and is free from petroleum solvents. It is composed of a blend of proprietary polymers and modifiers engineered to cure completely in a variety of ambient conditions over various substrates. SFT Cement is applied using a standard ⅛-inch V-notched trowel.

PA-1125 Primer

PA-1125 Primer is a high quality asphalt solvent blend for spray, brush, or roller application. All metal flanges and concrete and masonry surfaces should be primed and allowed to dry thoroughly prior to roofing or flashing application. PA-1125 meets or exceeds ASTM D 41 requirements.

Siplast PA-917 LS Primer

PA-917 LS Primer is a high quality, low-solvent asphalt blend for spray, brush, or roller application. PA-917 LS Primer meets all VOC regulations and can be used as a substitute for PA-1125 Asphalt Primer. PA-917 LS meets or exceeds ASTM D 41, Type II requirements. PA-917 LS Primer can be substituted for PA-1125 Primer for applications requiring low solvent products, or to meet local VOC regulations.

Siplast TA-119 Primer

TA-119 Primer is a single-component, water-based, high tack primer used as a substrate preparation to facilitate the adhesion of Paradiene 20 SA membranes to various flashing substrates, including wood, concrete, and metal. TA-119 Primer is applied by roller to the substrate, and allowed to tackify prior to the application of the membrane. TA-119 Primer can be applied in temperatures as low as 50°F (7°C). TA-119 Primer meets

all VOC regulations for roofing primers.

PA-1000 Polymer - Modified Mopping Asphalt
PA-1000 is an elastomeric, inter-ply mopping asphalt designed for use with guaranteed Siplast roof systems. PA-1000 is a modified bitumen material blending heat resistant polymers with chemically matched asphalt to meet the high performance requirements for Siplast SBS-modified bitumen roof applications. PA-1000 meets or exceeds ASTM D 6152 requirements.

PS-209 and PS-715 NS Elastomeric Sealants
PS-209 and PS-715 NS Elastomeric Sealants are moisture-curing products designed for roofing applications where dynamic joint movement, adhesion to dissimilar materials and excellent low temperature flexibility/durability are required. PS-209 and PS-715 NS are composed of 100% solids and will not shrink or lose volume in joint or surface applications. PS-209 is a self-leveling material intended only for horizontal applications and does not require tooling. PS-715 NS has a more slump resistant viscosity and may be used for sloped applications. Both products are gray in color.

Paracoat PMMA Roof Coating

Paracoat Roof Coating brings the high performance advantages of PMMA to a roof coating designed to protect smooth and granule-surfaced roof systems from the effects of weathering and chemical attack. It is a multi-component, fast curing, flexible coating supplied in a standard color, white, which offers greater than 75% reflectance. Gray, sand, and custom colors are available. Contact Siplast for information.

PC-227 Elastomeric Roof Coating

PC-227 Elastomeric Roof Coating is a 100% acrylic, white coating designed for use over Siplast roof systems. It reduces cooling energy and roof system life cycle

costs by combining superior reflectivity with excellent durability, adhesion, and flexibility. Its asphalt bleed-blocking properties retard the leaching of asphalt, making it well suited for SBS-modified bitumen systems. PC-227 is not recommended for use in roof areas subject to ponding water. White PC-227 Elastomeric Roof Coating is California Title 24 Part 6 compliant, meets the U.S. Energy Star guidelines for energy efficiency, and qualifies for LEED certification points as defined by the United States Green Building Council.

Paratherm

Paratherm is a rigid roof insulation board composed of a closed cell polyisocyanurate foam core bonded in the foaming process to fiberglass reinforced facers. Paratherm provides high thermal insulation value over metal, nailable, and non-nailable roof decks in modified bitumen, built-up, and single-ply membrane roofing systems.

Paratherm is FM Approved for Class 1 fire and windstorm constructions for use in specific Siplast roof assemblies. It has been classified by Underwriters Laboratories as a roof insulation in many Class A roof constructions and roof/ceiling hourly fire-rated assemblies.

Para-Stik and Parafast Insulation Adhesives

Para-Stik Insulation Adhesive is a single-component, moisture-cure, solvent-free, polyurethane, rigid insulation adhesive. The adhesive is dispensed from a portable, disposable pre-pressurized metal container using a flexible dispensing hose and a plastic wand.

Parafast Insulation Adhesive is a two-component, chemical cure, polyurethane rigid insulation adhesive. The adhesive is packaged in a five-gallon bag-in-box, or in prefilled cartridges and dispensed using specialty equipment. Para-Stik and Parafast are used to adhere approved

rigid insulation panels to substrates approved in advance by Siplast in roof constructions requiring a single-source guarantee.

Zono-Patch

Quick setting Zono-Patch is a unique mixture of cementitious binders, low density fine aggregates, and proprietary additives specifically designed for the repair of new and existing lightweight insulating concrete roof deck surfaces of all types. Zono-Patch is ideally suited for filling holes created by the removal of base ply fasteners, repairing incidental surface damage, and thin patch repair of bird baths, rough cold joints, etc.

Paraguard and Proform

Paraguard and Proform, specifically engineered and fabricated for use with Siplast roof systems, are the industry's premier metal roof edge, coping and expansion joint systems.

Multi-component Paraguard Roof Perimeter Systems are designed for easy installation and maximum weather-tight construction. The Paraguard Raised Edge features a galvanized steel waterdam/cant that can be installed at the start of a Siplast membrane application, allowing phased construction between layers of the roof system. The fascia component is installed after the roofing is completed, facilitating continuous weather-tight installation. Paraguard Coping has a galvanized steel anchor cleat plate with pre-punched holes for correct fastener placement and a specially designed guttered splice plate for smoother finish lines.

Paraguard Expansion Joint Cover has a galvanized steel traveler cleat system designed and fabricated to allow building (tensile and shear) movement beneath the metal cap cover.

Factory-applied Paraguard finishes are available in 27 standard colors, in both pre-finished aluminum and galvanized

steel. Paraguard colors can also be customized.

Paraguard Roof Perimeter Systems and Proform Gravel Stop are FM Approved for Class 1 Windstorm Classifications when fabricated and installed according to FM Approvals requirements, and also meet ANSI/SPRI ES-1 standards for roof perimeter components.









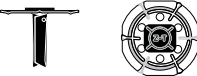
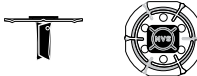

Paraguard Drains are designed for retrofit applications, and are composed of a one-piece spun aluminum body, a cast aluminum strainer dome, and a patented compression seal located at the bottom of the drain. The compression seal provides mechanical compression against the inside wall of the existing drain plumbing, preventing damage to the roof system and building contents resulting from water backup.

Parafast Roofing Fasteners and Plates

Parafast Roofing Fasteners and Plates are designed using the most current fastener technology for optimum performance. Manufactured to exacting standards, Parafast Roofing Fasteners are available for a wide variety of applications, including:

- Steel, wood, and plywood.
- Heavy steel and structural decks.
- Light gauge steel and aluminum decks.
- Structural concrete decks.
- Gypsum and cementitious wood fiber decks.
- Lightweight insulating concrete.

Parafast Reference Chart

	Parafast Product	Use	Available Lengths/ Diameters
	Roofing Fastener	For conventional steel, wood, and plywood decks. Use with Parafast 3" Metal Plate.	1½" - 8"
	3" Metal Plate	For use with Parafast Roofing Fasteners, Parafast HD Fasteners, Parafast XHD Fasteners, and Parafast CD-10 Fasteners.	3" diameter
	PA (Pre-assembled) Fastener and 3" Metal Plate	For steel, wood, and plywood decks.	Fastener: 2" - 8" Plate: 3" diameter
	HD Fastener	For heavy steel and concrete decks. Use with Parafast 3" Metal Plate.	1¼" - 18"
	XHD Fastener	For specialty applications. Use with Parafast 3" Metal Plate.	2" - 18"
	CD-10 Fastener	Concrete drive fastener for structural concrete decks. Use with standard Parafast 3" Metal Plate.	2" - 12"
	LD Fastener	For gypsum and cementitious wood fiber decks. Use with LD 3" Metal Plate.	2½" - 12"
	LD 3" Metal Plate	For use with Parafast LD Fastener on gypsum and cementitious wood fiber decks.	3" diameter
	Zono-tite Fastener	Base sheet fastener for use with lightweight insulating concrete.	1.7"
	NVS Fastener	Base sheet fastener for use with lightweight insulating concrete.	1"
	Para-Lok Fastener	Base sheet fastener for use with cementitious wood fiber and gypsum decks.	1.4" and 1.8"

General Requirements

Storage and Handling

Siplast roll roofing products should be stored on end on a clean, flat surface. Care should be taken that the rolls are not dropped on their ends or edges, are not stored in a leaning position, and are not double stacked. Deformation resulting from this type of handling will make proper installation difficult. The material should be stored in such a manner as to ensure that it remains dry prior to and during installation.

Siplast resin products should be stored at temperatures specified on individual product data sheets to help ensure maximum shelf life. Resins stored on the job site during application must be kept on a pallet in a shaded, well-ventilated area. In unshaded areas, materials should be covered with a white, reflective tarp in a manner that allows air circulation beneath the tarp.

Hot Asphalt Application

Type IV Asphalt application temperatures should not be below the EVT range for mopping, and should at all times maintain a minimum temperature of 400°F (204°C) at the point of contact with the roofing sheet being applied.

All mopping layers must be total in coverage, without breaks or voids. Care should be taken not to exceed the recommended mopping weight of 25 pounds per ply square or 50 mils of (1.3 mm) thickness.

Mopping asphalt proposed for application of Siplast membrane components must be approved in advance by Siplast Technical Support.

Asphalt containers or bulk shipping tickets should indicate the Equiviscous Temperature (EVT), the Softening Point (SP), and the Flash Point (FP). If EVT and heating information are not provided, the following asphalt temperatures for Type

IV are recommended:

- Maximum heating temperature, 525°F (274°C) or flash point less 25°F (14°C), whichever is lower. Asphalt must not be heated above the FP.
- Minimum application temperature measured at the point of contact with the roofing sheet being applied is 400°F (204°C).

PA-311 and PA-311 M

Adhesive Application

Absorption rates of substrate materials vary. PA-311 and PA-311 M Adhesive application rates may need to be adjusted when working over highly absorbent surfaces to compensate for the porosity of such substrates, allowing the recommended minimum coating thickness of 24 mils to be achieved. Priming the surface of insulation panels using a Siplast asphalt primer (and allowing the primer to dry thoroughly) may reduce the application rate of PA-311 or PA-311 M in certain constructions. A heavier application of PA-311 Adhesive (twice the standard field application) should be used at all end laps or whenever a granule surface is covered.

Membrane materials should be rolled or broomed with a follow tool to ensure complete contact of all membrane surfaces with the adhesive. Pressure should be applied over all end laps using a clean roller or trowel. Under certain job conditions, such as areas prone to ponding, laps should be torched or heat welded.

Solvent-based cold adhesive has a setup time, which is often referred to as “curing” time. During this time, the solvent evaporates or dissipates through the system, and the roofing sheets are in a softened state. The time needed for complete “cure” varies due to factors such as adhesive type, ambient temperature, solar load, wind, humidity, and number of plies, which all affect the evaporation rate of the solvent. Using too much adhesive can

increase the softness of the sheets and extend cure time. Monitor adhesive usage, and stay within usage rate guidelines.

General Cold Weather Application

In cold weather conditions, it is important that storage and installation techniques be modified to ensure proper application. The following recommendations are intended as guidelines only. While application is in progress, ongoing assessments should be made to determine whether conditions are suitable for roofing operations.

In all applications, the determining factor as to the acceptability of temperature and conditions is the contractor’s ability to install the products properly. The membrane should always lay flat, without buckles, air pockets or voids, and must be fully bonded. If this cannot be accomplished, application should be discontinued until more favorable temperatures and weather conditions prevail.

Whenever possible, all roofing materials should be stored in a conditioned place, allowing the sheets to warm just prior to application.

Hot Asphalt

Application in Cool Weather

In hot asphalt applications in cold weather conditions, special precautions must be taken to ensure that Type IV asphalt maintains a minimum 400°F (204°C) temperature at the point of contact with the roofing sheet being applied. Asphalt must not be overheated to compensate for cold conditions. The use of insulated handling equipment is strongly recommended. Hot luggers, mop carts, and kettle-to-roof supply lines should be insulated. In the cold weather season, hand mops should be constructed with a smaller yarn head than in the summer season to facilitate short moppings. Luggers and mop carts should never be more than half-filled at any time.

Siplast Membrane Adhesive Application in Cool Weather

The recommended application temperature range for PA-311 and PA-311 M Adhesive is 70° - 100°F (21° - 38°C) at the point of application. Heating PA-311 and PA-311 M using commercial grade heating equipment is suggested for most application conditions. When heating materials, always exercise caution and never leave them unattended. PA-311 and PA-311 M should not be exposed to open flame for heating purposes. Application should be suspended in situations where the adhesive cannot be applied at temperatures allowing for even distribution.

Under certain job conditions, such as ponding or during cooler weather applications, torching or heat welding laps of newly installed Paradiene and Parafor membranes applied with Siplast cold adhesives is strongly recommended.

Parapro Roof Membrane and 123 Flashing Membrane Application

Parapro Roof Membrane and Parapro 123 Flashing Membrane Resins are available in summer and winter grades. Summer grade Parapro Roof Membrane and Parapro 123 Flashing Membrane Resins may be applied when the ambient temperature is between 59°F (15°C) and 104°F (40°) and the substrate temperature is between 59°F (15°C) and 122°F (50°C). Winter grade Parapro Roof Membrane Resin and Parapro 123 Flashing Membrane Resin may be applied when the ambient temperature is between 23°F (-5°C) and 68°F (20°) and the substrate temperature is between 23°F (-5°C) and 77°F (25°C).

Recommended ambient application temperatures for summer and winter grade materials overlap from 59°F to 68°F. At ambient temperatures below 59°F, winter grade resin should be used. Please refer to the Parapro Roof Membrane and Parapro 123 Flashing System Installer's

Guides for specific details regarding application temperatures and catalyzation.

Pro Primer R, Pro Primer W, Pro Primer T, Pro Color Finish, Pro Mortar, and Pro Paste Resins are not produced in winter and summer grades. Again, please refer to the Parapro Roof Membrane and Parapro 123 Flashing System Installer's Guides for specific details regarding application temperatures and catalyzation.

Torch Application

The National Roofing Contractors Association (NRCA) and the Midwest Roofing Contractors Association (MRCA) publish a Certified Roofing Torch Applicator (CERTA) program that includes not only safety training for roofing professionals at all levels, but also industry guidelines for torch applications. Regarding these guidelines, the NRCA indicates that there are basic elements to observe. They include:

Field of the Roof Installations

- Incorporation of a thermal barrier (such as DensDeck) over all combustible decks.
- Application of a non-torch minimum 70-mil bituminous base sheet (such as Paradiene 20, Paradiene 20 SA, or Irex) at all transitional flashing locations.
- Elimination of open flame directed at penetrations, the roof edge, deck to wall transitions, etc.

Flashing Installations – All Substrates

- Application of a self-adhesive bituminous ply sheet (such as Paradiene 20 SA) over all locations. All laps are sealed.
- Torch application using a single-burner torch having a maximum thermal output of 105K Btu.

While every effort has been made by Siplast to make the contents of this Siplast publication consistent with CERTA guidelines, it does not (nor is

intended to) include a comprehensive listing of those guidelines. Likewise, the information contained in this publication should not be considered a substitute for CERTA training. Anyone considering installation of a roof system that will include torch application should contact the NRCA for complete CERTA guidelines, and should ensure that all torch operators have been properly trained and are CERTA-certified.

Other torch safety programs and guidelines are recognized in Canada, and vary by province. Siplast recommends that in Canada, either local torch safety guidelines or CERTA regulations be followed.

Vapor Retarders

Vapor retarders can be an important component of a properly designed roof assembly. The decision to use a vapor retarder is the responsibility of the architect, engineer or owner. As a general rule, vapor retarders are advisable as follows: (1) over heated buildings in regions where January temperatures average 40°F (4°C) or below, (2) over structures with high interior relative humidity, or (3) in any similar situation where a vapor drive can be expected. The designer should, however, study each project individually and consider all relevant conditions when making a decision. Improperly specified or constructed vapor retarders can have a deleterious effect on membrane performance.

Temporary Roofs

Temporary roofing that is installed over the roof deck prior to assembly of the substrate materials and Siplast membrane should be constructed of materials and methods approved in advance by Siplast. Contact Siplast for specific recommendations on appropriate temporary roof construction.

Cold Storage

It is strongly recommended that cold

storage compartments be independently insulated and constructed so as to allow free ventilation between the compartment and the roof deck. Siplast will assume no responsibility for damages to the roof membrane caused by freezer-related vapor activity. Specification of roofing to be applied directly on freezer compartments is a design decision, responsibility for which rests with the designer.

Drainage

Siplast endorses as good design practice the recommendation that all roofs be provided with adequate slope and outlets to allow free drainage throughout the life of the building. It is the owner's/ designer's responsibility to ensure that an adequate number, and the correct placement, of drains be included in the structure to allow for proper drainage. However, occasionally roof decks are constructed with unintentional low spots that tend to impede prompt and complete drainage. The composition of Siplast elastomeric asphalt materials makes them impervious to the adverse effects normally associated with ponding water. Therefore, the standard Siplast ten-year guarantee on these materials does not exclude from coverage random occurrences of ponding water. However, such areas can also be prone to accumulation of particulate matter and/or chemical compounds, which must be removed as a part of the roof's routine seasonal maintenance.

Cants

The unique properties of Siplast elastomeric asphalt and metal clad roofing and flashing systems permit the products to be bent at a right angle during application. For this reason, cant strips are optional when decks and walls are monolithic in construction or when proper independent flashing detailing is employed. The use of cant strips is required, however, when dissimilar wall and decking materials are joined and an

independent flashing detail is not used. CERTA requirements regarding cant strips should be followed when roofing is applied with a torch.

Wood Nailers

Install treated wood nailers wherever specifications require the use of gravel stops or other perimeter metal components, curbing, wood cants, insulation stops, or the mechanical fastening of roofing plies. Mechanically attach the nailers to the structural deck or supporting members following current FM Global requirements and local building code regulations. Nailers should be flush with the deck surface or, if insulation is used, nailers should be of the same thickness as the insulation. Nailers should be treated with a preservative compatible with asphalt. Where pressure treated lumber is used over steel decks or in conjunction with metal accessories, a separator layer consisting of a minimum 40-mil (1 mm) bituminous sheet should be considered for placement between the nailer and metal surfaces. Mechanical fasteners and connectors used to anchor wood nailers to roof decks and to fasten metal flanges to the nailers should be treated or pre-coated to meet current maximum corrosion resistance guidelines as recommended by the NRCA.

Expansion Joints

While Siplast elastomeric asphalt roofing materials have exceptional elongation and flexibility characteristics, expansion joints are required, where appropriate, in all Siplast guaranteed installations to avoid unnecessary isolated stress situations. In general, the designer should consider expansion joints in the following situations: (1) where the roof deck spans change direction, (2) junctures where changes in deck material occur, (3) where building additions are connected to existing buildings, (4) where the roof changes directions, such as "U" or "L" shaped buildings, (5) deck junctures with

walls or other vertical surfaces where independent movement between adjoining surfaces is anticipated, (6) every 200 feet of continuous deck (length or width), and (7) wherever provisions for expansion joints occur in the building structure.

The situations indicated above are typical industry parameters for roof expansion joint design. In all cases, Siplast recommends that each project be specifically evaluated by the designer for potential movement between structural elements. Roof expansion joint constructions should be individually tailored to meet the actual job conditions. Curbed expansion joints with Paraguard metal expansion joint covers should be considered wherever provisions for expansion are required.

Wall Treatments/Base Flashing

Veral is uniquely suitable and widely used as a membrane waterproofing for parapet walls. While each wall treatment is different in its requirements, in general the following recommendations apply.

Care should be taken that all concrete or masonry walls are relatively smooth, dry, and broom-cleaned. All cracks and surface voids should be repaired. Prime concrete or masonry surfaces with the appropriate Siplast primer. When wall surfaces are seriously deteriorated or when wall conditions require a venting treatment, wall surfaces must be sheathed with a surfacing layer of plywood or other appropriate material. Any wall treatment or base flashing should be accomplished without compromising any functioning weep holes.

Wood walls should be constructed of sound lumber or exterior grade plywood. All warped or defective materials should be replaced, and cracks wider than 1/4-inch and knotholes larger than one inch in diameter should be covered with sheet metal. All wood surfaces must be

covered by a layer of Irex or Paradiene 20 mechanically attached using appropriate fasteners, prior to application of the Veral. In a torch-applied flashing application, the mechanically attached sheets should be replaced by Paradiene 20 SA.

Torch one layer of Veral solidly to the prepared substrate, applying the sheets vertically and always working to a selvage edge. If torching is impractical, SFT Flashing Cement may be used as an alternative application method, with advance approval from Siplast. Please contact the Siplast Technical Department for specific recommendations. All non-vertical surfaces or transitional areas (cants, wall tops, and inside and outside corners) must be reinforced with a layer of Irex, Paradiene 20 or Paradiene 20 SA.

Veral is used as the final ply of base flashing in all standard Siplast roof specifications. When parapet walls are 24 inches or less in height, the Veral base flashing may be extended up and over the wall in one piece. Such an extension of the base flashing is considered a wall treatment and must be attached with appropriate fasteners on 9-inch centers across the top edge of the sheet and capped with metal coping.

When the walls are higher than 24 inches, Siplast recommends the base flashing and wall treatment be applied as separate procedures. The base flashing is extended a minimum of 8 inches up the wall. The wall treatment is lapped a minimum of 3 inches over the leading edge of the base flashing, and is extended up and over the wall. All wall treatments, regardless of height, must be attached with appropriate fasteners as described above. Please contact the Siplast Technical Department for recommendations on treating walls without copings.

Paradiene 40 FR, Paradiene 40 FR TG, Parafor 50 LT, Parafor 50 TG, Parafor 30, and Parafor 30 TG are acceptable substi-

tutes for Veral in all standard base flashing and wall treatment installations (with the exception of Parapet Non-wall Supported Deck). All wall treatments, regardless of heights, must be attached with appropriate fasteners as described above. Please contact the Siplast Technical Department for Paradiene 40 and Parafor 50 flashing installation guidelines.

Independent Wall Flashing Treatments

Flashing assemblies should be isolated from vertical surfaces at transitional areas between decks and walls where the deck is independently supported from the wall, or where the potential exists for differential movement between wall supported decks and vertical surfaces. Where these conditions exist, an L-metal component, fabricated of 24-gauge sheet metal and including a 4-inch flange and 8-inch vertical leg, should be mechanically attached to a nailer that is well secured to the deck. Base flashing should be accomplished following the methods and using materials required by Siplast. All independent wall flashing details must be adequately counterflashed.

Walkways

For Siplast modified bitumen roof systems, the use of Paratread is recommended in areas with anticipated high levels of pedestrian traffic or mechanical abuse potential.

Night Seals

Night seals are necessary to ensure that water does not migrate beneath the new membrane during breaks in application. At the end of the day's work, or when precipitation is imminent, a night seal must be installed at all open edges. Such tie-ins can be built using asphalt, PA-1021 Plastic Cement, or PA-828 Flashing Cement and fiberglass roofing felts, and should be constructed to withstand protracted periods of service. Night seals must be completely removed prior to the resumption of work.

Rooftop Additions

All openings, projections, and rooftop equipment added to a completed Siplast roof that either penetrate or are placed directly on the membrane should be detailed according to Siplast requirements. Rooftop additions such as prefabricated curbs, piped supply lines, flanged metal flashings, and lightning protection equipment vary in materials and design and should be individually evaluated prior to installation. Please contact the Siplast Technical Department for specific information.

Sealants

PS-209 Elastomeric Sealant is required where the finished Siplast membrane terminates at flanged metal components incorporated into the membrane system. Although sealants are not relied upon as a waterproofing component, they are designed to fill the small spaces at such membrane terminations. This precludes the accumulation of water, dirt, debris, etc. at the finished edge of the membrane system.

Roof Deck Requirements

General

Structural roof decks should be properly designed to provide sufficient strength to support anticipated dead and live loads and normal construction traffic without excessive deflection or movement. Provisions for expansion and contraction should be incorporated into the design. All openings, walls, or projections through the roof deck should be completed before application of the roof membrane is begun. The deck should be constructed according to the deck manufacturer's specifications and best established practices. Any Siplast acceptance of a deck as satisfactory to receive roofing is based strictly on the condition of the surface to be roofed. The design of the roof deck is the responsibility of the architect, engineer, or owner. Before installation of any roofing materials, the Siplast Select Contractor should make

a thorough inspection of the roof deck to verify that it will meet design requirements and is suitable for application of the specified roofing. Defects in the deck, design deficiencies, or other conditions that would affect the performance of the roofing materials should be brought to the attention of the appropriate party, which may include the general contractor, deck contractor, architect, engineer, or owner.

Lightweight Insulating Concrete

Siplast Lightweight Insulating Concrete Roof Insulation Systems combine the unique properties of lightweight insulating concrete and Insulperm premium expanded polystyrene foam insulation board. The lightweight insulating concrete is available in four mix designs: ZIC, NVS, Insulcel, and Zonocel concrete. The four designs represent a range of compressive strengths, allowing a choice of system based on substrate and specific project circumstances. Each design encapsulates the insulation board in insulating concrete. These designs provide fire protection, prevent air infiltration, and bond the total insulation system to the substrate.

Insulperm Insulation Board can be installed in thicknesses necessary for high insulation values. The insulation board can also be installed in stair-step fashion to form a slope-to-drain contour. The finished surface of insulating concrete allows a nailed attachment for the roofing membrane, providing superior wind resistance to the completed assembly.

ZIC, NVS, Insulcel, and Zonocel have excellent fire resistance properties, and meet the requirements of UL Roof-Ceiling Assemblies. Designs with up to an 8-inch thickness of Insulperm Insulation Board provide economical fire rated systems in steel deck construction. Designs used with concrete substrate construction may allow unlimited thickness of Insulperm Insulation Board.

By combining ZIC, NVS, Zonocel, or

Insulcel Insulating Concrete with up to a 12-inch thickness of Insulperm Insulation Board over corrugated metal decks, structural concrete decks, and certain reroofing applications, Siplast Lightweight Insulating Concrete Roof Insulation Systems meet the various requirements of FM Approvals Windstorm Classifications. Please contact the Siplast Technical Department for specific information.

Results are published in the Underwriters Laboratories Roofing Materials and Systems Directory as Construction No. 110.

ZIC and NVS Aggregate Lightweight Insulating Concrete

The standard ZIC System is a 1:6 ratio of Portland cement volume to concrete aggregate volume. ZIC is used in new construction applications over slotted galvanized metal decking. The standard ZIC System requires a minimum 2-inch thickness of ZIC over the top of the Insulperm Insulation Board. Pours having a cement to aggregate ratio of 1:6 should have a minimum dry density of 22 pounds per cubic foot. The construction should allow for venting on the underside or topside surface vents. In constructions with a vented deck and vented perimeter, roof vents are not required. ZIC lightweight insulating concrete substrates must be installed by a Siplast Select Lightweight Insulating Concrete Contractor according to Siplast requirements. The finished pour should be smooth, surface dry, and free of depressions or projections.

The NVS System is a 1:3.5 ratio of Portland cement volume to NVS Concrete Aggregate volume. The patented NVS System has been engineered for use over non-venting substrates and in reroofing and re-cover applications. Because of its higher compressive and tensile strengths, NVS requires only a

1-inch minimum thickness over the top of the Insulperm Insulation Board. Pours having a minimum cement to aggregate ratio of 1:3.5 must have a minimum dry density of 35 pounds per cubic foot. The roof construction should allow for perimeter and topside venting.

NVS Premix, a specially formulated product containing NVS Concrete Aggregate, additives, and Type I Portland cement is available packaged in a 40-pound bag. When mixed with water, it becomes NVS Lightweight Insulating Concrete. NVS Premix is ideal for small jobs and difficult jobsite conditions.

NVS lightweight insulating concrete substrates must be installed by a Siplast Select Lightweight Insulating Concrete Contractor according to Siplast requirements. The finished pour should be smooth, surface dry, and free of depressions or projections.

Insulcel and Zonocel Lightweight Insulating Cellular Concrete

The Insulcel System is a lightweight insulating concrete system that mixes Insulcel-PB pregenerated cellular foam with a Portland cement/water slurry to produce an economical roof insulation system appropriate for jobs located in climates that are conducive to proper curing of cellular concrete. Insulcel Insulating Concrete is placed at a minimum 2-inch thickness over the top of the substrate or Insulperm Insulation Board. Insulcel can be installed over non-slotted or slotted galvanized corrugated metal decks, structural concrete substrates and, where appropriate, over existing roofs in re-cover applications. Insulcel lightweight insulating concrete substrates should be installed by a Siplast Select Lightweight Insulating Concrete Contractor according to Siplast requirements. The finished pour should be smooth, surface dry, and free of depressions or projections.

The Zonocel System is a combination of Insulcel-PB pregenerated cellular foam and concrete aggregates mixed with a Portland cement/water slurry. Zonocel is used in new construction applications over slotted galvanized metal decking. Zonocel is placed at a minimum 2-inch thickness over the top of Insulperm Insulation Board. Zonocel lightweight insulating concrete substrates should be installed by a Siplast Select Lightweight Insulating Concrete Contractor according to Siplast requirements. The finished pour should be smooth, surface dry, and free of depressions or projections.

Roofing Over Lightweight Insulating Concrete Surfaces

Siplast requires that one ply of Parabase Plus or Parabase FS be laid dry over lightweight insulating concrete substrates prior to application of the roof membrane. All fastening should be done with Zono-tite Fasteners for ZIC, Insulcel, and Zonocel Lightweight Insulating Concrete substrates having a minimum 2-inch thickness, and with NVS Fasteners for substrates having a minimum 1-inch thickness. Parabase FS eliminates the need for rosin paper when using PA-311 or PA-311 M Adhesive to apply the SBS base ply. Venting is recommended for all roof systems applied over lightweight insulating concrete.

RT Surface Treatment

RT Surface Treatment is a specially designed bond enhancing system for use with Insulcel Lightweight Insulating Concrete. It provides enhanced attachment characteristics when semi-adhered Paradiene 20 TS is applied directly to the surface of an Insulcel Lightweight Insulating Concrete substrate. The unique design of Paradiene 20 TS provides a mechanism for membrane venting while allowing direct adhesive attachment to the Insulcel surface. RT Surface Treatment is a heat-activated, asphalt-based pellet that is broadcast into the surface of

newly poured Insulcel. The pellets create a mechanical lock into a properly heat-activated RT surface of the concrete. When Paradiene 20 TS is torch-applied directly to a properly heat-activated RT surface, the membrane and pellets are heat welded, resulting in a unique, highly engineered system with a first ply that is not only adhered to the surface, but also mechanically locked to the concrete without penetration of the membrane. Perimeter, curb, and top-side venting are required as part of the standard Insulcel RT System specification. The installation of top-side vents must be completed daily with each application of the Paradiene 20 TS base ply.

Poured Reinforced Concrete

Poured-in-place structural concrete decks (those that include as mix aggregates sand and stone or crushed gravel) should be fully cured, dry, frost-free, smooth, broom-cleaned and free from release or curing agents. The underside of the structural concrete deck should be provided with adequate ventilation to allow adequate drying of latent moisture within the concrete pour. The structural concrete deck should be evaluated for moisture content prior to application of roofing. In cases where the concrete contains excessive latent moisture or adequate surface dryness cannot be obtained, application should be discontinued until acceptable conditions prevail, or an alternative substrate preparation can be utilized. The acceptance of the structural concrete substrate to receive the roof membrane system is the responsibility of the project designer and/or roofing contractor. All projections or depressions should be leveled. For torch or asphalt applications, the surface of the concrete deck should be primed with PA-1125 or PA-917 LS Primer at a rate sufficient for total coverage, and allowed to dry thoroughly. Because it is a venting ply, Paradiene 20 TS (or Paradiene 20 TS SA) may be applied directly to the

primed concrete surface.

Structural Lightweight Concrete

Because of the moisture retention characteristics and variability of aggregate used in the mix of structural lightweight concrete, such decks can retain excessive and unacceptable levels of moisture for extended periods of time, and as such cannot be evaluated according to timelines traditionally used for concrete mixed with hard stone and/or crushed gravel. Structural lightweight concrete decks should be evaluated for moisture content prior to application of roofing. In cases where the concrete contains excessive latent moisture or adequate surface dryness cannot be obtained, application should be discontinued until acceptable conditions prevail, or an alternative substrate preparation can be utilized. The acceptance of the concrete substrate to receive the roof membrane system is the responsibility of the project designer and/or roofing contractor.

Gypsum

Gypsum decks should be poured in place to a minimum 2-inch thickness over form boards, allowing drying from the underside. They should be reinforced with wire mesh and present a smooth, dry, frost-free surface, free of depressions or projections.

Siplast requires that one ply of Parabase Plus or Parabase FS be laid dry and fastened using approved base sheet fasteners prior to the application of the membrane. Siplast recommends that fastener pullout tests be performed by the contractor on site to verify the appropriateness of the fastener to meet all applicable roof design criteria. Parabase FS eliminates the need for rosin paper when using PA-311 or PA-311 M Adhesive to apply the SBS base ply. Otherwise, sheathing paper must be laid over the deck before mechanical attachment of standard base sheets.

Structural Cement-Fiber

Structural cement-fiber decks must be protected from the weather during storage and installation. Any wet or damaged units should be replaced. Structural cement-fiber deck panels should be adequately secured against wind uplift and lateral movement, and should comply strictly with the specifications of the deck manufacturer. Decks must be roofed promptly after installation.

Siplast requires that one ply of Parabase Plus or Parabase FS be laid dry and fastened using approved base sheet fasteners prior to the application of the membrane. Siplast recommends that fastener pullout tests be performed by the contractor on site to verify the appropriateness of the fastener to meet all applicable roof design criteria. Parabase FS eliminates the need for rosin paper when using PA-311 or PA-311 M Adhesive to apply the SBS base ply. Otherwise, sheathing paper must be laid over the deck before mechanical attachment of standard base sheets.

For torch applications, the addition of a thermal barrier is recommended according to CERTA guidelines.

Wood

Wood decks should be constructed of dry, well-seasoned lumber of a minimum 1-inch thickness, tongue and groove, shiplap or splined together at side joints, and matched at end joints. Boards should have a bearing on rafters at each end and be securely nailed. Cracks wider than 1/4-inch and knotholes larger than one inch in diameter should be covered with sheet metal.

Siplast requires that one ply of Parabase Plus or Parabase FS be laid dry and fastened prior to application of the membrane. Parabase FS eliminates the need for rosin paper when using PA-311 or PA-311 M Adhesive to apply the SBS

base ply. Otherwise, rosin paper must be laid over the deck before mechanical attachment of standard base sheets. All nailing should be done with annular-threaded or spiral-threaded type nails having attached caps of minimum 1-inch diameter. Siplast recommends that fastener pullout tests be performed by the contractor on site to verify the appropriateness of the fastener to meet all applicable roof design criteria.

For torch applications, the addition of a thermal barrier is recommended according to CERTA guidelines.

Plywood

Plywood decks should be designed and fabricated in accordance with recommendations of the APA – The Engineered Wood Association. Each panel should be identified with the appropriate APA trademark, and must meet the requirements of the latest edition of the U.S. Product Standard PS-1 for Construction and Industrial Plywood.

Plywood panels must meet or exceed a span rating of $\frac{32}{16}$ and be a minimum of $\frac{15}{32}$ -inch thick. They should be fabricated to meet or exceed the requirements of Exposure 1 Durability Classification.

Plywood panels should be applied at right angles to rafters, continuous over two or more spans with either solid backing or panel clips stiffening all joints between rafters. Rafter spacing should be a maximum of 24 inches.

Siplast requires that one ply of Parabase Plus, Parabase, or Parabase FS be laid dry and fastened prior to application of the membrane. Parabase FS eliminates the need for rosin paper when using PA-311 or PA-311 M Adhesive to apply the SBS base ply. Otherwise, rosin paper must be laid over the deck before mechanical attachment of standard base sheets. All nailing should be done with annular-threaded or spiral-threaded type nails

having attached round caps of a minimum 1-inch diameter. Siplast recommends that fastener pullout tests be performed by the contractor on site to verify the appropriateness of the fastener to meet all applicable roof design criteria.

For torch applications, the addition of a thermal barrier is recommended according to CERTA guidelines.

Prestressed T or Double T Sections

Prestressed T or Double T sections shall be dry, fully cured, clean, and free from excessive camber or “set.” Prestressed sections should be securely anchored against uplift and lateral movement. Welding plates should be positioned next to the edge and on the top surface of the member for mid-span securement. Camber differential resulting in offset edges in excess of 1/4-inch should be corrected with Zono-Patch Patching Compound prior to the application of insulation and roofing. Using Zono-Patch, grout all joints between uneven units to a slope not to exceed 1/8-inch per foot on the low member. For asphalt applications, prime the deck surface with PA-1125 Primer or PA-917 LS Primer at the rate of one gallon per 100 square feet; keep the primer back 4 inches from the joints. Cover all of the joints with an 8-inch wide strip of Parabase Plus or Parabase, adhered on one side only with PA-1021 Plastic Cement. Prestressed T or Double T decks must be covered by a lightweight insulating concrete fill or an acceptable rigid roof insulation.

NOTE: To compensate for excessive misalignment of slabs resulting from camber variation or other surface irregularities, it is necessary to cover the entire surface with lightweight insulating concrete.

Contact Siplast for recommendations on the proper treatment of prestressed panels and venting requirements. Joints between prestressed panels should be treated in accordance with Siplast recommendations.

Pre-Cast Hollow Core Slabs
or Pre-Cast Concrete

Pre-cast hollow core slabs or pre-cast concrete should be dry, fully cured, clean, and free of imperfections. Slabs should be securely fastened to the sub frame to prevent movement or sagging, and should be set level with all joints aligned and closely butted to provide a smooth, even surface.

Using Zono-Patch Patching Compound, grout all joints between uneven slabs to a slope not to exceed 1/8-inch per foot on the low member. For torch or asphalt applications, prime the deck surface with PA-1125 Primer at the rate of one gallon per 100 square feet; keep the primer back 4 inches from joints. Allow the primer to dry thoroughly. Cover all of the joints with

an 8-inch wide strip of Parabase Plus or Parabase, adhered on one side only with PA-1021 Plastic Cement. Pre-cast hollow core slabs or pre-cast concrete panels should be covered by a lightweight insulating concrete fill or an acceptable rigid roof insulation.

Steel

Steel roof decks should be constructed in accordance with current FM Approvals structural requirements and FM Approvals Property Loss Prevention Data Sheet 1-29. Steel roof decks should be 22-gauge minimum, and factory galvanized or factory coated with aluminum zinc alloy for corrosion protection. When specifying galvanized protection, the designer should specify a coating that complies with ASTM A 525, Class G-60 or Class G-90. When specifying aluminum zinc alloy protection, the designer should specify a deck complying with ASTM A 792. Deck manufacturers should be contacted when specifying decks where

Coverboard and Substrate Panel Usage

Panel Type	Panel Installation Method	Membrane Application Method
DensDeck or Securock*	Mechanical, Para-Stik or Parafast Adhesive	Torch, PA-311 Adhesive, SFT Adhesive
DensDeck or Securock	Hot Asphalt	Torch
DensDeck Prime	Mechanical, Para-Stik or Parafast Adhesive	Torch, PA-311 Adhesive, SFT Adhesive, Self-Adhesive
DensDeck Prime	Hot Asphalt	Torch
Wood Fiberboard	Mechanical, Para-Stik or Parafast Adhesive, Hot Asphalt	PA-311 Adhesive, SFT Adhesive, Approved Hot Asphalt
Perlite (3/4" min)	Mechanical, Hot Asphalt	PA-311 Adhesive, SFT Adhesive, Approved Hot Asphalt
Monoboard Plus, TopRock DD Plus	Mechanical, Para-Stik or Parafast Adhesive, Hot Asphalt	Torch, PA-311 Adhesive**, SFT Adhesive**, Approved Hot Asphalt
Asphaltic Board (1/4" min)	Mechanical, Hot Asphalt	Torch, PA-311 Adhesive, SFT Adhesive, Approved Hot Asphalt

*Minimum Securock thickness of 3/8 when panels are mechanically attached.

**Laps of sheets applied in cold adhesive over stone wool products must be torched or heat welded.

Slope Requirements/Fastening Schedule

Siplast System	Method of Applications	Under 1/2" Per Foot	1/2" - 2 1/2" Per Foot	2 1/2" - 3 1/2" Per Foot	3 1/2" - 6" Per Foot	6" - 12" Per Foot	Over 12" Per Foot
Paradiene 20/30	Approved Mopping Asphalt	NFR	NA	NA	NA	NA	NA
Paradiene 20/30	PA-311/SFT Adhesive	NFR	NFR ¹	24'	16' ²	12' ²	NA
Paradiene 20 TG/30 TG	Torch	NFR	NFR	24'	24' ²	16' ²	8' ²
Paradiene 20 SA/20 TS SA/30 FR TG	SA/Torch	NFR	NFR	24'	24' ²	16' ²	8' ²
Veral Aluminum	Approved Mopping Asphalt	NA	33'	24'	16'	NA	NA
Veral Aluminum	Torch	NA	NFR	NFR	33'	16'	8'
Parafor 50 LT	Approved Mopping Asphalt	NA	16'	NA	NA	NA	NA
Parafor 50 LT	PA-311/SFT Adhesive	NA	NFR ¹	26'	26'	16'	8'
Parafor 50 LT	Torch	NA	NFR	NFR	26'	16'	8'
Parafor 50 TG	Torch	NA	NFR	NFR	26'	16'	8'
Paradiene 40 FR ³	Approved Mopping Asphalt	NFR	16'	NA	NA	NA	NA
Paradiene 40 FR ³	PA-311/SFT Adhesive	NA	NFR ¹	26'	16'	12'	8'
Paradiene 40 FR TG ³	Torch	NFR	NFR	26'	26'	16'	8'

Maximum sheet lengths are shown on the chart above. Fastening is required in all cases where a sheet length is indicated.

¹ Some fastening may be necessary to stabilize material until adhesive cures.

² Paradiene HT membranes must be substituted for the standard membranes at this slope.

³ For roofing applications, Paradiene 40 FR and Paradiene 40 FR TG are installed in conjunction with a Paradiene 20 base ply as a complete roofing system.

Note: On compound slopes (i.e., domes, parabolic shapes, etc.) side lap fastening is also required 12" o.c.

Abbreviations: NA - Product may not be applied at this slope by method of application shown. NFR - No fastening required at this slope.

highly corrosive atmospheric conditions exist. Steel decks should be clean and dry, and the ribs of the deck should be free of snow, ice, and water. The top flanges of installed steel decks should be flat. Mechanical fastening should be provided at all of the side laps; spacing between the side lap fasteners and bar joists or beams should not exceed 3 feet. Siplast recommends that fastener pullout tests be performed by the contractor on site to verify the appropriateness of the fastener to meet all applicable roof design criteria. Steel decks must be covered by an acceptable rigid roof installation or lightweight insulating concrete pour.

New or Unusual Roof Decks

Approval must be secured from the Siplast Technical Department prior to the installation of roofing over new or unusual decks.

Rigid Roof Insulation

Rigid roof insulation should be kept dry at all times. Edges of the insulation panels should be butted without forcing, and cut to fit neatly against adjoining surfaces. The insulation layer should present a smooth surface to accept the roof membrane. No more insulation should be installed than can be covered in the same day. Insulation panels should be installed strictly according to the insulation manufacturer's recommendations and FM Approvals requirements. Improperly attached insulation can result in roof blow-offs. Siplast will not be responsible for (and the standard Siplast guarantee does not include) roof blow-offs due to loss of adhesion of the insulation layer or performance failure of the insulation itself. Paratherm and other Siplast-supplied rigid insulation products, when incorporated into a full Siplast Roof System construction and attached with Parafast Fasteners, Parafast Insulation Adhesive, or Para-Stik Adhesive, are covered by the Siplast Membrane/System Guarantee.

Polyisocyanurates, expanded polystyrenes, extruded polystyrenes, composites, perlite ($\frac{1}{2}$ -inch), gypsum panels, and other materials used as a roofing substrate must be specifically approved by Siplast prior to use. When insulation panels are applied with hot asphalt over sloped roof decks, insulation stops may be required. Consult with the insulation manufacturer regarding requirements for, and the construction and spacing of, insulation stops.

Insulation Adhesives

Insulation adhesives should be properly stored, and applied according to the specifications and job-specific recommendations of the insulation adhesive manufacturer. The insulation adhesive manufacturer should be contacted regarding any required guarantee that covers the performance of the insulation adhesive itself. Siplast will not be responsible for (and the standard Siplast guarantee does not include) roof blow-offs due to failure of insulation adhesives. Parafast Insulation Adhesive and Para-Stik insulation adhesive, when incorporated into a full Siplast Roof System construction, are covered by the Siplast Membrane/System Guarantee.

Slope Requirements/Fastening Schedule

The minimum and maximum slope designations in the schedule on page 15 are provided to indicate Siplast guarantee requirements. They do not necessarily conform to model codes or testing approval parameters. Please contact the Siplast Technical Department for this information. Any deviation from these guarantee requirements must have advance written approval from Siplast.

Approved mopping asphalt is required on all slopes where the hot application method is allowed. Where Siplast specifications permit the use of asphalt on slopes over $\frac{1}{2}$ -inch per foot, the asphalt must either be certified in writing by the

manufacturer or tested and approved in advance by the Siplast Laboratory. In all hot asphalt applied specifications, moppings should not exceed our published figure of 25 pounds per square or 50 mils (1.3 mm) thickness per mopping.

Re-Cover

Because they are light in weight, Siplast materials are especially suitable and widely used for re-cover applications. Each re-cover application is unique and should be considered individually. However, certain building code requirements, Siplast requirements, and procedures are necessary in the general consideration of any project.

It should be noted that certain design considerations (such as the use or construction of vapor retarders and the addition and positioning of expansion joints as necessary, etc.) are the responsibility of the architect, engineer, or owner and, as such, are not part of this section.

Although the following criteria are not all inclusive, they do, if met and used in conjunction with the applicable Siplast specification and details, indicate an appropriate situation for the consideration of reroofing with Siplast materials.

Siplast recommends the use of analytical tools such as nondestructive moisture survey methods as well as test cuts and any other evaluation methods available to ascertain existing roof conditions.

This thorough inspection of the existing roof conditions must be made to determine that: (1) the deck is structurally sound, (2) the deck is able to take the added weight of the new assembly, (3) areas where moisture may be present have been located, (4) the method and degree of attachment of the existing assembly has been specifically ascertained, (5) minimum 8-inch flashing heights will exist at curbs, walls, etc, and (6) the new assembly will provide proper drainage.

Preparation of the existing assembly is extremely important to the ultimate performance of the new membrane. The following preparatory procedures should be followed: (1) Power-broom and vacuum all surfaces, removing all loose aggregate and foreign substances. Splits, blisters, buckles, and surface irregularities should be cut out and patched using appropriate compatible materials. (2) Remove any areas of the assembly where moisture is present and replace them with compatible materials, bringing the area back to level with the surrounding surfaces. (3) Remove and discard all of the base flashing, and any metal incorporated into the roof system (i.e. gravel stops, vent stack jacks, drain leads, etc). Bring these areas back to level using compatible materials. (4) Existing perimeter nailers should be carefully inspected for proper securement, and re-anchored to the structural deck or supporting members as required to meet building code regulations and applicable uplift approvals. Install new wood nailers where necessary due to deterioration or insufficient securement, or when required to bring the nailer to the proper height. (5) Remove all of the existing counterflashing and determine whether it is in a reusable condition. Lifting of the existing counterflashing in good condition is acceptable only if it can be returned to its original position without deformation, which would affect its performance. (6) Except in those cases where the new assembly will be mechanically attached to the deck, the existing assembly should be resecured as necessary to meet all local code and insurance wind uplift requirements.

In all cases, the old roof assembly should be separated from the new Siplast materials with a product and installation procedure appropriate to the existing deck, roof system, and surfacing. Where possible, it is preferable that the separating materials be mechanically attached using fasteners designed for that purpose. Please contact your Siplast Representative for recommendations tailored to meet your particular roof

re-cover conditions.

Siplast Select Roofing Contractors

Being fully aware of the great importance of the highest quality workmanship in the construction of a roof system, Siplast will appoint as Siplast Select Roofing Contractors only those firms it considers qualified by technical experience, financial stability, business integrity, and industry reputation to apply a guaranteed Siplast Roof System. Only those roofs that are applied by Siplast Select Roofing Contractors are eligible for a Siplast guarantee.

A roofing contractor approved by Siplast does not, by reason of such approval, become an agent for Siplast nor represent Siplast in any manner.

Approvals/Classifications

Siplast Roof Systems have received the approval of many national, regional, and local authorities. Please refer to individual current Commercial Product Data Sheets (available on www.siplast.com) or contact the Siplast Technical Department for specific information as needed.

ZIC, NVS, Zonocel, and Insulcel lightweight insulating concrete substrates are FM Global Approved for Class 1 Windstorm Classifications when installed according to FM Global requirements.

Guarantee

Siplast offers a variety of guarantee options on approved projects when Siplast materials are applied by Siplast Select Roofing Contractors, provided all required pre-job procedures have been followed. Contact Siplast for guarantee options and related specification requirements.

Siplast Certificates of Analysis

At the Siplast state-of-the-art North American roofing manufacturing facility, stringent quality control tests are performed on every lot of material we

produce to make sure Siplast products meet specified criteria important to the performance of roofing products. The results of these tests are documented in a Certificate of Analysis. A Siplast Certificate of Analysis is available upon request for material shipped from our roofing manufacturing facility to the jobsite. By offering test results for the specific lot of material delivered to their roof, Siplast provides building owners with an extra measure of assurance that they are getting the quality they paid for.

Siplast RoofTag

To enhance and expand our innovative Certificate of Analysis program, Siplast is proud to offer RoofTag: RF Technology for Roof Asset Identification. By choosing Siplast roof membranes with RoofTag RF chips factory-embedded in the sheets, owners and the design professionals they may work with have a simple way to verify that the product quality specified matches that of the product installed. With RoofTag, access to Certificate of Analysis data, product information, and job information is possible by scanning the installed roof membrane. Once installed, building owners have a tool for roof asset management, with a unique opportunity to link the roof system in place with its history.

Product Reference Chart

Product	Description	Purpose	Application Method	Unit	Size	Coverage	Minimum Coverage Weight
Paradiene Roof Membrane Products							
Paradiene 20	SBS-modified sheet, random glass mat reinforced.	First ply of Paradiene 20/30 composite.	Approved mopping asphalt, PA-311 Adhesive, or SFT Adhesive	Roll	3.28 ft (1 m) x 50 ft (15.24 m)	1.5 sq (13.9 m ²)	62 lb/sq (3.0 kg/m ²)
Paradiene 20 F	SBS-modified sheet, random glass mat reinforced, perforated polypropylene film on top surface.	First ply of Paradiene 20 F/30 composite.	Approved mopping asphalt, PA-311 Adhesive, or SFT Adhesive	Roll	3.28 ft (1 m) x 50 ft (15.24 m)	1.5 sq (13.9 m ²)	62 lb/sq (3.0 kg/m ²)
Paradiene 20 HT	SBS-modified sheet, glass mat/glass scrim reinforced.	First ply of Paradiene 20/30 composite. For high tensile requirements.	Approved mopping asphalt, PA-311 Adhesive, or SFT Adhesive	Roll	3.28 ft (1 m) x 50 ft (15.24 m)	1.5 sq (13.9 m ²)	62 lb/sq (3.0 kg/m ²)
Paradiene 20 HV	SBS-modified sheet, random glass mat reinforced.	First ply of Paradiene 20/30 composite.	Approved mopping asphalt, PA-311 Adhesive, or SFT Adhesive	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	90 lb/sq (4.4 kg/m ²)
Paradiene 20 EG	SBS-modified sheet, glass mat/glass scrim reinforced.	Designed to be used in conjunction with Paradiene systems requiring extended guarantees. For high tensile requirements.	Approved mopping asphalt, PA-311 Adhesive, or SFT Adhesive	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	84 lb/sq (4.1 kg/m ²)
Paradiene 20 PR	SBS-modified sheet, polyester mat/fiberglass scrim reinforced.	Designed to be used as the top ply in gravel-surfaced Paradiene specifications.	Approved mopping asphalt, PA-311 Adhesive, or SFT Adhesive	Roll	3.28 ft (1 m) x 50 ft (15.24 m)	1.5 sq (13.9 m ²)	60 lb/sq (2.9 kg/m ²)
Paradiene 20 TG	SBS-modified sheet, random glass mat-reinforced, thin layer of grooved torching grade asphalt on bottom side.	First ply of Paradiene 20/30 TG Series composite.	Torch*	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	76 lb/sq (3.7 kg/m ²)
Paradiene 20 TG F	SBS-modified sheet, random glass mat-reinforced, thin layer of grooved torching grade asphalt on bottom side, perforated polypropylene film on top surface.	First ply of Paradiene 20/30 TG Series composite.	Torch*	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	76 lb/sq (3.7 kg/m ²)
Paradiene 20 HT TG	SBS-modified sheet, glass mat/glass scrim reinforced, thin layer of grooved torching grade asphalt on bottom side.	First ply of Paradiene TG Series composite. For high tensile requirements.	Torch*	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	76 lb/sq (3.7 kg/m ²)
Paradiene 20 HV TG	SBS-modified sheet, random glass mat reinforced, thin layer of grooved torching grade asphalt on bottom side.	First ply of Paradiene 20/30 composite.	Torch*	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	96 lb/sq (4.7 kg/m ²)
Paradiene 20 EG TG	Heavy-duty SBS-modified sheet, glass mat/glass scrim reinforced, thin layer of grooved torching grade asphalt on bottom side.	Designed to be used in conjunction with Paradiene TG Series systems requiring extended guarantees. For high tensile requirements.	Torch*	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	96 lb/sq (4.7 kg/m ²)
Paradiene 20 PR TG	SBS-modified sheet, polyester mat/fiberglass scrim, thin layer of grooved torching grade asphalt on bottom side.	Designed to be used as the top ply in gravel-surfaced Paradiene specifications.	Torch*	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	96 lb/sq (4.7 kg/m ²)
Paradiene 20 TS	SBS-modified sheet, random glass mat reinforced, with stripes of grooved torching grade asphalt on 50% of bottom side, and acrylic coating between the stripes, perforated polypropylene film on top surface.	Semi-adhered venting first ply to be used in conjunction with Paradiene 20 TS /30 TG and Paradiene 20 TS/Veral roof systems.	Torch*	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	76 lb/sq (3.7 kg/m ²)
Paradiene 20 TS SA	SBS-modified sheet, random glass mat reinforced, with stripes of self-adhesive asphalt on 50% of bottom side, and acrylic coating between the stripes, polyolefin release film on bottom side.	Semi-adhered self-adhesive venting first ply to be used in conjunction with Paradiene 20 TS SA/30 TG and Paradiene 20 TS SA/Veral roof systems.	Self-adhesive	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	76 lb/sq (3.7 kg/m ²)
Paradiene 20 TS SA F	SBS-modified sheet, random glass mat reinforced, with stripes of self-adhesive asphalt on 50% of bottom side, and acrylic coating between the stripes, polyolefin release film on bottom side, and perforated polypropylene film on top surface.	Semi-adhered self-adhesive venting first ply to be used in conjunction with Paradiene 20 TS SA F/30 TG and Paradiene 20 TS SA F/Veral roof systems.	Self-adhesive	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	76 lb/sq (3.7 kg/m ²)
Paradiene 20 SA	SBS-modified sheet, random glass mat reinforced, with a thin layer of self-adhesive asphalt covered with polyolefin release film on bottom side.	Fully adhered self-adhesive first ply to be used in conjunction with Paradiene 20 SA/30 TG roof systems and Paradiene 20 SA/Veral roof systems.	Self-adhesive	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	72 lb/sq (3.5 kg/m ²)
Paradiene 20 SA F	SBS-modified sheet, random glass mat reinforced, with a thin layer of self-adhesive asphalt covered with polyolefin release film on bottom side, and perforated polypropylene film on top surface.	Fully adhered self-adhesive first ply to be used in conjunction with Paradiene 20 SA F/ 30 TG roof systems and Paradiene 20 SA F/Veral roof systems.	Self-adhesive	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	72 lb/sq (3.5 kg/m ²)
Paradiene 20 EG SA	SBS-modified bitumen sheet, glass mat/glass scrim reinforced, with a thin layer of self-adhesive asphalt covered with polyolefin release film on bottom side.	Fully adhered self-adhesive first ply to be used in conjunction with Paradiene systems.	Self-adhesive	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	84 lb/sq (4.1 kg/m ²)

* Refer to Torch Application section on page 9 for additional information.

Product Information Reference Chart

Product	Description	Purpose	Application Method	Unit	Size	Coverage	Minimum Coverage Weight
Paradiene 30	SBS-modified sheet with mineral surfacing, random glass mat-reinforced.	Top ply of Paradiene 20/30 composite, lapped 3 inches side and end.	Approved mopping asphalt, PA-311 Adhesives, or SFT Adhesive	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	90 lb/sq (4.4 kg/m ²)
Paradiene 30 HT	SBS-modified sheet with mineral surfacing, glass mat/glass scrim reinforced.	Top ply of Paradiene 20/30 composite, lapped 3 inches side and end. For high tensile requirements.	Approved mopping asphalt, PA-311 Adhesives, or SFT Adhesive	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	91 lb/sq (4.4 kg/m ²)
Paradiene 30 FR	Fire-rated SBS-modified sheet with mineral surfacing, random glass mat-reinforced.	Top ply of Paradiene 20/30 FR composite, lapped 3 inches side and end.	Approved mopping asphalt, PA-311 Adhesives, or SFT Adhesive	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	90 lb/sq (4.4 kg/m ²)
Paradiene 30 HT FR	Fire-rated SBS-modified sheet with mineral surfacing, glass mat/glass scrim reinforced.	Top ply of Paradiene 20/30 FR composite, lapped 3 inches side and end. For high tensile requirements.	Approved mopping asphalt, PA-311 Adhesives, or SFT Adhesive	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	91 lb/sq (4.4 kg/m ²)
Paradiene 30 TG	SBS-modified sheet with mineral surfacing, random glass mat-reinforced, thin layer of grooved torching grade asphalt on bottom side.	Top ply of Paradiene 20/30 TG Series composite, lapped 3 inches side and end.	Torch*	Roll	3.28 ft (1 m) x 25.25 ft (7.7 m)	0.75 sq (7.0 m ²)	112 lb/sq (5.4 kg/m ²)
Paradiene 30 HT TG	SBS-modified sheet with mineral surfacing, glass mat/glass scrim reinforced, thin layer of grooved torching grade asphalt on bottom side.	Top ply of Paradiene TG Series composite, lapped 3 inches side and end. For high tensile requirements.	Torch*	Roll	3.28 ft (1 m) x 25.25 ft (7.7 m)	0.75 sq (7.0 m ²)	112 lb/sq (5.4 kg/m ²)
Paradiene 30 FR TG	Fire-rated SBS-modified sheet with mineral surfacing, random glass mat-reinforced, thin layer of grooved torching grade asphalt on bottom side.	Top ply of Paradiene 20/30 FR TG Series composite, lapped 3 inches side and end.	Torch*	Roll	3.28 ft (1 m) x 25.25 ft (7.7 m)	0.75 sq (7.0 m ²)	112 lb/sq (5.4 kg/m ²)
Paradiene 30 HT FR TG	Fire-rated SBS-modified sheet with mineral surfacing, glass mat/glass scrim reinforced, thin layer of grooved torching grade asphalt on bottom side.	Top ply of Paradiene TG Series composite, lapped 3 inches side and end. For high tensile requirements.	Torch*	Roll	3.28 ft (1 m) x 25.25 ft (7.7 m)	0.75 sq (7.0 m ²)	112 lb/sq (5.4 kg/m ²)
Paradiene 30 MW FR	Fire-rated SBS-modified sheet with mineral surfacing, woven glass reinforcement.	Top ply of Paradiene 20/30 FR composite, lapped 3 inches side and end. For ultra high tensile requirements.	Approved mopping asphalt, PA-311 Adhesives, or SFT Adhesive	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	96 lb/sq (4.7 kg/m ²)
Paradiene 30 BW	Fire-rated SBS-modified sheet with reflective white granule surfacing, random glass mat reinforced.	Top ply of Paradiene 20/30 composite, lapped 3 inches side and end. For cool roof applications.	Approved mopping asphalt, PA-311 Adhesives, or SFT Adhesive	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	80 lb/sq (3.9 kg/m ²)
Paradiene 30 FR TG BW	Fire-rated SBS-modified sheet with reflective white granule surfacing, random glass mat reinforced. Thin layer of grooved torching grade asphalt on bottom side.	Top ply of Paradiene 20/30 FR TG Series composite, lapped 3 inches side and end. For cool roof applications.	Torch*	Roll	3.28 ft (1 m) x 25.25 ft (7.70 m)	0.75 sq (7.0 m ²)	96 lb/sq (4.7 kg/m ²)
Paradiene 40 FR	Fire-rated SBS-modified sheet with mineral surfacing, glass mat/glass scrim reinforced.	Top ply of Paradiene 40 FR composite, side lapped 4 inches and end lapped 6 inches. Also used as a flashing sheet in Paradiene 20/30 systems.	Approved mopping asphalt, PA-311 Adhesives, SFT Adhesive, PA-828 Cement, or SFT Cement	Roll	3.28 ft (1 m) x 25.25 ft (7.92 m)	0.75 sq (7.0 m ²)	114 lb/sq (5.5 kg/m ²)
Paradiene 40 FR TG	Fire-rated SBS-modified sheet with mineral surfacing, glass mat/glass scrim reinforced. Thin layer of grooved torching grade asphalt on bottom side.	Top ply of Paradiene 40 FR composite, side lapped 4 inches and end lapped 6 inches. Also used as a flashing sheet in Paradiene 20/30 systems.	Torch*	Roll	3.28 ft (1 m) x 25.25 ft (7.92 m)	0.75 sq (7.0 m ²)	125 lb/sq (6.1 kg/m ²)
Paradiene 40 BW	Fire-rated SBS-modified sheet with reflective white granule surfacing, glass mat/glass scrim reinforced.	Top ply of Paradiene 40 FR composite, side lapped 4 inches and end lapped 6 inches. For cool roof applications. Also used as a flashing sheet in Paradiene 20/30 BW Systems.	Approved mopping asphalt, PA-311 Adhesives, SFT Adhesive, PA-828 Cement, or SFT Cement	Roll	3.28 ft (1 m) x 25.25 ft (7.92 m)	0.75 sq (7.0 m ²)	99 lb/sq (4.8 kg/m ²)
Paradiene 40 FR TG BW	Fire-rated SBS-modified sheet with reflective white granule surfacing, glass mat/glass scrim reinforced. Thin layer of grooved torching grade asphalt on bottom side.	Top ply of Paradiene 40 FR composite, side lapped 4 inches and end lapped 6 inches. For cool roof applications. Also used as a flashing sheet in Paradiene 20/30 BW Systems.	Torch*	Roll	3.28 ft (1 m) x 25.25 ft (7.7 m)	0.75 sq (7.0 m ²)	108 lb/sq (5.3 kg/m ²)

*Refer to Torch Application section on page 9 for additional information.

Product Information Reference Chart

Product	Description	Purpose	Application Method	Unit	Size	Coverage	Minimum Coverage Weight
Veral Roof Membrane Products							
Veral Aluminum	Aluminum-clad SBS-modified sheet, glass mat/glass scrim reinforced.	Top ply of Veral roofing and flashing composite, lapped 3 inches side and end.	Approved mopping asphalt, Torch*, or SFT Cement	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	96 lb/sq (4.6 kg/m ²)
Veral Polar White Spectra	Aluminum-clad SBS-modified sheet, glass mat/glass scrim reinforced. Aluminum foil facing factory coated with white gloss finish.	Top ply of Veral roofing and flashing composite.	Approved mopping asphalt, Torch*, or SFT Cement	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	96 lb/sq (4.6 kg/m ²)
Parafor Roof Membrane Products							
Parafor 50 LT	SBS-modified sheet with mineral surfacing, polyester mat/ fiberglass scrim reinforced.	Single-ply roofing membrane, side lapped 4 inches and end lapped 6 inches. Also used as a flashing sheet in Paradiene 20/30 and Parafor Roof Systems	Approved mopping asphalt, PA-311 Adhesives, SFT Adhesive, PA-828 Cement, or Torch*	Roll	3.28 ft (1 m) x 25.6 ft (7.8 m)	0.75 sq (7.0 m ²)	141 lb/sq (6.9 kg/m ²)
Parafor 50 TG	SBS-modified sheet with mineral surfacing, polyester mat/fiberglass scrim reinforced. Thin layer of grooved torching grade asphalt on bottom side.	Single-ply roofing membrane, side lapped 4 inches and end lapped 6 inches. Also used as a flashing sheet in Paradiene 20/30 and Parafor Systems.	Torch*	Roll	3.28 ft (1 m) x 26 ft (7.92 m)	0.75 sq (7.0 m ²)	145 lb/sq (7.0 kg/m ²)
Parafor 30	SBS-modified sheet with mineral surfacing, polyester mat/fiberglass scrim reinforced.	Top ply of Parafor 30 composite, side lapped 3 inches and end lapped 6 inches. Also used as a flashing sheet in Paradiene 20/30 and Parafor Roof Systems.	Approved mopping asphalt, PA-311 Adhesives, SFT Adhesive, or PA-828 Cement.	Roll	3.28 ft (1 m) x 32.8 ft (10.0 m)	1 sq (9.3 m ²)	114 lb/sq (5.5 kg/m ²)
Parafor 30 TG	SBS-modified sheet with mineral surfacing, polyester mat/fiberglass scrim reinforced. Thin layer of grooved torching grade asphalt on bottom side.	Top ply of Parafor 30 composite, side lapped 3 inches and end lapped 6 inches. Also used as a flashing sheet in Paradiene 20/30 and Parafor Roof Systems.	Torch*	Roll	3.28 ft (1 m) x 32.8 ft (10.0 m)	1 sq (9.3 m ²)	114 lb/sq (5.5 kg/m ²)
Irex Base Sheet Products							
Irex 40	High-melt, modified asphalt sheet, random glass mat-reinforced.	First ply of Veral composite, lapped minimum 3 inches side and end.	Approved mopping asphalt or Torch*	Roll	3.28 ft (1 m) x 34 ft (10.36 m)	1 sq (9.3 m ²)	85 lb/sq (4.1 kg/m ²)
Irex HT	High-melt, modified asphalt sheet, glass mat/glass scrim-reinforced.	First ply of Veral composite, lapped minimum 3 inches side and end. For high tensile requirements.	Approved mopping asphalt or Torch*	Roll	3.28 ft (1 m) x 34 ft (10.36 m)	1 sq (9.3 m ²)	85 lb/sq (4.1 kg/m ²)
Base and Ply Sheet Products							
Parabase	Asphalt coated fiberglass base sheet meeting ASTM D 4601, Type II.	Mechanically fastened base sheet or adhered underlayment ply.	Asphalt or mechanically fastened	Roll	3 ft (0.91 m) x 108 ft (32.9 m)	3 sq (27.9 m ²)	20 lb/sq (0.9 kg/m ²)
Parabase FS	Asphalt coated fiberglass base sheet meeting ASTM D 4601, Type II with polyolefin film backing.	Mechanically fastened base sheet.	Mechanically fastened	Roll	3 ft (0.91 m) x 108 ft (32.9 m)	3 sq (27.9 m ²)	20 lb/sq (0.9 kg/m ²)
Parabase Plus	Modified asphalt coated fiberglass base sheet meeting ASTM D 4601, Type II.	Mechanically fastened base sheet or adhered underlayment ply.	Asphalt or mechanically fastened	Roll	3.28 ft (1 m) x 102.3 ft (31.2 m)	3 sq (27.9 m ²)	30 lb/sq (1.4 kg/m ²)
Parabase Plus P	Asphalt coated fiberglass base sheet meeting ASTM D 4601, Type II, with a thin layer of self-adhesive asphalt covered with polyolefin release film on bottom side, and Syntan acrylic coating on top surface.	Mechanically fastened base sheet designed to facilitate adhesion of Paradiene 20 SA.	Mechanically fastened.	Roll	3.28 ft (1 m) x 102.3 ft (31.2 m)	3 sq (27.9 m ²)	25 lb (1.1 kg/m ²)
Paraglas	Asphalt coated fiberglass mat meeting ASTM D 2178, Type IV.	Ply felt for conventional built-up application, or as an underlayment ply.	Asphalt or mechanically fastened	Roll	3 ft (0.91 m) x 180 ft (54.9 m)	5 sq (50.2 m ²)	6.8 lb/sq (0.3 kg/m ²)
Adhesive and Cement Products							
PA-311 Adhesive	Blend of special adhesive asphalts and safe, high-flash, quick drying solvents, Type II. Maximum VOC content is ≤ 395 g/L.	Interply adhesive for Paradiene 20/30, Paradiene 40 FR, and Parafor 50 LT roof systems.	Squeegee, spray, or Paraflow PA-311 Adhesive Spreader	Pail Drum Tote	5-gallon (19 L) pail 4.7 gallon (17.8 L) net content 55-gallon (208 L) drum 53 gal (200.6 L) net content	See product data sheet	See product data sheet
PA-311 M Adhesive	Blend of special adhesive asphalts and safe, high-flash, quick drying solvents. Meets regional VOC regulations. Maximum VOC content is ≤ 250 g/L.	Interply adhesive for Paradiene 20/30, Paradiene 40 FR, and Parafor 50 LT roof systems.	Squeegee, spray, or Paraflow PA-311 Adhesive Spreader	Pail Drum Tote	5-gallon (19 L) pail 4.7 gallon (17.8 L) net content 55-gallon (208 L) drum 53 gallon (200.6 L) net content 350-gallon (1,325 L) tote**	See product data sheet	See product data sheet
PA-1021 Plastic Cement	Asphalt cutback reinforced with non-asbestos fibers meeting ASTM D 4586, Type II. Maximum VOC content is ≤ 300 g/L.	General-purpose roof cement for use under all metal flanges.	Trowel	Pail	5-gallon (19 L) pail 4.7 gallon (17.8 L) net content	See product data sheet	See product data sheet
PA-828 Flashing Cement	Asphalt cutback reinforced with non-asbestos fibers meeting ASTM D 4586, Type II. Maximum VOC content is ≤ 350 g/L.	Specially blended flashing cement which resists slump on sloped and vertical applications.	Trowel	Pail	5-gallon (19 L) pail 4.7 gallon (17.8 L) net content	See product data sheet	See product data sheet
PA-1000 Mopping Asphalt	Modified interply mopping asphalt meeting ASTM D 6152.	Interply adhesive for use with Siplast roofing membranes.	Mop or mechanical applicator	Carton	56 - 60 lb carton (27.2-kg)	See product data sheet	See product data sheet
SFT Adhesive	Single-component, solvent-free, moisture cured modified asphalt adhesive. Blend of proprietary polymers and asphalt.	Interply adhesive for Paradiene 20/30, Paradiene 40, and Parafor 50 LT roof systems.	Notched squeegee	Pail	5-gallon (19 L) pail 5 gallon (19 L) net content	See product data sheet	See product data sheet

* Refer to Torch Application section on page 9 for additional information.

21 ** Limited Availability

Product	Description	Purpose	Application Method	Unit	Size	Coverage	Minimum Coverage Weight
Adhesive and Cement Products <i>continued</i>							
SFT Cement	Single-component, solvent-free moisture cured adhesive. Blend of proprietary polymers and modifiers.	Multi-purpose cement for application of Siplast flashing membranes and other approved applications.	¾-inch V-notched trowel	Pail	3.5-gallon (13.2 L) pail 3.5 gal (13.2 L) net content	See product data sheet	See product data sheet
Primer Products							
PA-1125 Asphalt Primer	Penetrating asphalt cutback meeting ASTM D 41, Type I. Maximum VOC content is ≤ 475 g/L.	Preparation of metal and masonry surfaces.	Brush, roller, or spray	Pail	5-gallon (19 L) pail 4.7 gal (17.8 L) net content	See product data sheet	See product data sheet
PA-917 LS Primer	Penetrating asphalt cutback meeting ASTM D 41, Type II. Meets regional VOC regulations. Maximum VOC content is ≤ 350 g/L.	Preparation of metal and masonry surfaces.	Brush, roller, or spray	Pail	5-gallon (19 L) pail 4.7 gal (17.8 L) net content	See product data sheet	See product data sheet
TA-119 Primer	Single-component, water-based surface primer. Maximum VOC content is ≤ 100 g/L.	High-tack primer designed to facilitate adhesion of self-adhesive membranes.	Brush or roller	Pail	5-gallon (19 L) pail 4.7 gal (17.8 L) net content	See product data sheet	See product data sheet
Miscellaneous Accessory Products							
Paracoat Roof Coating	Multi-component, fast curing, flexible PMMA roof coating.	Roof coating for use in finished system protection and (in white color) providing a cool roof surface.	Roller	Drum	20-kg (44-lb) drum	See product data sheet	See product data sheet
PC-227 Elastomeric Roof Coating	100% acrylic, white roof coating with asphalt bleed blocking properties.	Roof coating for use in finished system protection and for providing a cool roof surface.	Spray, brush, or roller	Pail Drum	5-gallon (19 L) pail 5 gal (19 L) net content 55-gallon (208 L) drum 55 gal (208.1 L) net content	See product data sheet	See product data sheet
PS-209 Elastomeric Sealant	Moisture-curing, gun-grade sealant.	Sealant for use where finished membrane terminates at flanged metal components.	28-oz caulking gun	Cartridge	Twelve 28-oz cartridges (825 mL)	See product data sheet	
PS-715 NS Elastomeric Sealant	Moisture-curing, non-slump, gun-grade sealant.	Sealant for use where finished membrane terminates at flanged metal components.	28-oz caulking gun	Cartridge	Twelve 28-fluid ounce (825 mL) cartridges	See product data sheet	
Paratread	Traffic resistant polymer modified bitumen sheet, polyester reinforced, surfaced with mineral granules.	Protective course for high traffic roof areas.	PA-1021 Plastic Cement or PA-828 Flashing Cement	Roll	2.5 ft (76 cm) x 20 ft (6.1 m)	50 sq ft (4.7 m²)	71 lb per roll (32.6 kg/m²)
Trafbloc	Sheet composed of chopped rubber particles and synthetic binders.	Protective course for high traffic roof areas.	Asphalt or SFT Cement	Roll	30.7 in. (78 cm) x 32.8 ft (10 m)	82 sq ft (7.6 m²)	100 lb per roll (45.4 kg/m²)
No. 11 Roofing Granules	Ceramic coated mineral granules.	Treatment of asphalt or adhesive bleedout.		Pail	5-gallon (19 L) pail		See product data sheet
Noxite® Roofing Granules	Mineral granules specially treated with Noxite to reduce concentrations of airborne pollutants.	Treatment of asphalt or adhesive bleedout on Siplast Eco-Activ roof systems.		Pail	5-gallon (19 L) pail	See product data sheet	See product data sheet
No. 11 BW Roofing Granules	Mineral granules specially treated for cool roof applications.	Treatment of asphalt or adhesive bleedout.		Pail	5-gallon (19 L) pail	See product data sheet	See product data sheet
Zono-Patch	Mixture of cementitious binders, low-density fine aggregates and proprietary additives.	Designed for the repair of new and existing lightweight insulating concrete roof surfaces.	See product data sheet	Pail Bag	5-gallon (19 L) pail 40-pound (18.1kg) bag	See product data sheet	
Parafast Fasteners	Roofing fasteners and plates.	Fasteners for mechanical attachment of roof system components.		See fastener reference chart on page 9 of this guide.	See fastener reference chart on page 9 of this guide.	See product data sheet	
Parafast Insulation Adhesive	Quick-curing, two-component, bead-applied polyurethane rigid insulation adhesive.	Rigid insulation adhesive used to adhere Paratherm and other approved insulations.	Pace Cart 2® Dispenser or stand-up applicator	Bladder in box or cartridge	5-gallon bladder, Parts A and 1.5 liter cartridge		See product data sheet on both.
Para-Stik Insulation Adhesive	Single-component, moisture-cure, solvent-free, polyurethane, rigid insulation adhesive.	Rigid insulation adhesive used to adhere Paratherm and other approved insulations.	Wand application from a pre-pressurized container	Metal tank	30-lb (14-kg) metal tank	See product data sheet	
Teranap Waterproofing and Green Roofing Products							
Teranap 2M	SBS-modified sheet, with a nonwoven polyester reinforcement.	Top ply of the torch-applied Teranap composite.	Torch*	Roll	6.56 ft (2 m) x 65.6 ft (20 m)	4.0 sq (37.2 m²)	105 lb/sq (5.1 kg/m²)
Teranap 1M Sand/Sand	SBS-modified sheet, with a polyester mat/fiberglass scrim reinforcement and a sand surfacing on both sides.	Top ply of the Teranap composite.	Approved mopping asphalt, PA-311 Adhesive s, SFT Adhesive, or Torch*.	Roll	3.28 ft (1 m) x 26 ft (7.92 m)	.75 sq (7.0 m²)	116 lb/sq (5.7 kg/m²)
Teranap 1M Film	SBS-modified sheet, with a polyester mat/fiberglass scrim reinforcement and a polyester film protective layer on top surface.	Top ply of the Teranap torch-applied composite.	Torch*	Roll	3.28 ft (1 m) x 26 ft (7.92 m)	.75 sq (7.0 m²)	113 lb/sq (5.5 kg/m²)
Teranap 1 M GS	SBS-modified sheet, polyester mat/fiberglass scrim reinforced granule surfacing.	Top ply of the Teranap composite.	Approved mopping asphalt, PA-311 Adhesive, PA-828, SFT Adhesive or Torch*.	Roll	3.28 ft (1 m) x 26 ft (7.92 m)	0.75 sq (7.0 m²)	141 lb/sq (6.9 kg/m²)

* Refer to Torch Application section on page 9 for additional information.

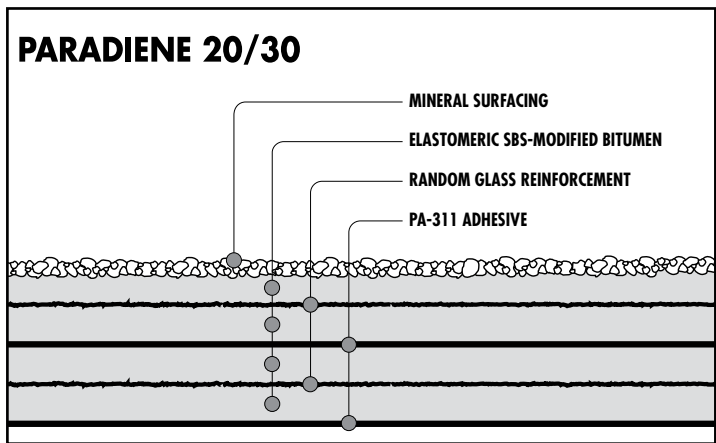
Product	Description	Purpose	Application Method	Unit	Size	Coverage	Minimum Coverage Weight
Roof Insulation Products							
Paratherm Polyisocyanurate Roof Insulation	Rigid roof insulation board composed of a closed cell polyisocyanurate foam core bonded to fiberglass reinforced facers.	High thermal value insulation board for use over metal, nailable, and non-nailable roof decks.	Parafast Fasteners, hot asphalt, Para-Stik, or Parafast Adhesive	Board	4' x 4' (1.22 m x 1.22 m) or 4' x 8' (1.22 m x 2.44 m) boards. Thicknesses of 1" (19.8 mm) to 4" (102 mm).	See product data sheet	
Parapro Roof Membrane and Parapro 123 Flashing System Products							
Parapro Roof Membrane Resin	PMMA based resin, available in summer and winter grade.	Waterproofing layer of Parapro Roof Membrane System.	Stub roller or roller	Metal drum	20-kg (44 lb) drum	See product data sheet	See product data sheet
Parapro Flashing Resin	PMMA based resin, available in summer and winter grade.	Waterproofing layer of Parapro 123 Flashing System.	Brush or roller	Metal drum	10-kg (22 lb) drum	See product data sheet	See product data sheet
Pro Matrix	Fibrated PMMA based resin.	Flashing compound for use in situations where application of fleece-reinforced Parapro 123 and Terapro flashing is impractical due to flashing configuration.	Brush	Metal drum	10-kg (22 lb) drum	See product data sheet	See product data sheet
Pro Primer R Resin	PMMA based resin.	Primer and sealer for bituminous surfaces, prior to application of Parapro Roof Membrane System and Parapro 123 Flashing System.	Roller	Metal drum	10-kg (22 lb) drum	See product data sheet	See product data sheet
Pro Primer W Resin	PMMA based resin.	Primer and sealer for wood surfaces and other approved substrates prior to application of Parapro Roof Membrane System and Parapro 123 Flashing System.	Roller	Metal drum	10-kg (22 lb) drum	See product data sheet	See product data sheet
Pro Color Finish	PMMA-based resin.	Color pigmented, multi-component, fast curing, flexible PMMA resin used as an optional finish layer in Parapro systems.	Roller	Metal drum	10-kg (22 lb) drum	See product data sheet	See product data sheet
Pro Primer T Resin	PMMA based resin.	Primer and sealer for concrete surfaces prior to application of Parapro Roof Membrane System and Parapro 123 Flashing System.	Roller	Metal drum	10-kg (22 lb) drum	See product data sheet	See product data sheet
Pro Paste Resin	PMMA based resin.	Resin for patching and leveling surfaces.	Trowel	Metal drum	10-kg (22 lb) drum	See product data sheet	See product data sheet
Pro Repair Mortar	PMMA based resin/ filler blend.	Mortar for patching and leveling concrete surfaces.	Trowel	Pail	See product data sheet	See product data sheet	See product data sheet
Pro Catalyst	White granular powder.	Reactive agent for use in initiating polymerization and curing of Parapro resins.	Mix with resins	Plastic bag	0.1-kg (3.2 oz) bag 10 bags per box	See product data sheet	
Pro Fleece	Non-woven needle-punched polyester fleece.	Embedded in Parapro Membrane Resin for reinforcement.	Embed in resin with roller or brush	Roll	See product data sheet	See product data sheet	
Pro Prep	Clear blended solvent.	For use in cleaning and reactivating transition areas of in-place Parapro 123 Flashing System membranes.	Clean shop rag	Resealable metal can	1-gallon (3.8 L) can and 5-gallon (19 L) can	See product data sheet	
Pro Prep S	Clear blended solvent (VOC exempt in California)	For use in cleaning and reactivating transition areas of in-place Parapro 123 Flashing System membranes.	Clean shop rag	Resealable metal can	5-gallon (19 L) can	See product data sheet	
Pro Texture Beads	Hardened, spherical soda-lime glass beads	Broadcast into wearing layer of Parapro applications to provide skid resistance.	Hopper gun	Pail	5-kg (11-lb) pail		
Paradiene 20 P	Asphalt elastomer sheet, random glass mat reinforced, with Syntan acrylic coating on top surface.	First ply of Paradiene 20 P/ Parapro Roof Membrane System.	Approved mopping asphalt or SFT Adhesive	Roll	3.28 ft (1 m) x 50 ft (15.24 m)	1.5 sq (13.9 m ²)	59 lb/sq (2.9 kg/m ²)
Paradiene 20 SA P	Asphalt elastomer sheet, random glass mat reinforced, with a thin layer of self-adhesive asphalt covered with polyolefin release film on bottom side, and Syntan acrylic coating on top surface.	Fully adhered first ply of Paradiene 20 SA P/Parapro Roof Membrane System.	Self-adhesive	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	69 lb/sq (3.4 kg/m ²)
Paradiene 20 TG P	Asphalt elastomer sheet, random glass mat reinforced, thin layer of grooved torching grade asphalt on bottom side, Syntan acrylic coating on top surface.	First ply of Paradiene 20 TG P/ Parapro Roof Membrane System.	Torch*	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	73 lb/sq (3.6 kg/m ²)
Paradiene 20 TS P	Asphalt elastomer sheet, random glass mat reinforced, with stripes of grooved torching grade asphalt on 50% of bottom side, and acrylic coating between the stripes. Syntan acrylic coating on top surface.	First ply of Paradiene 20 TS P/ Parapro Roof Membrane System.	Torch*	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	73 lb/sq (3.6 kg/m ²)
Paradiene 20 TS SA P	Asphalt elastomer sheet, random glass mat reinforced, with stripes of grooved torching grade asphalt on 50% of bottom side, acrylic coating between the stripes, and polyolefin release film on bottom side. Syntan acrylic coating on top surface.	First ply of Paradiene 20 TS SA P/ Parapro Roof Membrane System.	Self-adhesive	Roll	3.28 ft (1 m) x 33.5 ft (10.21 m)	1 sq (9.3 m ²)	73 lb/sq (3.6 kg/m ²)

* Refer to Torch Application section on page 9 for additional information.

Specifications

Paradiene 20/30

Cold Adhesive Application



Requirements and recommendations detailed elsewhere in the Siplast catalog and in the Siplast long form specifications apply in addition to the following recommendations and specifications.

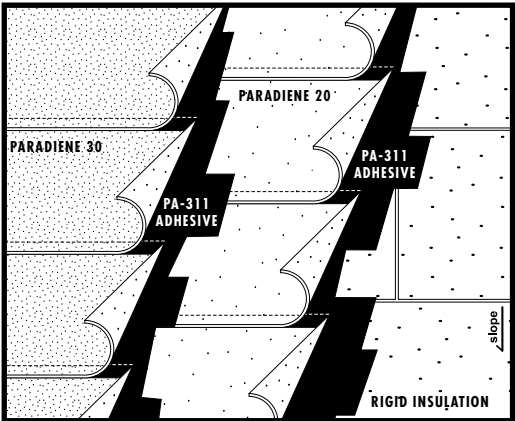
In the following specifications, Paradiene 30 FR may be substituted for Paradiene 30. The Paradiene 20/30 FR Roof System provides a UL Class A or Class B fire rating subject to slope limitations and conditions. Please see the current Commercial Product Data Sheet (available on www.siplast.com) for more information.

Any Siplast membrane cold adhesive product may be substituted for PA-311. See Product Reference Chart on pages 18-22 for more information.

Insulation (Non-Nailable)

Slope:	1/4" - 2 1/2" per ft*
Materials:	per 100 sq ft
Roof Insulation	
PA-311 Adhesive	1 1/2 - 2 1/2 gal
Paradiene 20	62 lb
PA-311 Adhesive	1 1/2 gal
Paradiene 30	90 lb

*Contact Siplast for higher or lower slope requirements.



Specification 2030 IA

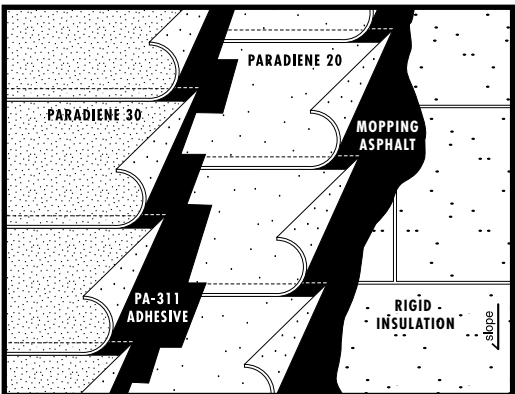
Application

1. Approved insulation should be installed according to manufacturer's recommendations and FM Approvals requirements, if applicable. The edges of insulation panels should be in moderate contact without forcing, cut to fit neatly against adjoining surfaces. The insulation layer should present a smooth surface to accept the roof membrane.
2. Beginning at the low point of the roof, lay one ply of Paradiene 20 in a full coating of PA-311 Adhesive. Lap sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet.
3. Beginning again at the low point of the roof, fully adhere one ply of Paradiene 30 to the Paradiene 20 surface using PA-311 Adhesive. Lap sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.

Insulation (Non-Nailable)

Slope:	1/4" - 2 1/2" per ft*
Materials:	per 100 sq ft
Roof Insulation	
Mopping Asphalt	25 lb
Paradiene 20	62 lb
PA-311 Adhesive	1 1/2 gal
Paradiene 30	90 lb

*Contact Siplast for higher or lower slope requirements.



Specification 2030 IH-A

Application

1. Approved insulation should be installed according to manufacturer's recommendations and FM Approvals requirements, if applicable. The edges of insulation panels should be in moderate contact without forcing, cut to fit neatly against adjoining surfaces. The insulation layer should present a smooth surface to accept the roof membrane.
2. Beginning at the low point of the roof, fully mop one ply of Paradiene 20 to the insulation surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet.
3. Beginning again at the low point of the roof, fully adhere one ply of Paradiene 30 to the Paradiene 20 surface using PA-311 Adhesive. Lap sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.

Note: Siplast strongly recommends that asphalt supplied for jobs requiring a standard 10-year membrane guarantee be certified in writing by the manufacturer. Asphalt suppliers are subject to review.

Contact Siplast for information regarding approved mopping asphalts.

Specification 2030 CBA

Application

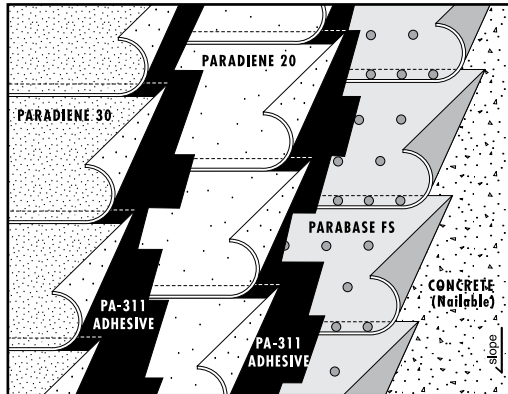
1. Lay one ply of Parabase FS base sheet dry over the entire area to be roofed. Lap each sheet 3 inches over the underlying sheet and lap ends 6 inches. Using approved fasteners, nail each sheet every 7 inches through laps and stagger nail the remainder of the sheet on 10-inch centers.

Note: The fastening pattern shown in this specification is based on Siplast standard nailing requirements. Contact Siplast for recommended fastening patterns to meet specific testing or code approvals.

2. Beginning at the low point of the roof, lay one ply of Paradiene 20 in a full coating of PA-311 Adhesive. Lap sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet.
3. Beginning again at the low point of the roof, fully adhere one ply of Paradiene 30 to the Paradiene 20 surface using PA-311 Adhesive. Lap sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.

Note: Venting provisions must be incorporated into lightweight insulating concrete designs.

Concrete or Gypsum (Nailable)

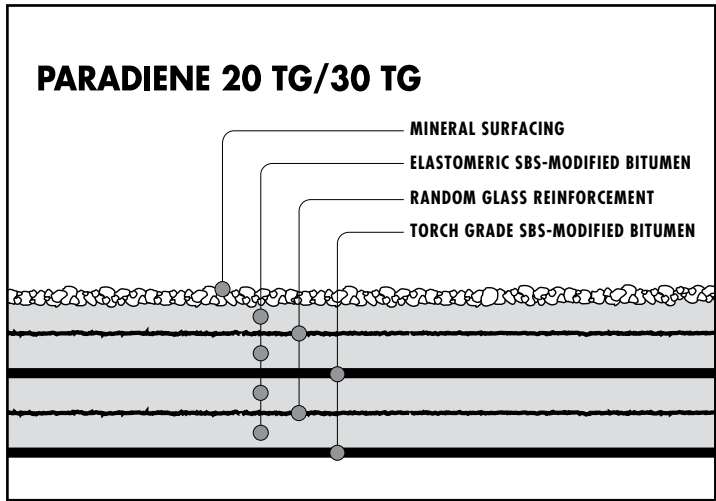


Slope:	$\frac{1}{4}$ " - $2\frac{1}{2}$ "
per ft* Materials: per 100 sq	
ft Parabase FS	20 lb
PA-311 Adhesive	1½ - 2½ gal
Paradiene 20	62 lb
PA-311 Adhesive	1½ gal
Paradiene 30	90 lb

**Contact Siplast for higher or lower slope requirements.*

Specifications

Paradiene 20/30 TG Series



Torch Application

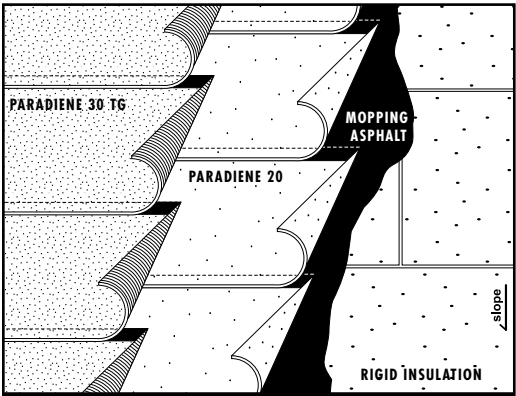
Requirements and recommendations detailed elsewhere in the Siplast catalog and in the Siplast long form specifications shall apply in addition to the following recommendations and specifications. TG Series membranes are used for torch application only. Standard Paradiene membranes are used for hot asphalt or cold adhesive applications.

In the following specifications, Paradiene 30 FR TG may be substituted for Paradiene 30 TG. The Paradiene 20/30 FR TG Roof System provides a UL Class A fire rating subject to the conditions outlined in the current Commercial Product Data Sheet available on www.siplast.com.

Insulation (Non-Nailable)

Slope: 0" - 2 1/2" per ft*
Materials: per 100 sq ft
Roof Insulation
Mopping Asphalt 25 lb
Paradiene 20 62 lb
Paradiene 30 TG 112 lb

*Contact Siplast for higher slope requirements.



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Specification 2030 IH-T

Application

1. Approved insulation should be installed according to manufacturer's recommendations and FM Approvals requirements, if applicable. The edges of insulation panels should be in moderate contact without forcing, cut to fit neatly against adjoining surfaces. The insulation layer should present a smooth surface to accept the roof membrane.
2. Beginning at the low point of the roof, fully mop one ply of Paradiene 20 to the insulation surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet.
3. Beginning again at the low point of the roof, fully torch one ply of Paradiene 30 TG to the Paradiene 20 surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.

Note: Torch prime all granule surfaces to be lapped by adjoining sheets.

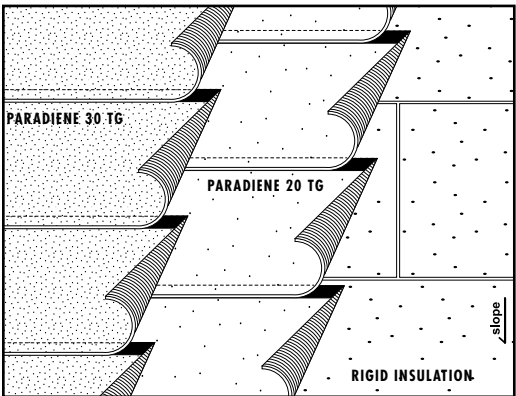
Siplast strongly recommends that asphalt supplied for jobs requiring a standard 10-year membrane guarantee be certified in writing by the manufacturer.

Contact Siplast for information regarding approved mopping asphalts.

Insulation (Non-Nailable)

Slope: 0" - 2 1/2" per ft*
Materials: per 100 sq ft
Roof Insulation
Paradiene 20 TG 76 lb
Paradiene 30 TG 112 lb

*Contact Siplast for higher slope requirements.



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Specification 2030 IT

Application

1. Approved insulation should be installed according to manufacturer's recommendations and FM Approvals requirements, if applicable. The edges of insulation panels should be in moderate contact without forcing, cut to fit neatly against adjoining surfaces. The insulation layer should present a smooth surface to accept the roof membrane.
2. Beginning at the low point of the roof, fully torch one ply of Paradiene 20 TG to the insulation surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet.
3. Beginning again at the low point of the roof, fully torch one ply of Paradiene 30 TG to the Paradiene 20 TG surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.

Note: Torch prime all granule surfaces to be lapped by adjoining sheets.

Specification 2030 CBT

Application

1. Lay one ply of Parabase FS base sheet dry over the entire area to be roofed. Lap each sheet 3 inches over the underlying sheet and lap ends 6 inches. Using approved fasteners, nail each sheet every 7 inches through laps and stagger nail the remainder of the sheet on 10-inch centers.

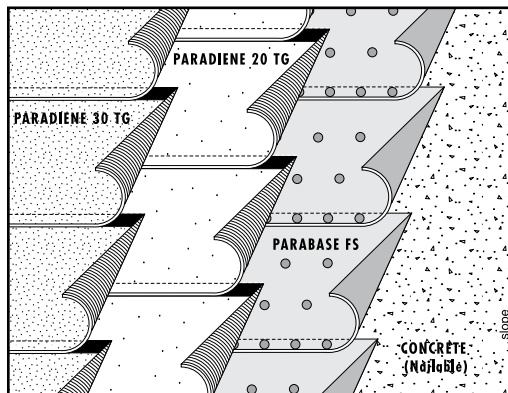
Note: The fastening pattern shown in this specification is based on Siplast standard nailing requirements. Contact Siplast for recommended fastening patterns to meet specific testing or code approvals.

2. Beginning at the low point of the roof, fully torch one ply of Paradiene 20 TG to the Parabase FS surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet.
3. Beginning again at the low point of the roof, fully torch one ply of Paradiene 30 TG to the Paradiene 20 TG surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.

Torch prime all granule surfaces to be lapped by adjoining sheets.

Note: Venting provisions must be incorporated into lightweight insulating concrete designs.

Concrete or Gypsum (Nailable)



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Slope: 0" - 2½" per ft*

Materials: per 100 sq ft
 Parabase FS 20 lb
 Paradiene 20 TG 76 lb
 Paradiene 30 TG 112 lb

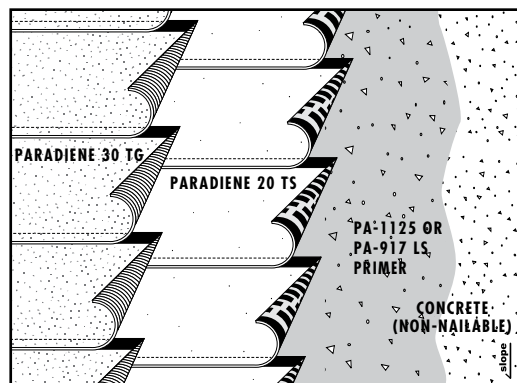
*Contact Siplast for higher slope requirements.

Specifications

Paradiene 20 TS /30 TG

Slope: 0" - 2½" per ft*
 Materials: per 100 sq ft
 PA-1125 or
 PA-917 LS Primer 1 gal
 Paradiene 20 TS 76 lb
 Paradiene 30 TG 112 lb
 *Contact Siplast for higher
 slope requirements.

Concrete (Non-Nailable)



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Torch Application

Specification 20S30 CT

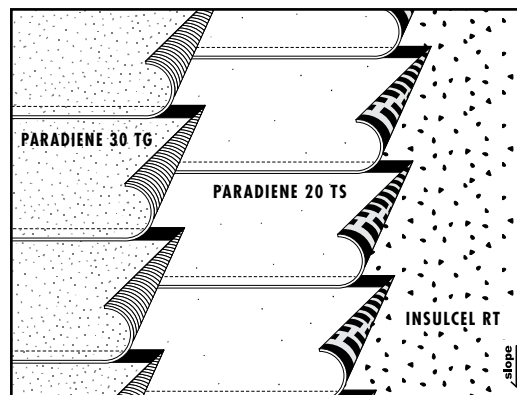
Application

1. Prime the entire deck using PA-1125 Asphalt Primer and allow the primer to dry thoroughly. (PA-917 LS Primer should be used when a VOC compliant primer is required.)
2. Beginning at the low point of the roof, torch one ply of Paradiene 20 TS to the primed concrete deck surface, lapping sides and ends a minimum of 3 inches. End laps require heat welding. Offset end laps a minimum of 3 feet. An alternative method to the standard end lap method is seaming the end joints using a 12-inch wide strip of Paradiene 20 TG. See Paradiene 20 TS/TS SA Seaming on page 41.
3. Beginning again at the low point of the roof, fully torch one ply of Paradiene 30 TG to the Paradiene 20 TS surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.

Note: Torch prime all granule surfaces to be lapped by adjoining sheets.

Slope: 0" - ¼" per ft*
 Materials: per 100 sq ft
 Insulation
 Paradiene 20 TS 76 lb
 Paradiene 30 FR TG 112 lb
 *Contact Siplast for higher
 slope requirements.

Concrete (Nailable) - RT Surface Treatment



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Specification: 20S30 RT-T

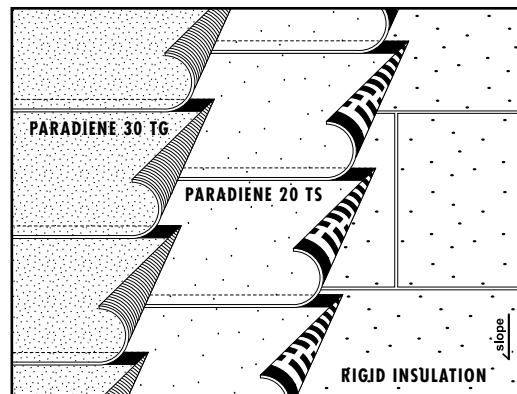
Application

1. Install the Insulcel RT Insulation System according to Siplast published specifications.
2. Before installing the Paradiene membrane, thermally activate the RT pellets on the Insulcel RT surface. RT pellets cannot be properly activated simultaneously with the torch application of the first ply of the roof system.
3. Beginning at the low point of the roof, torch one ply Paradiene 20 TS to the Insulcel RT surface, lapping sides and ends a minimum of 3 inches. End laps require heat welding. Offset end laps a minimum of 3 feet. An alternative method to the standard end lap method is seaming the end joints using a 12-inch wide strip of Paradiene 20 TG. See Paradiene 20 TS/TS SA Seaming on page 41.
4. Beginning again at the low point of the roof, fully torch one ply of Paradiene 30 TG to the Paradiene 20 TS surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.

Note: Torch prime all granule surfaces to be lapped by adjoining sheets. Top side venting provisions must be incorporated into the Insulcel RT System daily during installation of Paradiene 20 TS.

Slope: 0" - 2½" per ft*
 Materials: per 100 sq ft
 Roof Insulation
 Paradiene 20 TS 76 lb
 Paradiene 30 TG 112 lb
 *Contact Siplast for higher
 slope requirements.

Insulation (Non-Nailable)



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Specification 20S30 IT

Application

1. Approved insulation should be installed according to manufacturer's recommendations and FM Approvals requirements, if applicable. The edges of insulation panels should be in moderate contact without forcing, cut to fit neatly against adjoining surfaces. The insulation should present a smooth surface to accept the roof membrane.
2. Beginning at the low point of the roof, torch one ply of Paradiene 20 TS to the insulation surface, lapping sides and ends a minimum of 3 inches. End laps require heat welding. Offset end laps a minimum of 3 feet. An alternative method to the standard end lap method is seaming the end joints using a 12-inch wide strip of Paradiene 20 TG. See Paradiene 20 TS/TS SA Seaming on page 41.
3. Beginning again at the low point of the roof, fully torch one ply of Paradiene 30 TG to the Paradiene 20 TS surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.

Note: Torch prime all granule surfaces to be lapped by adjoining sheets.

Paradiene 20 TS SA/30 TG

Specification: 20S30 ISA-T

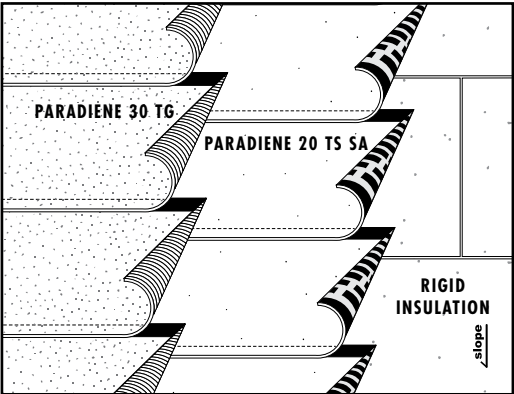
Application

1. Approved insulation should be installed according to manufacturer's recommendations and FM Approvals requirements, if applicable. The edges of the insulation panels should be in moderate contact without forcing, cut to fit neatly against adjoining surfaces. The insulation layer should present a smooth surface to accept the roof membrane.
2. Beginning at the low point of the roof, adhere the Paradiene 20 TS SA layer to the approved insulation surface, lapping sides and ends a minimum of 3 inches. End laps require heat welding. Offset end laps a minimum of 3 feet. An alternative method to the standard end lap method is seaming the end laps using a 12-inch wide strip of Paradiene 20 TG. See Paradiene 20 TS/TS SA Seaming on page 41.
3. Beginning again at the low point of the roof, fully torch one ply of Paradiene 30 TG to the Paradiene 20 TS SA surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.

Note: Torch prime all granule surfaces to be lapped by adjoining sheets.

Both layers (Paradiene 20 TS SA and Paradiene 30 TG) must be applied in the same day.

Insulation (Non-Nailable)



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Slope	0" - 2½" per ft*
Materials	per 100 sq ft
Insulation	
Paradiene 20 TS SA	76 lb
Paradiene 30 TG	112 lb

*Contact Siplast for higher slope requirements.

Specification: 20S30 CSA-T

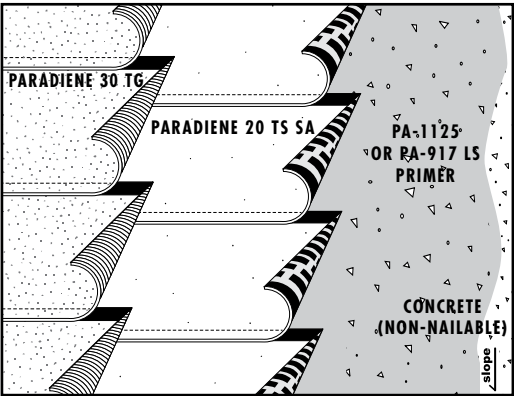
Application

1. Prime the entire deck using PA-1125 Asphalt Primer and allow the primer to dry thoroughly. (PA-917 LS Primer should be used when a VOC compliant primer is required.)
2. Beginning at the low point of the roof, adhere the Paradiene 20 TS SA layer to the concrete deck surface, lapping sides and ends a minimum of 3 inches. End laps require heat welding. Offset end laps a minimum of 3 feet. An alternative method to the standard end lap method is seaming the end laps using a 12-inch wide strip of Paradiene 20 TG. See Paradiene 20 TS/TS SA Seaming on page 41.
3. Beginning again at the low point of the roof, fully torch one ply of Paradiene 30 TG to the Paradiene 20 TS SA surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.

Note: Torch prime all granule surfaces to be lapped by adjoining sheets.

Both layers (Paradiene 20 TS SA and Paradiene 30 TG) must be applied in the same day.

Concrete (Non-Nailable)

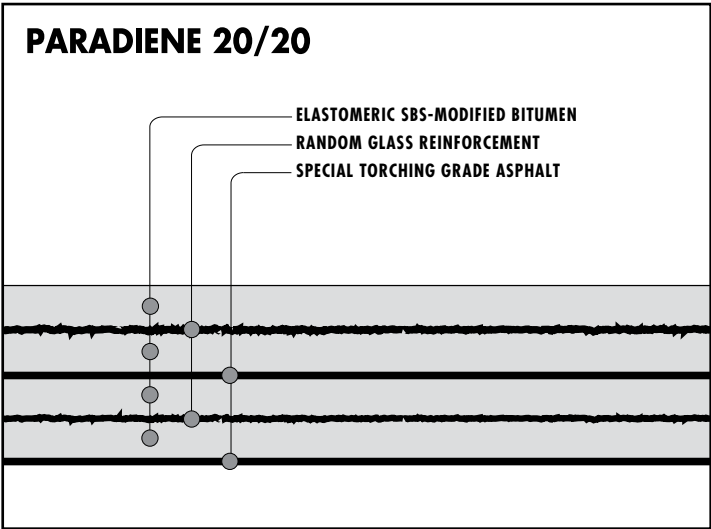


Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Slope	0" - 2½" per ft*
Materials	per 100 sq ft
Concrete	
PA-1125 OR	
PA-917 LS Primer	1 gal
Paradiene 20 TS SA	76 lb
Paradiene 30 TG	112 lb

*Contact Siplast for higher slope requirements.

Paradiene 20/20
Protected Membrane

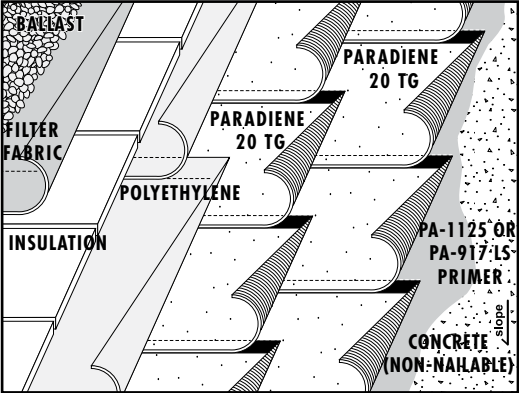


Requirements and recommendations detailed elsewhere in the Siplast catalog and in the Siplast long form specifications apply in addition to the following recommendations and specifications.

The Paradiene 20/20 Protected Roof System provides a UL Class A fire rating subject to the conditions outlined in the current Commercial Product Data Sheet available on www.siplast.com.

- Slope: 0" – 1" per ft*
Materials: per 100 sq ft
PA-1125 or
PA-917 LS Primer 1 gal
Paradiene 20 TG 76 lb
Paradiene 20 TG 76 lb
6-mil Polyethylene
Insulation
Filter Fabric
Ballast
*Contact Siplast for higher
slope requirements.

Concrete (Non-Nailable)



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Specification 2020 PMC-T

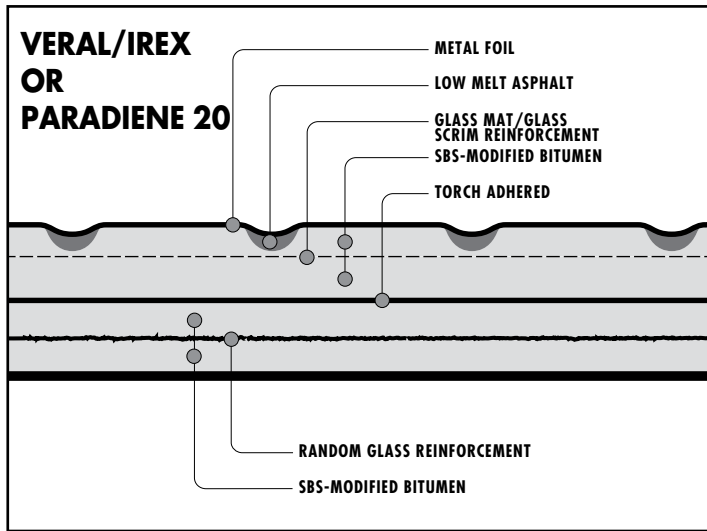
Application

1. Prime the entire deck using PA-1125 Asphalt Primer and allow the primer to dry thoroughly. (PA-917 LS Primer should be used when a VOC compliant primer is required.)
2. Beginning at the low point of the roof, fully torch one ply of Paradiene 20 TG to the primed concrete deck surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet.
3. Beginning again at the low point of the roof, fully torch one ply of Paradiene 20 TG to the Paradiene 20 TG surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.
4. Lay one ply of minimum 6-mil polyethylene sheeting dry over the finished Paradiene 20 TG.
5. Install the approved insulation dry over the polyethylene sheet according to the insulation manufacturer's specifications.
6. Lay one ply of an approved filter fabric over the insulation surface.
7. Ballast the system with round, river washed gravel at a rate sufficient to counteract wind uplift or buoyancy factors.

Specifications

Veral

Torch/Hot Application



Requirements and recommendations detailed elsewhere in the Siplast catalog and in the Siplast long form specifications apply in addition to the following recommendations and specifications.

The Veral System provides a UL Class A fire rating subject to the conditions outlined in the current Commercial Product Data Sheet available on www.siplast.com.

Note: Siplast strongly recommends that asphalt supplied for jobs requiring a standard 10-year membrane guarantee be certified in writing by the manufacturer or tested and approved in advance by the Siplast Laboratory. Asphalt suppliers are subject to review.

For Veral applications on slopes over 2½" per foot, contact the Siplast Technical Department for alternative base ply and base sheet applications.

See Slope Requirements/Fastening Schedule section, page 15 for sloped roof fastening requirements.

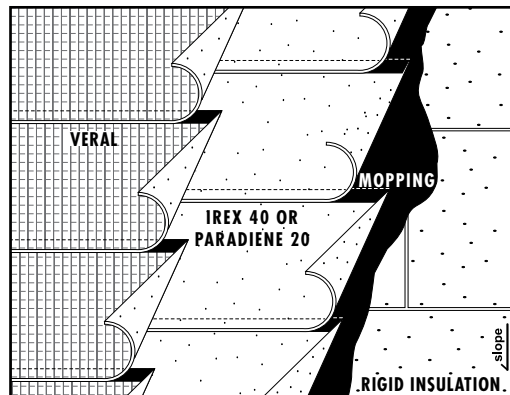
Specification 4040 IH-T

Application

1. Approved insulation should be installed according to manufacturer's recommendations and FM Approvals requirements, if applicable. The edges of insulation panels should be in moderate contact without forcing, cut to fit neatly against adjoining surfaces. The insulation layer should present a smooth surface to accept the roof membrane.
2. Beginning at the low point of the roof, fully mop or torch one ply of Irex 40 or Paradiene 20 to the insulation surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet.
3. Beginning again at the low point of the roof, fully torch one ply of Veral to the Irex surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.

Note: See Slope Requirements/Fastening Schedule section, page 15 for sloped roof fastening requirements. Slopes over 2½ inches per foot: Run all plies parallel to the slope of the roof.

Insulation (Non-Nailable)



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Slope:	½" per ft (min.)*
Materials:	per 100 sq ft
Roof Insulation	
Mopping Asphalt	25 lb
(optional)	
Irex 40 or	
Paradiene 20	85 lb
Veral	96 lb

*Contact Siplast for lower slope requirements.

Specification 4040 CBH-T

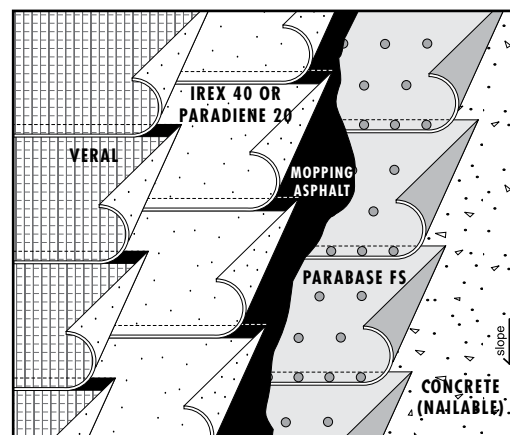
Application

1. Lay one ply of Parabase FS base sheet over the entire area to be roofed. Lap each end sheet 3 inches over the underlying sheet and lap ends 6 inches. Using approved fasteners, nail each sheet every 7 inches through laps and stagger nail the remainder of the sheet on 10-inch centers.
2. Beginning at the low point of the roof, fully mop or fully torch one ply of Irex 40 or Paradiene 20 to the Parabase FS surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet.
3. Beginning again at the low point of the roof, fully torch one ply of Veral to the Irex surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.

Note: The fastening pattern shown in this specification is based on Siplast standard nailing requirements. Contact Siplast for recommended fastening patterns to meet specific testing or code approvals.

Venting provisions must be incorporated into lightweight insulating concrete designs.

Concrete or Gypsum (Nailable)



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

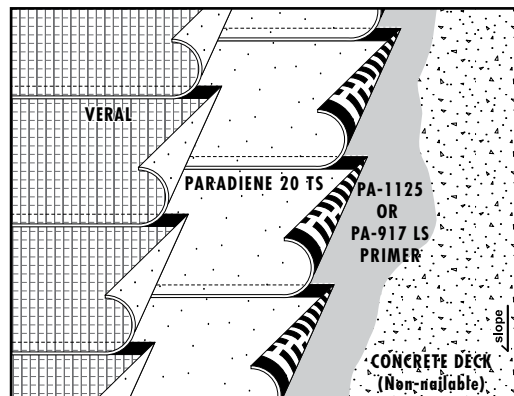
Slope:	½" per ft (min.)*
Materials:	per 100 sq ft
Parabase FS	20 lb
PA-100 Asphalt	25 lb
(optional)	
Irex 40 or	
Paradiene 20	85 lb
Veral	96 lb

*Contact Siplast for lower slope requirements.

Slope: $\frac{1}{2}$ " per ft (min.)*
 Materials: per 100 sq ft
 PA-1125 or
 PA-917 LS Primer 1 gal
 Paradiene 20 TS 76 lb
 Veral 96 lb

*Contact Siplast for lower slope requirements.

Concrete (Non-Nailable)



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Specification 20S40-CT

Application

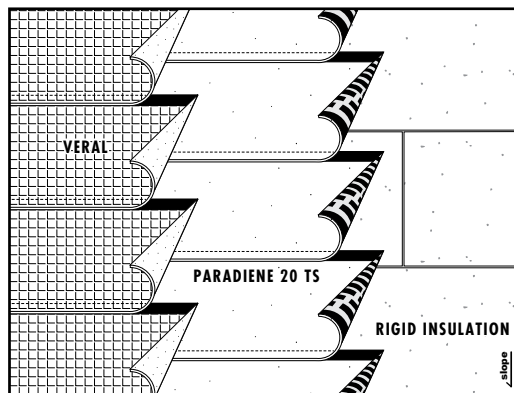
1. Prime the entire deck using PA-1125 Asphalt Primer and allow the primer to dry thoroughly. (PA-917 LS Primer should be used when a VOC compliant primer is required.)
2. Beginning at the low point of the roof, torch one ply of Paradiene 20 TS to the primed concrete deck surface, lapping sides and ends a minimum of 3 inches. End laps require heat welding. Offset end laps a minimum of 3 feet. An alternative method to the standard end lap method is seaming the end joints using a 12-inch wide strip of Paradiene 20 TG. See Paradiene 20 TS/ TS SA Seaming on page 41.
3. Beginning again at the low point of the roof, fully torch one ply of Veral to the Paradiene 20 TS surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.

Note: See Slope Requirements/Fastening Schedule section, page 15 for sloped roof fastening requirements. Slopes over $2\frac{1}{2}$ inches per foot: Run all plies parallel to the slope of the roof.

Slope: $\frac{1}{2}$ " per ft (min.)*
 Materials: per 100 sq ft
 Insulation
 Paradiene 20 TS 76 lb
 Veral 96 lb

*Contact Siplast for lower slope requirements.

Insulation (Non-Nailable)



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Specification 20S40 IT

Application

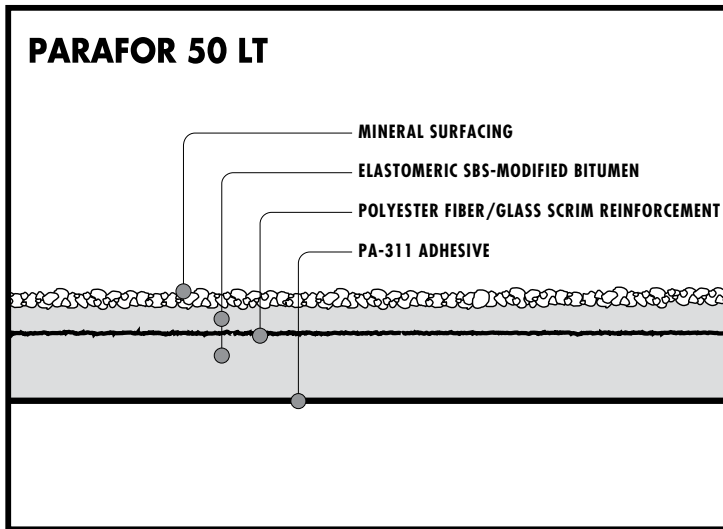
1. Approved insulation should be installed according to manufacturer's recommendations and FM Approvals requirements, if applicable. The edges of insulation panels should be in moderate contact without forcing, cut to fit neatly against adjoining surfaces. The insulation should present a smooth surface to accept the roof membrane.
2. Beginning at the low point of the roof, torch one ply of Paradiene 20 TS to the insulation surface, lapping sides and ends a minimum of 3 inches. End laps require heat welding. Offset end laps a minimum of 3 feet. An alternative method to the standard end lap method is seaming the end joints using a 12-inch wide strip of Paradiene 20 TG. See Paradiene 20 TS/TS SA Seaming on page 41.
3. Beginning again at the low point of the roof, fully torch one ply of Veral to the Paradiene 20 TS surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.

Note: See Slope Requirements/Fastening Schedule section, page 15 for sloped roof fastening requirements. Slopes over $2\frac{1}{2}$ inches per foot: Run all plies parallel to the slope of the roof.

Specifications

Parafor 50 LT

Cold Adhesive Application



Requirements and recommendations detailed elsewhere in the Siplast catalog and in the Siplast long form specifications apply in addition to the following recommendations and specifications.

Any Siplast membrane adhesive product may be substituted for PA-311. See Product Reference Chart on pages 18-22 for more information.

Specification 5000 IA

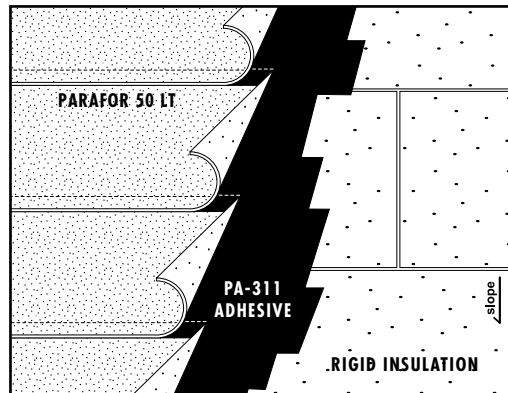
Application

1. Approved insulation should be installed according to manufacturer's recommendations and FM Approvals requirements, if applicable. The edges of insulation panels should be in moderate contact without forcing, cut to fit neatly against adjoining surfaces. The insulation layer should present a smooth surface to accept the roof membrane.
2. Beginning at the low point of the roof, lay one ply of Parafor 50 LT in a full coating of PA-311 Adhesive, lapping sides a minimum of 4 inches and ends a minimum of 6 inches. Offset end laps a minimum of 3 feet.

Note: See Slope Requirements/Fastening Schedule section, page 17 for sloped roof fastening requirements.

On slopes over 2½" per foot, run all plies parallel to the slope of the roof.

Insulation (Non-Nailable)



Slope: ½" per ft (min.)*
 Materials: per 100 sq ft
 Roof Insulation
 PA-311 Adhesive 1½ - 2½ gal
 Parafor 50 LT 141 lb
 *Contact Siplast for lower slope requirements.

Specification 5000 CBA

Application

1. Lay one ply of Parabase FS base sheet dry over the entire area to be roofed. Lap each sheet 3 inches over the underlying sheet and lap ends 6 inches. Using approved fasteners, nail each sheet every 7 inches through laps and stagger nail the remainder of the sheet on 10-inch centers.

Note: The fastening pattern shown in this specification is based on Siplast standard nailing requirements. Contact Siplast for recommended fastening patterns to meet specific testing or code approvals.

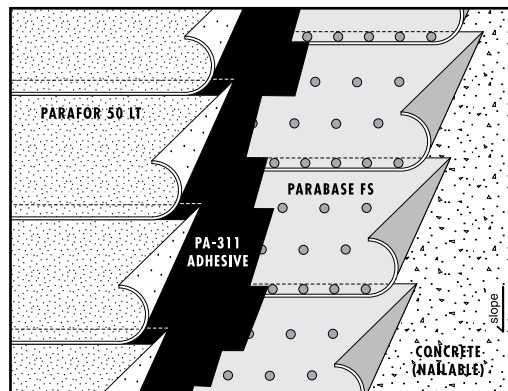
2. Beginning at the low point of the roof, lay one ply of Parafor 50 LT in a full coating of PA-311 Adhesive, lapping sides a minimum of 4 inches and ends a minimum of 6 inches. Offset end laps a minimum of 3 feet.

Note: See Slope Requirements/Fastening Schedule section, page 17 for sloped roof fastening requirements.

On slopes over 2½" per foot, run all plies parallel to the slope of the roof.

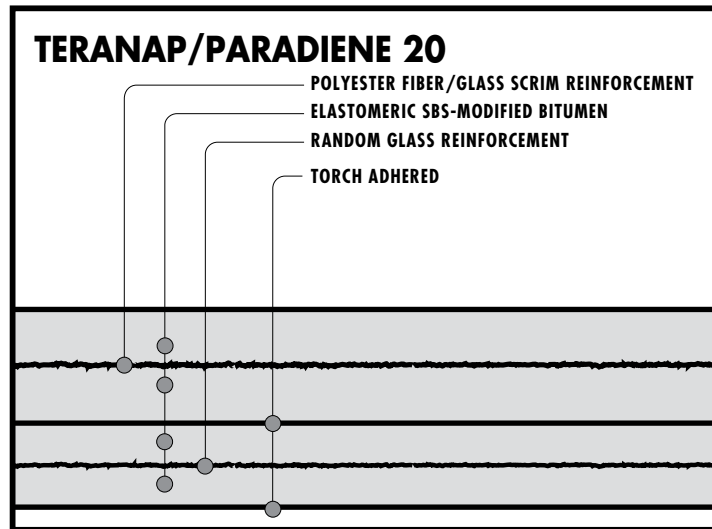
Venting provisions must be incorporated into lightweight insulating concrete designs.

Concrete or Gypsum (Nailable)



Slope: ½" per ft (min.)*
 Materials: per 100 sq ft
 Parabase FS 20 lb
 PA-311 Adhesive 1½ - 2½ gal
 Parafor 50 LT 141 lb
 *Contact Siplast for lower slope requirements.

Teranap Plaza Deck Teranap Green Roofing



Torch Application

Requirements and recommendations detailed elsewhere in the Siplast catalog and in the Siplast long form specifications apply in addition to the following recommendations and specifications.

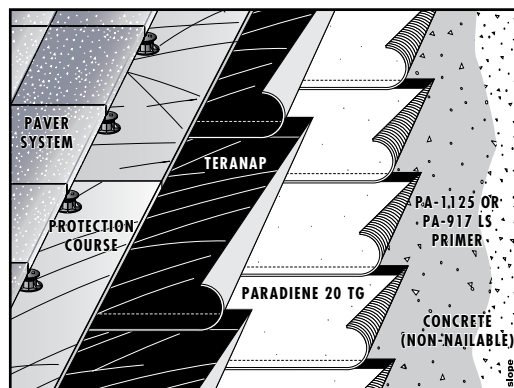
The Teranap System provides a UL Class A fire rating subject to the conditions outlined in the current Commercial Product Data Sheet available on www.siplast.com.

Slope: 0" - 1/2" per ft*
Materials: per 100 sq ft
PA-1125 or
PA-917 LS Primer 1 gal
Paradiene 20 TG 76 lb
Teranap 105 lb

Protection Course
Pedestal/Paver System

*Contact Siplast for higher
slope requirements.

Protection Course/Pedestal/Paver System



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Specification: PDCT-BP

Application

1. Prime the entire deck using PA-1125 Asphalt Primer and allow the primer to dry thoroughly. (PA-917 LS Primer should be used when a VOC compliant primer is required.)
2. Beginning at the low point of the roof, fully torch one ply of Paradiene 20 TG to the primed substrate, lapping sides and ends a minimum of 3 inches.
3. Beginning again at the low point of the roof, fully torch one ply of Teranap to the existing Terabase TG surface, lapping sides and ends a minimum of 6 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.
4. Install the approved protection course according to the manufacturer's specifications and recommendations. Protection course can be continuous or cut to match the pedestal footprint and placed under each pedestal.
5. Ballast the system with an approved pedestal paver system according to the paver manufacturer's specifications and recommendations.

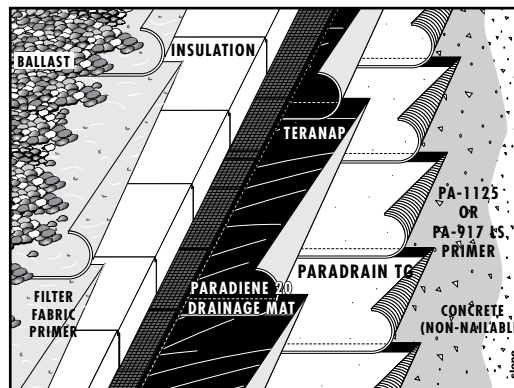
Note: Teranap is manufactured in both 1 meter and 2 meter widths. The Teranap weight shown above is a minimum weight for standard 2 meter wide Teranap. Contact Siplast for weights on other Teranap finish plies.

Drainage Mat/Insulation/Filter Fabric/ Ballast

Slope: 0" - 1" per ft*
Materials: per 100 sq ft
PA-1125 or
PA-917 LS Primer 1 gal
Paradiene 20 TG 76 lb
Teranap 105 lb
Paradrain Drainage Mat 23 lb

Insulation
Paradrain 40 Filter Fabric
Ballast

*Contact Siplast for higher
slope requirements.



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Specification: PDCT-DXFR

Application

1. Prime the entire deck using PA-1125 Asphalt Primer and allow the primer to dry thoroughly. (PA-917 LS Primer should be used when a VOC compliant primer is required.)
2. Beginning at the low point of the roof, fully torch one ply of Paradiene 20 TG to the primed substrate, lapping sides and ends a minimum of 3 inches.
3. Beginning again at the low point of the roof, fully torch one ply of Teranap to the existing Paradiene 20 TG surface, lapping sides and ends a minimum of 6 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.
4. Lay one layer of Paradrain Drainage Mat dry over the finished Teranap surface.
5. Lay one ply of Paradrain 40 Filter Fabric dry over the insulation surface according to the filter fabric manufacturer's specifications and recommendations.
6. Ballast the system with round, river washed gravel at a rate sufficient to counteract wind uplift or buoyancy factors.

Note: Teranap is manufactured in both 1 meter and 2 meter widths. The Teranap weight shown above is a minimum weight for standard 2 meter wide Teranap. Contact Siplast for weights on other Teranap finish plies.

Specifications

Teranap Plaza Deck

Teranap Green Roofing, Continued

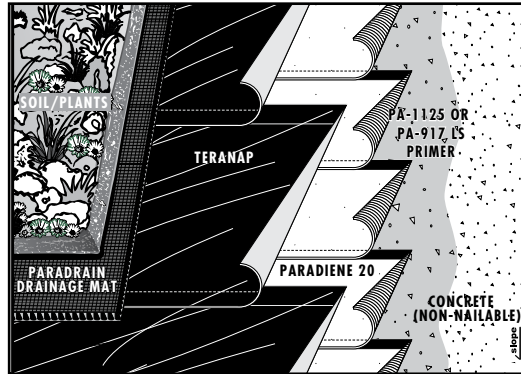
Specification: GRCT-DE

Application

1. Prime the entire deck using PA-1125 Asphalt Primer and allow the primer to dry thoroughly. (PA-917 LS Primer should be used when a VOC compliant primer is required.)
2. Beginning at the low point of the roof, fully torch one ply of Paradiene 20 TG to the primed substrate, lapping sides and ends a minimum of 3 inches.
3. Beginning again at the low point of the roof, fully torch one ply of Teranap to the existing Paradiene 20 TG surface, lapping sides and ends a minimum of 6 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.
4. Lay one layer of Paradrain Drainage Mat dry over the finished Teranap surface.
5. Install soil and plants as required.

Note: Teranap is manufactured in both 1 meter and 2 meter widths. The Teranap weight shown above is a minimum weight for standard 2 meter wide Teranap. Contact Siplast for weights on other Teranap finish plies.

Teranap Green Roof-Extensive



Slope:	0" - 1/4" per ft*
Materials:	per 100 sq ft
PA-1125 or	
PA-917 LS Primer	1 gal
Paradiene 20 TG	76 lb
Teranap	105 lb
Paradrain Drainage Mat	23 lb
Soil/Plants	

* Contact Siplast for higher slope requirements.

Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

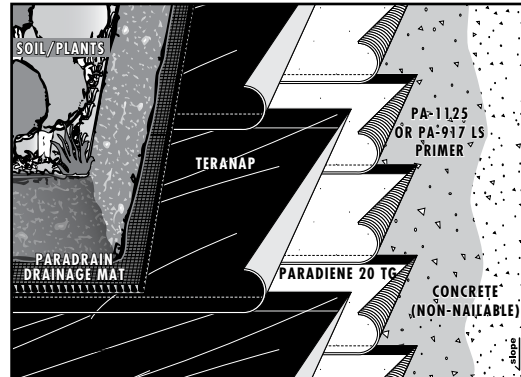
Specification: GRCT-DI

Application

1. Prime the entire deck using PA-1125 Asphalt Primer and allow the primer to dry thoroughly. (PA-917 LS Primer should be used when a VOC compliant primer is required.)
2. Beginning at the low point of the roof, fully torch one ply of Paradiene 20 TG to the primed substrate, lapping sides and ends a minimum of 3 inches.
3. Beginning again at the low point of the roof, fully torch one ply of Teranap to the existing Paradiene 20 TG surface, lapping sides and ends a minimum of 6 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.
4. Lay one layer of Paradrain Drainage Mat dry over the finished Teranap surface.
5. Install soil and plants as required.

Note: Teranap is manufactured in both 1 meter and 2 meter widths. The Teranap weight shown above is a minimum weight for standard 2 meter wide Teranap. Contact Siplast for weights on other Teranap finish plies.

Teranap Green Roof-Intensive



Slope:	0" - 1/4" per ft*
Materials:	per 100 sq ft
PA-1125 or	
PA-917 LS Primer	1 gal
Paradiene 20 TG	76 lb
Teranap	105 lb
Paradrain Drainage Mat	23 lb
Soil/Plants	

* Contact Siplast for higher slope requirements.

Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

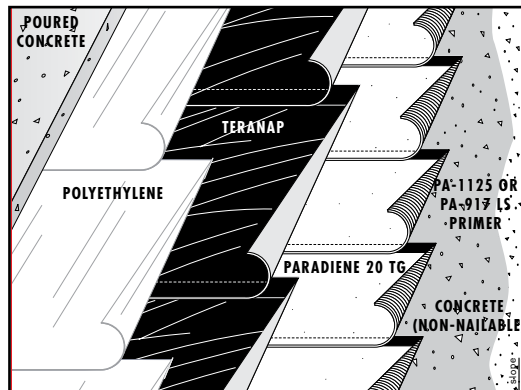
Specification: PDCT-YC

Application

1. Prime the entire deck using PA-1125 Asphalt Primer and allow the primer to dry thoroughly. (PA-917 LS Primer should be used when a VOC compliant primer is required.)
2. Beginning at the low point of the roof, fully torch one ply of Paradiene 20 TG to the primed substrate, lapping sides and ends a minimum of 3 inches.
3. Beginning again at the low point of the roof, fully torch one ply of Teranap to the existing Paradiene 20 TG surface, lapping sides and ends a minimum of 6 inches. Offset end laps a minimum of 3 feet. Stagger laps between plies.
4. Lay one ply of a minimum 6-mil polyethylene sheeting dry over the finished Teranap surface.
5. Install the approved concrete topping over the polyethylene surface according to the project specifications and local building code requirements.

Note: Teranap is manufactured in both 1 meter and 2 meter widths. The Teranap weight shown above is a minimum weight for standard 2 meter wide Teranap. Contact Siplast for weights on other Teranap finish plies.

Polyethylene/Concrete Topping



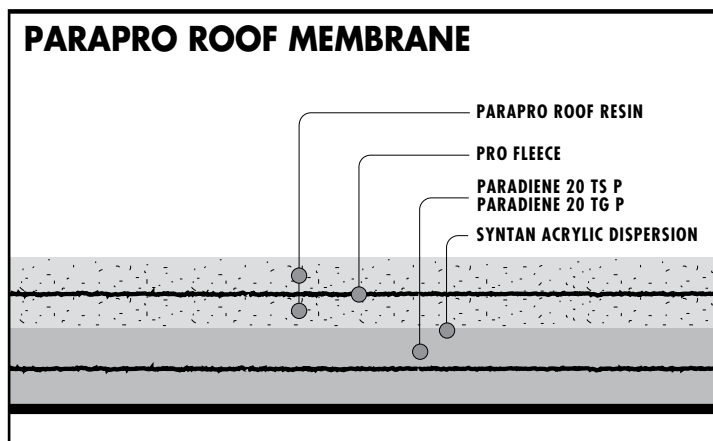
Slope:	0" - 1/4" per ft*
Materials:	per 100 sq ft
PA-1125 or	
PA-917 LS Primer	1 gal
Paradiene 20 TG	76 lb
Teranap	105 lb
6-mil Polyethylene Concrete Topping	

* Contact Siplast for higher slope requirements.

Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Specifications

Parapro Roof Membrane Systems



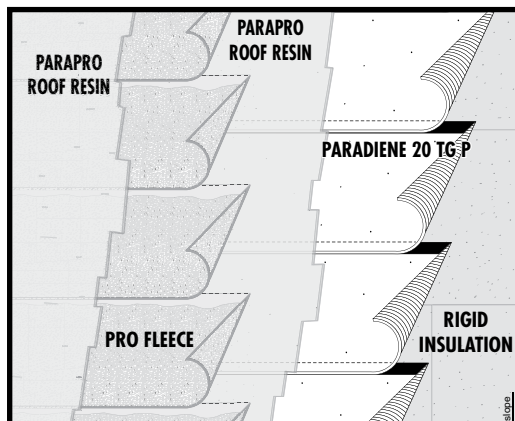
Requirements and recommendations detailed elsewhere in the Siplast catalog and in the Siplast long form specifications apply in addition to the following recommendations and specifications.

Parapro Roof Membrane System provides a UL Class A or Class B fire rating subject to slope limitations and conditions outlined in the current Commercial Product Data Sheet available on www.siplast.com.

Insulation (Non-Nailable)

Slope: 0" per foot min.*
Materials: per 100 sq ft
Roof Insulation
Paradiene 20 TG P 73 lb
Parapro Roof Resin 19.0 kg
Pro Fleece
Parapro Roof Resin 12.0 kg

*Pro Thixo resin additive is required for systems applied on slopes in excess of 1 inch (8%).



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Specification 24PPR-IT

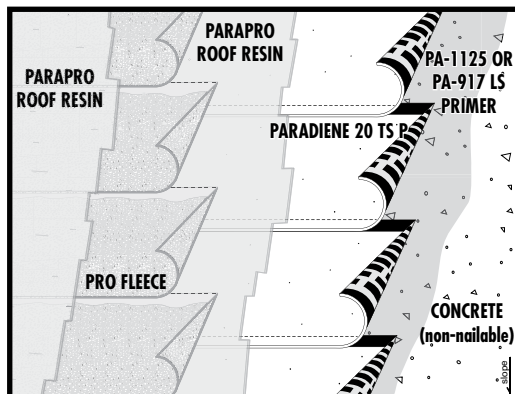
Application

1. Install approved insulation according to manufacturer's recommendations and FM Approvals guidelines, if applicable. The edges of insulation panels should be in moderate contact without forcing, cut to fit neatly against adjoining surfaces. The insulation shall provide a smooth surface to accept the membrane system.
2. Beginning at the low point of the roof, fully torch one ply of Paradiene 20 TG P to the insulation surface, lapping sides and ends a minimum of 3 inches. Offset end laps a minimum of 3 feet.
3. Apply an even, generous base coat of catalyzed Parapro Roof Membrane Resin over the Paradiene 20 TG P surface using an approved roller at a minimum rate of 19.0 kg per square.
4. While the previously applied catalyzed Parapro Roof Membrane Resin is still wet, install Pro Fleece reinforcement, embedding the fleece into the resin using a roller. Ensure that no air is trapped beneath the fleece. Lap the fleece a minimum of 2 inches side and end and apply an additional coat of catalyzed Parapro Roof Membrane Resin between layers of overlapping fleece.
5. Immediately following embedment of the Pro Fleece reinforcement, apply an even, generous top coat of catalyzed Parapro Roof Membrane Resin, ensuring full saturation of the fleece at a rate of 12.0 kg per square.

Insulation (Non-Nailable)

Slope: 0" per foot min.*
Materials: per 100 sq ft
PA-1125 Primer 1 gal
Paradiene 20 TS P 73 lb
Parapro Roof Resin 19.0 kg
Pro Fleece
Parapro Roof Resin 12.0 kg

*Pro Thixo resin additive is required for systems applied on slopes in excess of 1 inch (8%).



Caution: Some substrates may present a fire hazard when roofing materials are applied with a torch. Always have approved fire-extinguishing equipment nearby. Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Specification 2SPPR-CT

Application

1. Prime the entire deck using PA-1125 Asphalt Primer and allow the primer to dry thoroughly. (PA-917 LS Primer should be used when a VOC compliant primer is required.)
2. Beginning at the low point of the roof, torch one ply of Paradiene 20 TS P to the primed concrete deck surface, lapping sides and ends a minimum of 3 inches. End laps require heat welding. Offset end laps a minimum of 3 feet. An alternate method to the standard end lap method is seaming the end joints using a 12-inch wide strip of Paradiene 20 TG P. See Paradiene 20 TS/TS SA Seaming on page 41.
3. Apply an even, generous base coat of catalyzed Parapro Roof Membrane Resin over the Paradiene 20 TS P surface using an approved roller at a minimum rate of 19.0 kg per square.
4. While the previously applied catalyzed Parapro Roof Membrane Resin is still wet, install Pro Fleece reinforcement, embedding the fleece into the resin using a roller. Ensure that no air is trapped beneath the fleece. Lap the fleece a minimum of 2 inches side and end and apply an additional coat of catalyzed Parapro Roof Membrane Resin between layers of overlapping fleece.
5. Immediately following embedment of the Pro Fleece reinforcement, apply an even, generous top coat of catalyzed Parapro Roof Membrane Resin, ensuring full saturation of the fleece at a rate of 12.0 kg per square.

Flashing Details

Paradiene 20/30

Paradiene 20/30 FR

Veral

The illustrations on these pages show flashing details applicable to Paradiene 20/30 and Paradiene 20/30 FR roofing systems. All Paradiene 20/30 details are applicable to the Veral System where Irex may be substituted for Paradiene 20 and Veral is substituted for Paradiene 30.

Prior to flashing, granule surfaces must be prepared either by torch, PA-1125 Asphalt Primer, or PA-917 LS Primer.

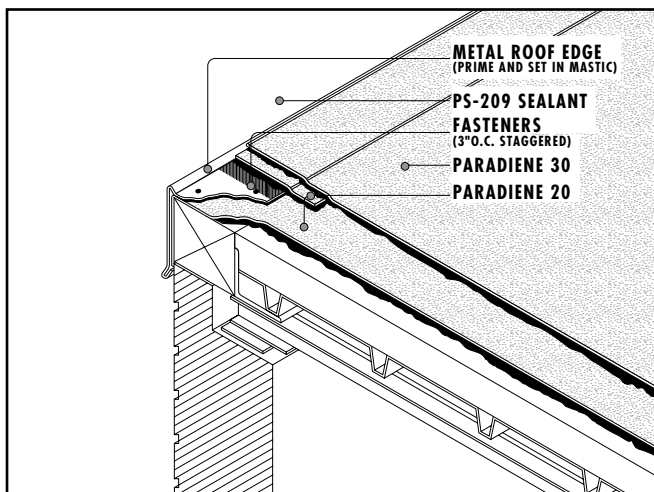
Veral base flashing should be cut to size off the end of the roll and applied vertically, always working to a selvage edge.

Paradiene 40 FR, Paradiene 40 FR TG, Parafor 50 LT, Parafor 50 TG, Parafor 30, Parafor 30 TG, and Parapro 123 Flashing are acceptable substitutes for Veral in all standard base flashing and wall treatment installations (with the exception of Parapet Non-wall Supported Deck).

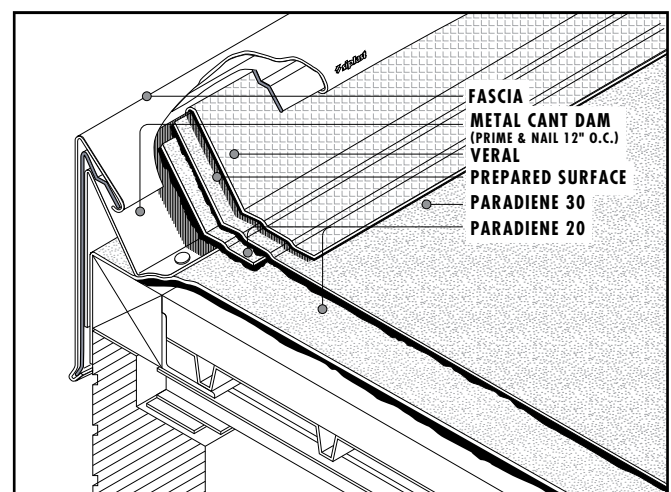
Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Parapro 123 Flashing may be substituted for lead flashing in drain details. Contact the Siplast Technical Department for requirements.

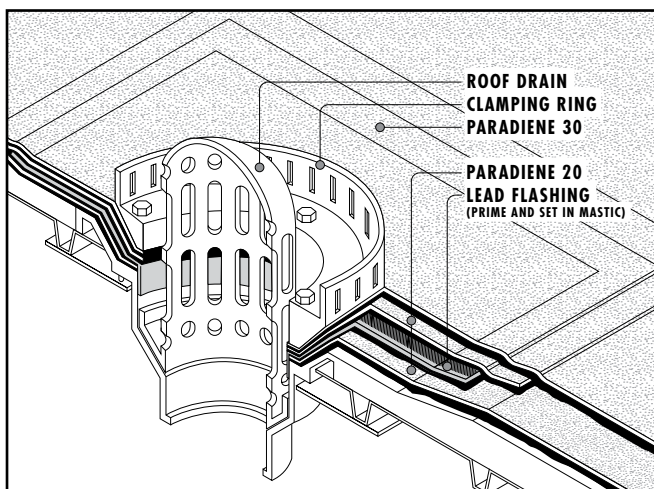
Roof Edge



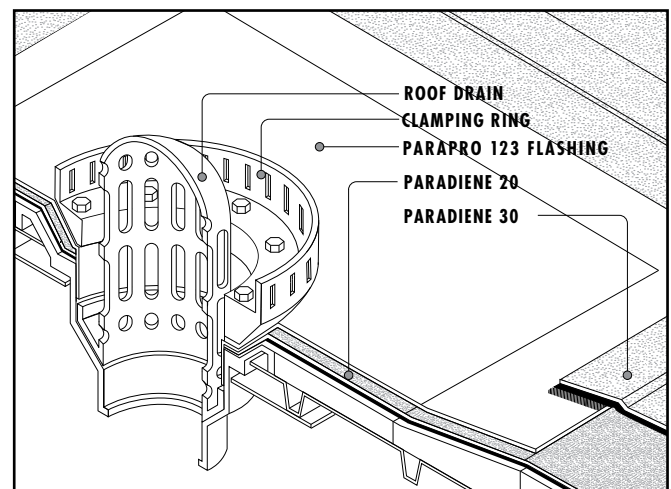
Paraguard Roof Edge



Drain

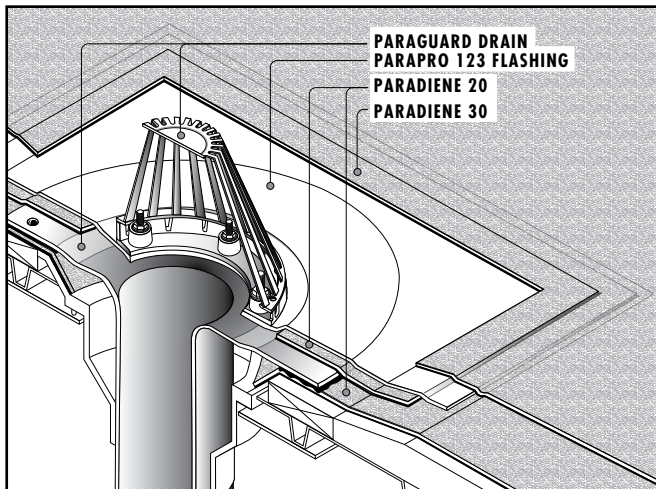


Sumped Drain

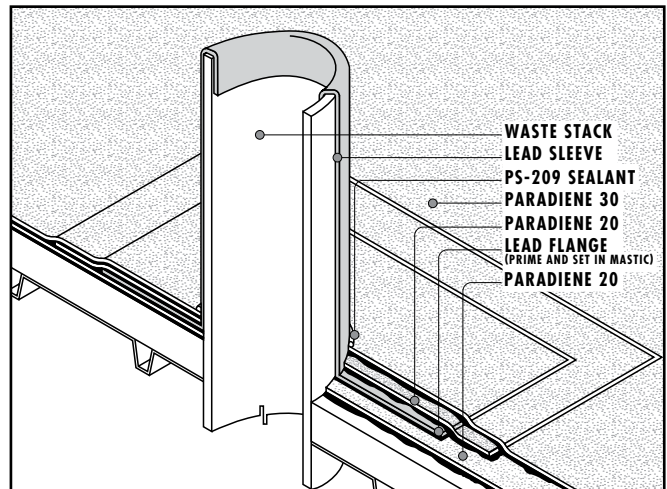


Flashing Details

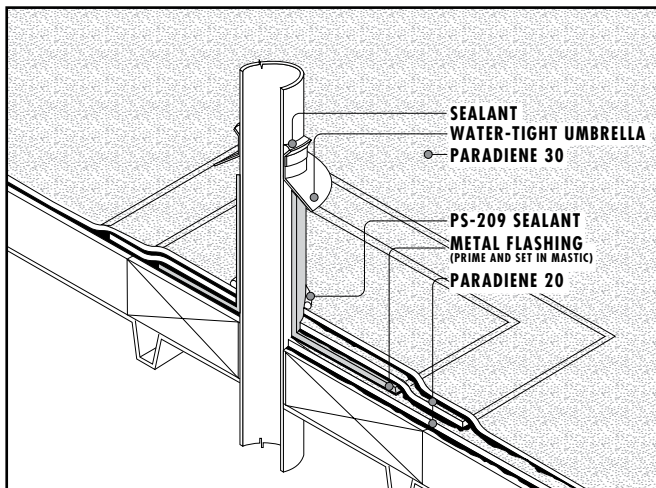
Paraguard Insert Drain



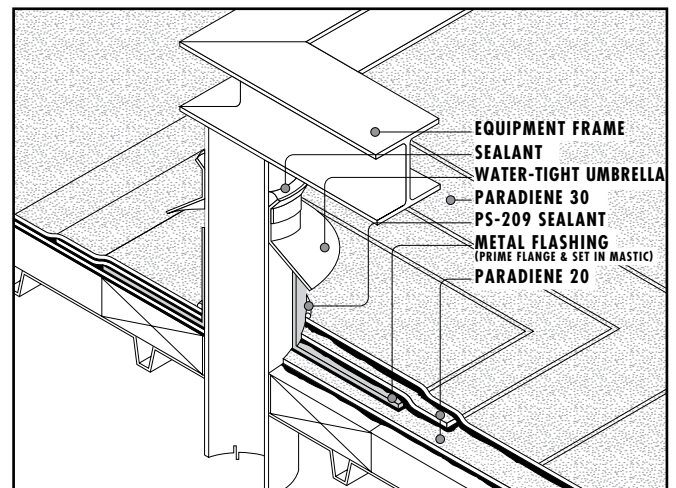
Waste Stack



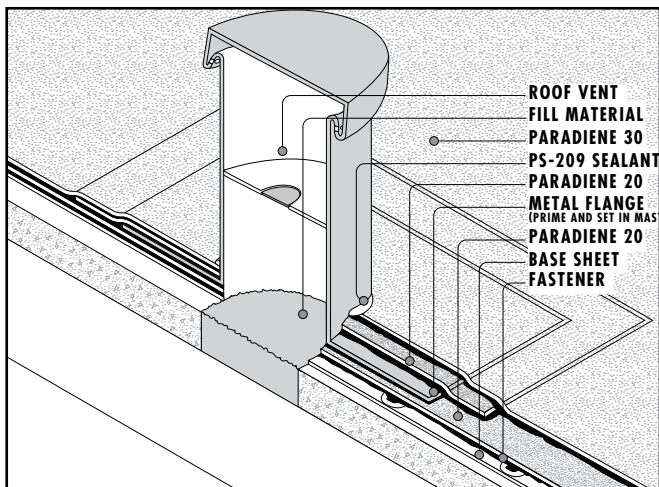
Pipe Penetration



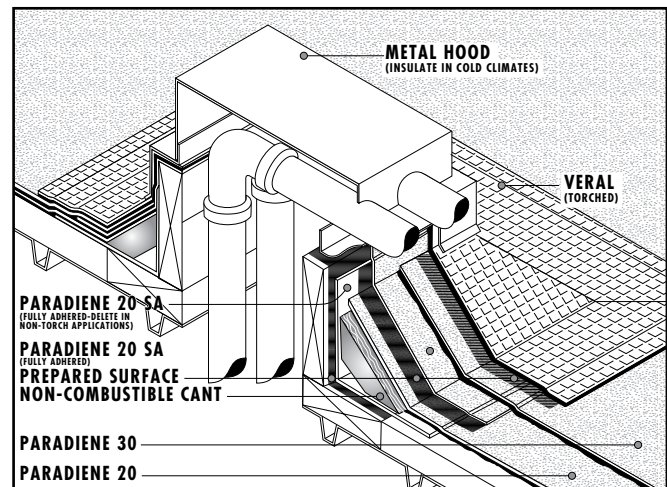
Equipment Frame



Roof Vent

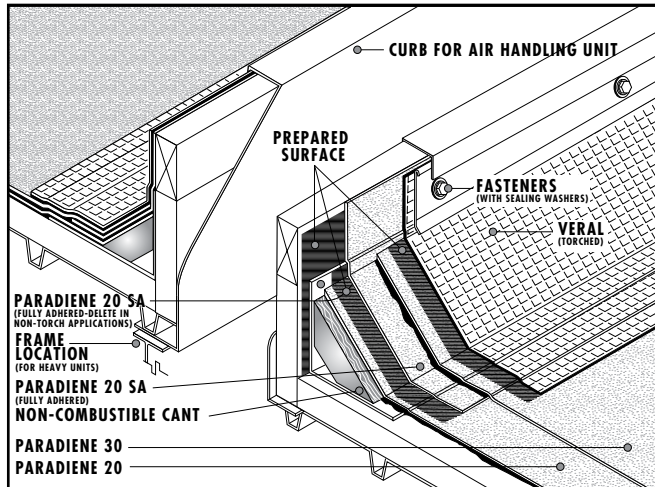


Curb

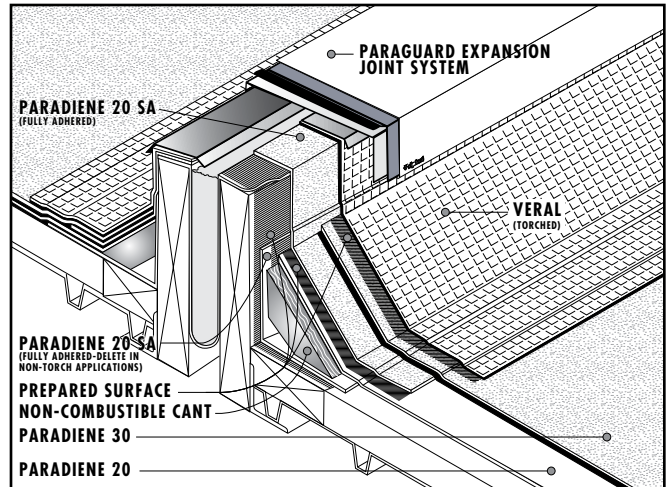


Flashing Details

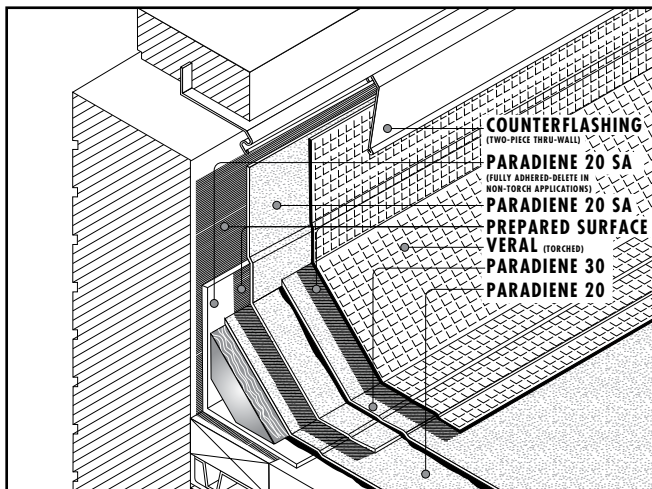
HVAC Curb



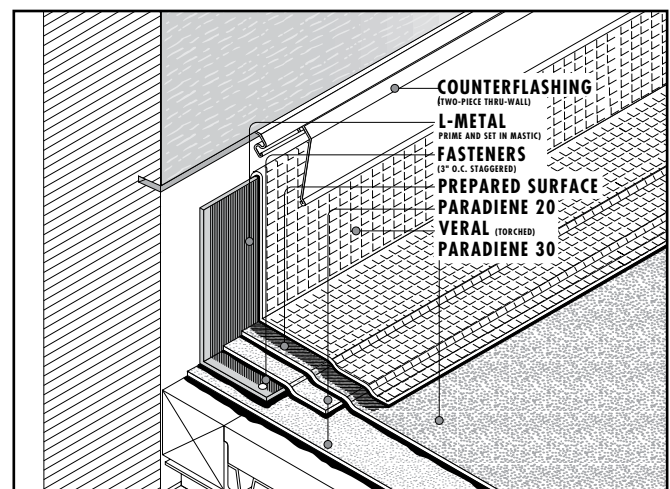
Paraguard Expansion Joint



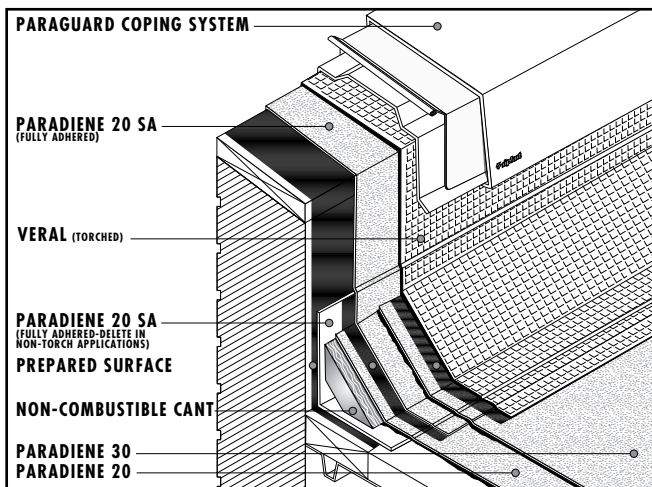
Parapet (Wall-Supported Deck)



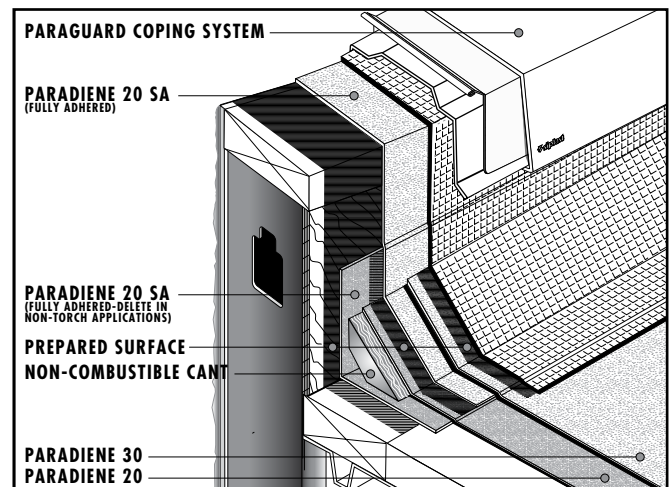
Parapet (Non-Wall Supported Deck)



Parapet w/ Paraguard Coping

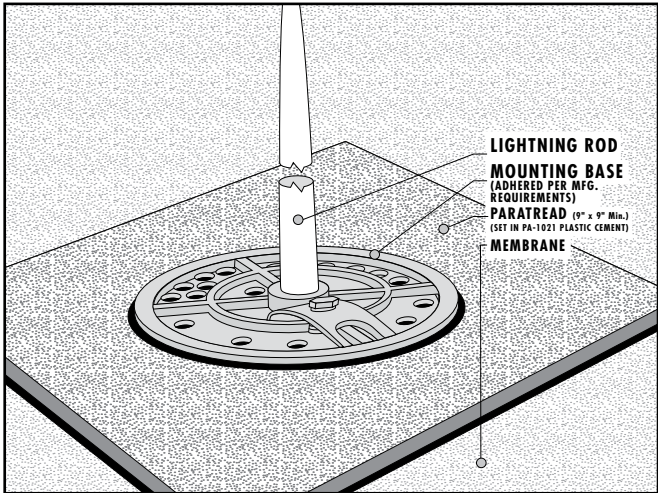


Plywood Veneered Parapet w/Paraguard Coping

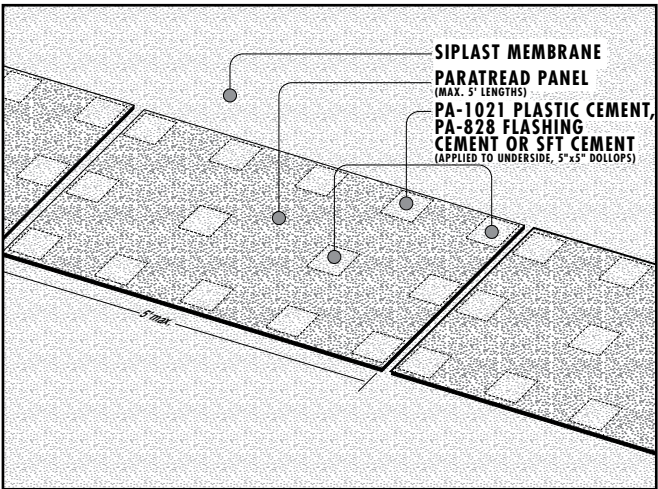


Flashing Details

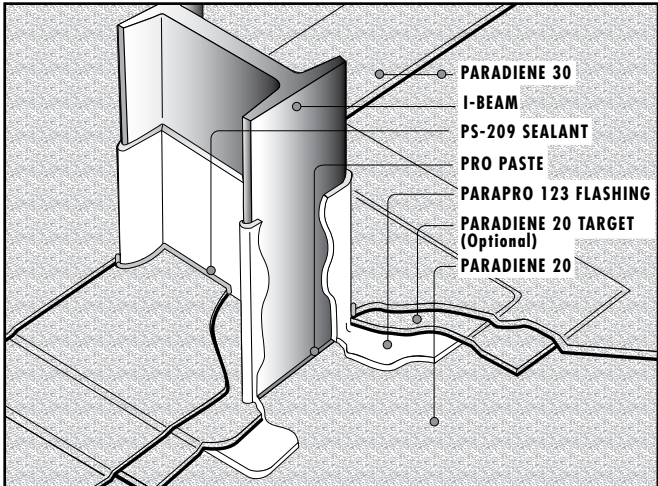
Lightning Protection



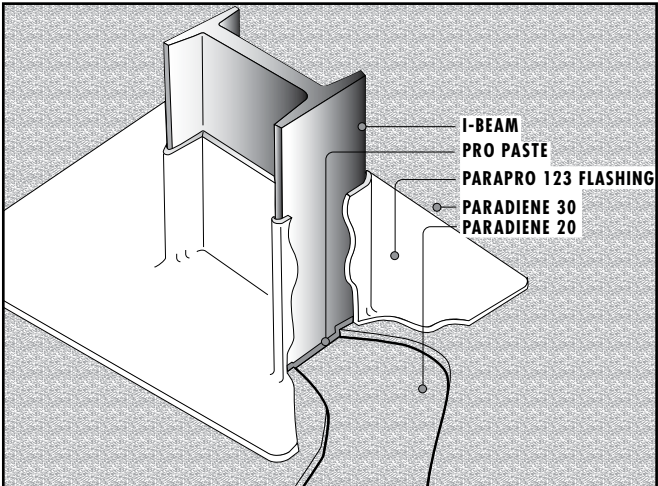
Paratread



I-Beam With Parapro Flashing (Interply)



I-Beam With Parapro Flashing



Flashing Details

Teranap Plaza Deck

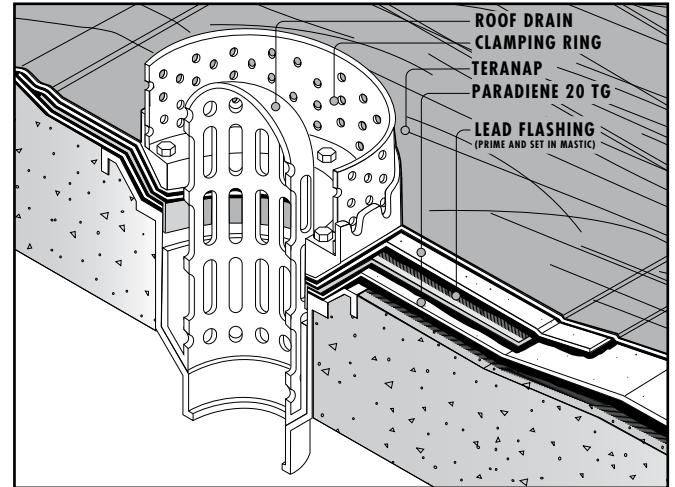
Teranap Green Roofing

The illustrations shown on these pages show flashing details applicable to Teranap Plaza Deck and Teranap Green Roofing Systems. Veral base flashing should always be cut to size off the end of the roll and applied vertically, always working to a selvage edge.

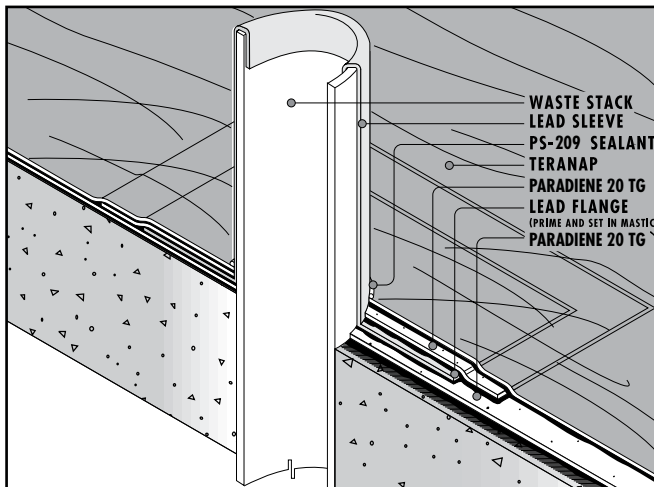
Siplast recommends that all precautions relative to torch applications, including a fire watch, be taken in accordance with CERTA recommendations. See page 9 for more information on CERTA.

Parapro 123 Flashing may be substituted for lead flashing in drain details. Contact the Siplast Technical Department for requirements.

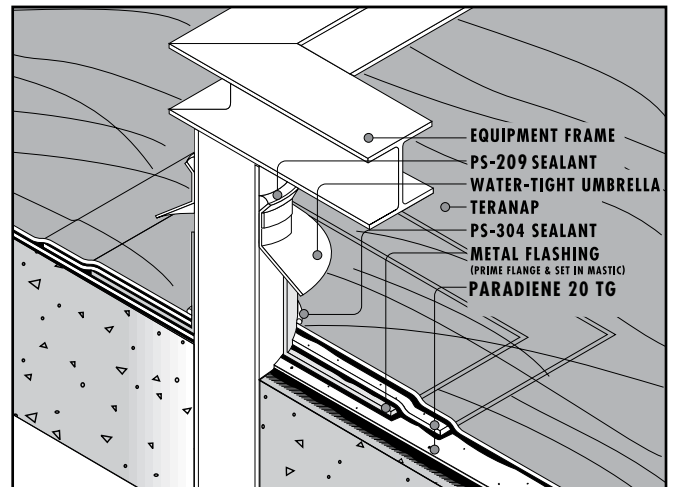
Drain



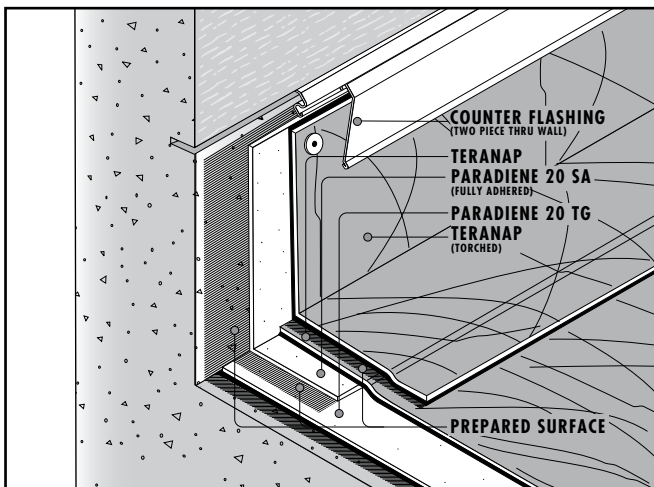
Waste Stack



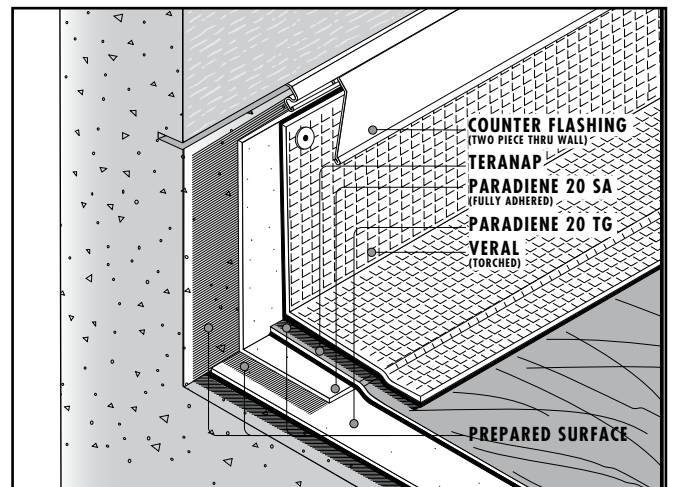
Equipment Frame



Parapet (Non-Exposed)

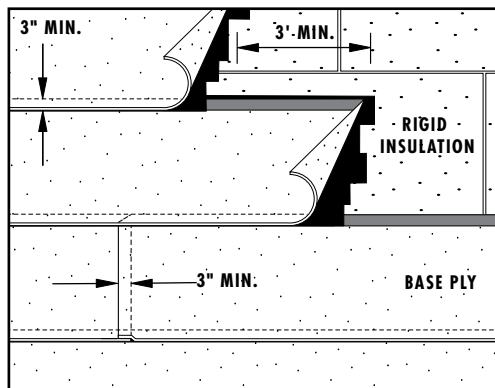


Parapet (Exposed)



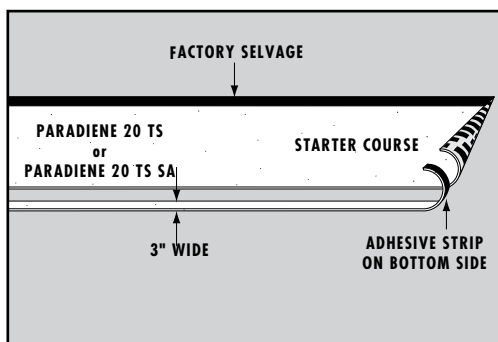
System Layouts

Paradiene 20/Irex Base Ply Application



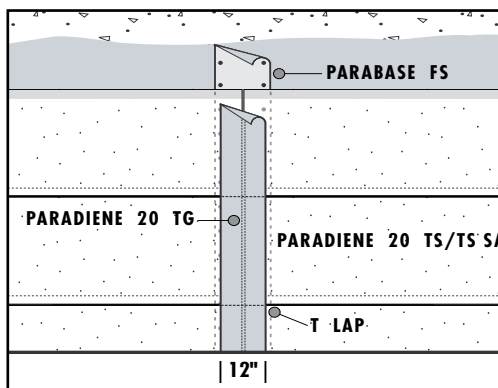
Beginning at the low point of the roof, fully adhere one ply of the base material to the substrate. Lap the sides and ends a minimum of 3 inches. Offset the end laps a minimum of 3 feet.

Paradiene 20 TS/TS SA Starter Course



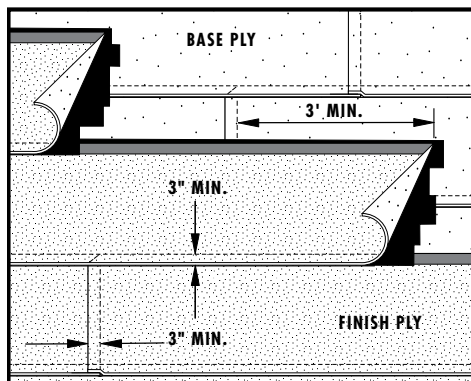
A starter course is required for application at the low point of the roof. To make a starter course, remove the portion of the sheet that contains the solid, under-side adhesive strip (which is located on the side opposite the selvage).

Paradiene 20 TS/TS SA Seaming



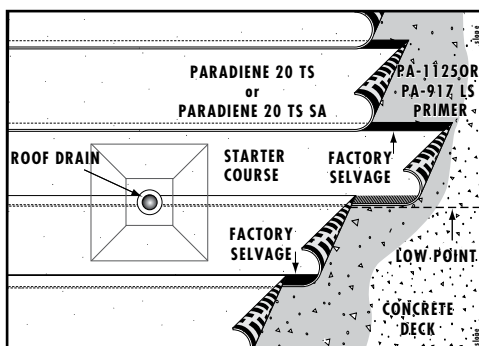
Place a 12-inch wide strip of Parabase FS centered beneath the area where adjoining sections of Paradiene 20 TS/TS SA will be seamed. The Parabase FS may be partially attached using light-weight insulating concrete fasteners or adhered using dollops of PS-209 Elastomeric Sealant.

Paradiene 30/Veral Finish Ply Application



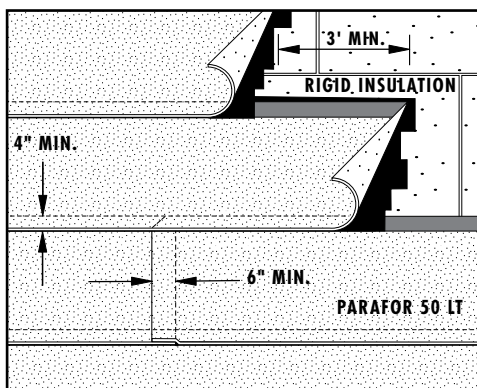
Again beginning at the low point, fully adhere one ply of the finish ply to the base ply. Lap sides and end a minimum of 3 inches. Offset the end laps a minimum of 3 feet. Stagger the laps between plies.

Paradiene 20 TS/TS SA Application



Beginning at the low point of the roof, adhere the starter course to the substrate. Each adjoining course should be applied so that the under-side adhesive strip laps onto the previous course. Use factory selvage wherever possible. For Paradiene 20 TS SA applications, prepare non-selvage surfaces prior to application of adjoining course.

Parafor 50 LT Application



Beginning at the low point of the roof, fully adhere one ply of Parafor 50 LT to the substrate. Lap sides a minimum of 4 inches and ends a minimum of 6 inches. Offset end laps a minimum of 3 feet.

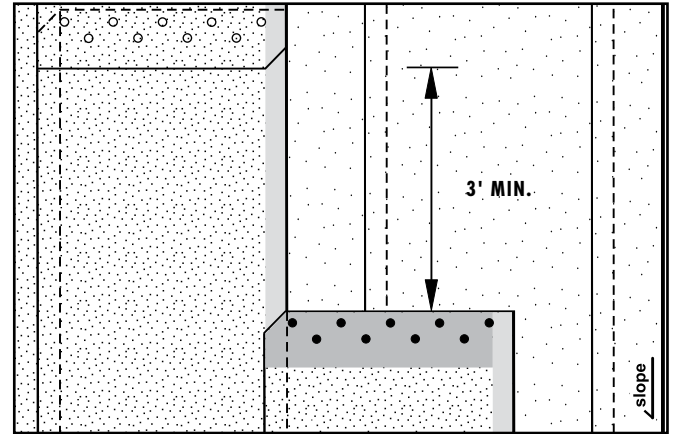
Backnailing Information

Slopes over $\frac{1}{2}$ -inch per foot may require fastening of the finish ply of the roof membrane system. Refer to the Fastening Schedule/Slope Requirements on page 15 for fastening requirements at various slope increments.

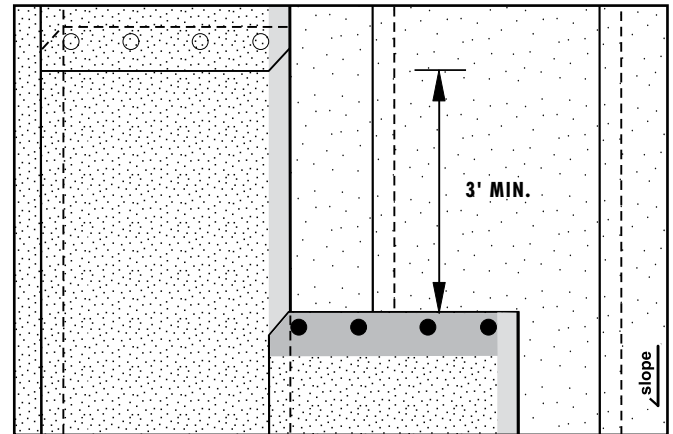
When securing the finish ply where the membrane system is applied over uninsulated nailable decks or for securing into interval nailers used with insulated roof systems, nailing should be done with nails having attached caps with minimum 1-inch diameter.

Roofing screws with 2-inch metal plates are acceptable for securing the finish ply where the membrane system is applied over either insulated or uninsulated roof systems.

The illustrations on this page show the correct fastening of the finish ply where the roof membrane system is applied parallel to the roof slope.



Fasten the finish ply with nails having attached caps of a minimum of 1-inch diameter. Each head lap should be fastened using nine nails in a double row, evenly spaced configuration. Stagger the rows of nails. All fasteners should be covered by a succeeding ply extending a minimum of 3 inches beyond the lowermost edge of the fastener caps.



Fasten the finish ply with roofing screws and 2-inch metal plates. Each head lap should be fastened using four fasteners evenly spaced from side lap to side lap. All fasteners should be covered by a succeeding ply extending a minimum of 3 inches beyond the lowermost edge of the fastener caps.



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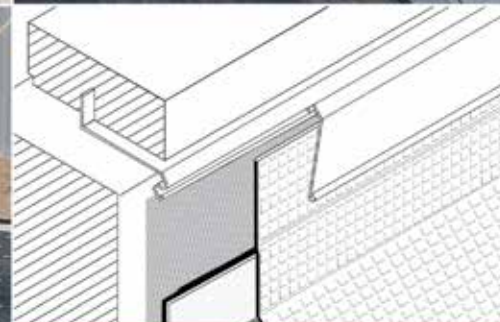
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