



weaving a better world™

# SYNTHETIC ROOFING UNDERLAYMENTS


ARCHITECT  BINDER

PRODUCT CATEGORY 7



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# InterWrap Company Profile



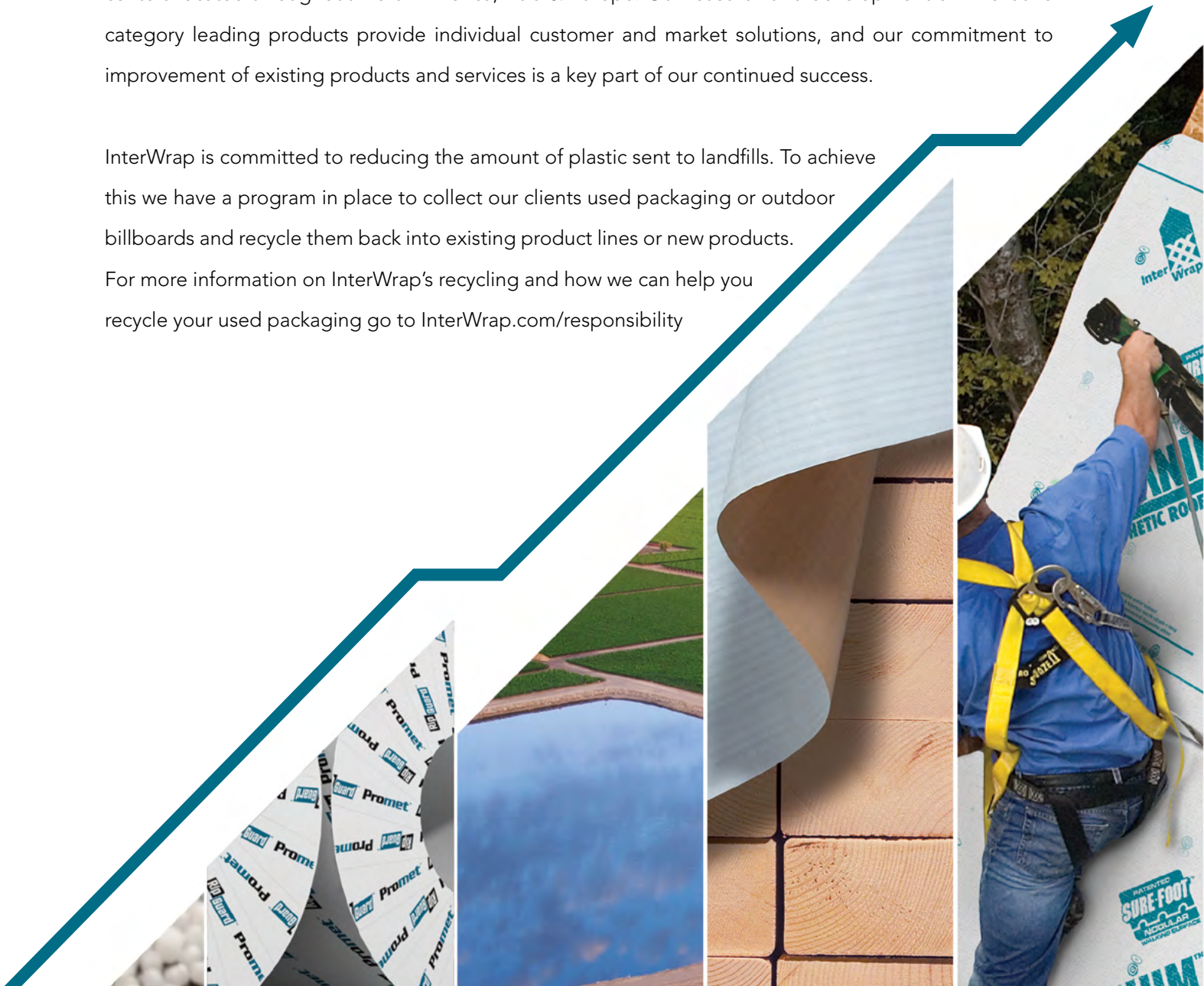
weaving a better world™

InterWrap is a vertically integrated, global manufacturer of innovative coated woven products and diverse multi-layer laminated reinforced plastic substrates. InterWrap serves a wide variety of markets such as wood packaging - lumber wrap, industrial packaging, large format outdoor digital print media, converted fabrics, agricultural and construction products. Consistent product quality is achieved by using state-of-the-art plastic extrusion, weaving, coating, laminating, printing techniques and a strong commitment to partnership with our customers, employees, and suppliers.

InterWrap's global supply chain efficiency is achieved by our strategic manufacturing and distribution centers located throughout North America, Asia & Europe. Our research and development of innovative category leading products provide individual customer and market solutions, and our commitment to improvement of existing products and services is a key part of our continued success.

InterWrap is committed to reducing the amount of plastic sent to landfills. To achieve this we have a program in place to collect our clients used packaging or outdoor billboards and recycle them back into existing product lines or new products.

For more information on InterWrap's recycling and how we can help you recycle your used packaging go to [InterWrap.com/responsibility](http://InterWrap.com/responsibility)





## Caring for the environment

- Titanium® UDL & RhinoRoof® products are a 100% polymeric based material, and therefore, are fully recyclable\* unlike traditional roofing felt underlayments, which are manufactured from asphalt and paper and are dumped into landfills.
- Titanium UDLs and RhinoRoof contain a minimum of 20% post industrial recycle content, which reduces waste in landfills and conserves energy. This is verified by SCS Global, a trusted third party certification firm.
- One truck load of Titanium UDL replaces six truck loads of black felt! This means less asphalt in the environment, a tremendous saving of fuel and reduced pollution.
- Titanium UDL products are rated for 25-50 years, which means longer roof life and durability, thus reducing the need to replace decaying felt over time.
- Titanium UDL & RhinoRoof products produce no toxic emissions during manufacture, unlike felt saturation plants, which are highly toxic in the fumes generated.
- Titanium UDL & RhinoRoof products are 100% inert to moisture absorption, unlike asphalt felt paper, therefore the incidence of water breach and mold feeding of the product is eliminated.

\*InterWrap is committed to reducing the amount of plastic sent to the landfill. To do this we are looking to work with companies who receive products wrapped in InterWrap packaging and wrap. We have numerous drop-off points in Canada, U.S.A., China and India and will work with you to collect your scrap, cores and pallets in a space-effective manner and have them shipped to one of these drop-off points. If you are already a customer then please contact your Account Manager for more details. Local State/ Provincial recycling authorities may also accept the products for recycling.

Some products that InterWrap recycles its scrap material into are:

- Titanium UDL & RhinoRoof synthetic underlayments with SCS certified minimum 20% recycled content
- Blended polypropylene cores
- A full range of Nursery pots with 80% recycled content



▲ Traditional asphalt roofing waste



▲ Recycled Titanium scrap



▲ Recycled cores



▲ Nursery pots made from recycled scrap

### InterWrap Corporation

1818-1177th Hastings St., Vancouver, BC, Canada  
For the following products:

RhinoRoof® (added 4/16/2014), TITANIUM® UDL-25 PLUS,  
TITANIUM® UDL-30, and TITANIUM® UDL-50

This product meets all of the necessary qualifications to be certified for the following claim:  
Minimum 20% Pre-consumer Recycled Polypropylene and Polyethylene Content (dry weight basis)  
Conforms to the SCS Recycled Content Standard V6-0

Registration # SCS-MC-02440  
Valid from: December 1, 2013 to November 30, 2014

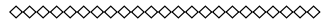
**SCS**global  
SERVICES



*Robert J. Hubbs*  
Robert J. Hubbs, Ph.D., Executive Vice President  
SCS Global Services  
2000 Powell Street, Ste. 600, Emeryville, CA 94608 USA

InterWrap cares for our environment by creating products with lower carbon footprints than alternatives and manufacturing them using environmentally friendly processes. InterWrap's global commitment extends from Canada, the USA and across to India & China. InterWrap has invested millions of dollars in research & development that has enabled us to become one of the industry leaders in green product manufacturing and end-of-life recycling technologies. As we continue to grow, so does our commitment of being a responsible inhabitant in our fragile eco-system.

## CSI PART 1 General



### 1.1 SECTION INCLUDES

- A. Peel and stick weather barriers.
- B. Synthetic roofing underlayment.

### 1.2 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Roof framing and sheathing.
- B. Section 07310 - Shingles, Roof Tiles and Roof Coverings: Roof coverings applied over underlayment.
- C. Section 07620 - Flashing and Sheet Metal: Gutters and downspouts.
- D. Section 08630 - Unit Skylights: Skylights.

### 1.3 REFERENCES

- A. ASTM International (ASTM):
  - 1. ASTM D226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
  - 2. ASTM D751 - Standard Test Methods for Coated Fabrics.
  - 3. ASTM D903 - Standard Test Method for Peel or Stripping Strength of Adhesive Bonds.
  - 4. ASTM D1777 - Standard Test Method for Thickness of Textile Materials.
  - 5. ASTM D1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
  - 6. ASTM D2261 - Standard Test Method for Tearing Strength of Fabrics by the Tongue (Single Rip) Procedure (Constant-Rate-of-Extension Tensile Testing Machine).
  - 7. ASTM D2523 Standard Practice for Testing Load-Strain Properties of Roofing Membranes; 2000.
  - 8. ASTM D4869 - Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing.
  - 9. ASTM D5147 - Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Material.
  - 10. ASTM D5261 - Standard Test Method for Measuring Mass per Unit Area of Geotextiles.
  - 11. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
  - 12. ASTM E108 - Standard Test Methods for Fire Tests of Roof Coverings.
- B. National Roofing Contractors Association (NRCA): Steep Slope Roofing and Waterproofing Manual.
- C. International Code Council (ICC): AC 48 - Acceptance Criteria For Roof Underlayment For Use In Severe Climate Areas.
- D. UL 790 - Tests for Fire Resistance of Roof Covering Materials.
- E. UL 997 - Wind Resistance of Prepared Roof Covering Materials.

### 1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- C. Shop Drawings: Submit copies of manufacturer's standard details describing installation methods and flashing conditions applicable to the project.
- D. Selection Samples: For each finish product specified, two samples representing manufacturer's full range of available colors, patterns, and materials.



## 2.3 ROOF UNDERLAYMENT

A. Water Barrier Membrane High Temperature/Low Temperature and Ice Damming Membrane - Titanium PSU30: Synthetic polymer surfaced self-adhered membrane roofing underlayment for sloped roofs equal to or greater than 2:12 pitch, subject to the effects of ice damming and wind driven rain.

1. Color: Gray.
2. Surface: Synthetic Polymer - Patented Sure-Foot® slip resistant Nodular.
3. Release Liner: Silicone Treated, Poly Split Release.
4. Weight per square: 24 lbs / (10.8 kg).
5. Minimum Thickness: ASTM D5147, 45 Mil (1.1 mm).
6. Tensile: ASTM D1970, MD 100 lbs/in/ (17.5 kN/m)
7. Thermal Stability: ASTM D1970, 240 degrees F (115 degrees C) Pass.
8. Low Temp Flexibility: ICC AC 48, Pass.
9. Tear Resistance: ASTM D1970, MD 140/ CD 100 lbf (622/445 N).
10. Adhesion to Plywood: ASTM D903, 4 lb/in (700 N/m).
11. Self Seal Ability: ASTM D1970, Pass.
12. Temperature Range: 240° F to -40° F ( 115° to 40° C)  
- Installation temperature range: 40° F (5° C) and above
13. Roll Size: 36 inches by 72 feet (914mm x 21945mm), 2.16 Sq.(20 sm).

B. Synthetic Roofing Underlayment - Titanium UDL25 PLUS: Polyolefin based, asphalt free, high strength, reinforced roofing underlayment mechanically attached to sloped roof decks beneath shingles, shakes, slate, tile, metal, and composite roofing to prevent leaks caused by wind driven rain and primary roofing breach.

1. ICC Approved alternate to ASTM D 226 Type I (#15) or Type II (#30) felt. (ES ER-6043).
2. Fire Performance: Class A Fire ASTM E108, Pass.
3. Nail Sealability: ASTM D1970, Pass.
4. Permeability: ASTM E96, 0.06 perms.
5. Water Transmission: ASTM D4869, Pass.
6. Tear Strength: ASTM D4533, MD 40 lbs. (18 kg)
7. Tensile Strength: ASTM D751, MD 154 lbs. (70 kg)
8. Burst Strength: ASTM D751, 220 psi (1517 kPa).
9. Elongation: ASTM D751, MD 18% CD 18%.
10. Weight per Square: ASTM D5261, 2.9lbs ( 1.3 kgs).
11. Minimum Thickness: ASTM D1777, 17 mils (0.43 mm).
12. Temperature Range: 240° F to -40° F ( 115° to 40° C).
13. Roll Size: 48 inches by 250 feet (1219mm x 76200mm), 10 Sq. (92.9 sm).

C. Synthetic Roofing Underlayment - Titanium UDL30: Polyolefin based, asphalt free, high strength, reinforced roofing underlayment mechanically attached to sloped roof decks beneath shingles, shakes, slate, tile, metal, and composite roofing to prevent leaks caused by wind driven rain and primary roofing breach.

1. ICC Approved alternate to ASTM D 226 Type I (#15) or Type II (#30) felt. (ES ER-6043).
2. Fire Performance: Class A Fire ASTM E108, Pass.
3. Nail Sealability: ASTM D1970, Pass.
4. Permeability: ASTM E96, 0.06 perms.
5. Water Transmission: ASTM D4869, Pass.

6. Tear Strength: ASTM D2261, MD 44 lbs. (20 kg)
7. Tensile Strength: ASTM D751, MD 143 lbs. (65 kg)
8. Burst Strength: ASTM D751, 250 psi (1720 kPa).
9. Elongation: ASTM D751, MD 18% CD18%.
10. Weight per Square: ASTM D5261, 4.0 lbs. (1.82 kgs).
11. Minimum Thickness: ASTM D1777, 25 mils (0.63 mm).
12. Temperature Range: 240° F to -40° F ( 115° to 40° C).
13. Roll Size: 48 inches by 250 feet (1219mm x 76200mm), 10 Sq. (92.9 sm).

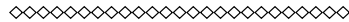
D. Synthetic Roofing Underlayment - Titanium UDL50: Polyolefin based, asphalt free, high strength, reinforced roofing underlayment mechanically attached to sloped roof decks beneath shingles, shakes, slate, tile, metal, and composite roofing to prevent leaks caused by wind driven rain and primary roofing breach.

1. ICC Approved alternate to ASTM D 226 Type I (#15) or Type II (#30) felt. (ES ER-6043).
2. Performance: Class A Fire ASTM E108, Pass.
3. Nail Sealability: ASTM D1970, Pass.
4. Permeability: ASTM E96, 0.05 perms.
5. Water Transmission: ASTM D4869, Pass.
6. Tear Strength: ASTM D226, MD 55 lbs. (25 kg)
7. Tensile Strength: ASTM D751, MD 178 lbs. (81 kg)
8. Burst Strength: ASTM D751, 300 psi (2065 kPa).
9. Elongation: ASTM D751, MD 20% CD 20%.
10. Weight per Square: ASTM D5261, 4.7 lbs. (2.13 kgs).
11. Minimum Thickness: ASTM D1777, 30 mils (0.75 mm).
12. Temperature Range: 240° F to -40° F ( 115° to 40° C).
13. Roll Size: 48 inches by 250 feet (1219mm x 76200mm), 10 Sq. (92.9 sm).

## 2.4 RELATED MATERIALS

- A. Sealant: High quality, asbestos free plastic roofing cement meeting or exceeding the requirements of ASTM D 4586 Type I.
- B. Titanium UDL50 Fasteners: 3/8 head roofing nail, plastic cap and nail, plastic cap and staple roofing fasteners with minimum 1 inch (25mm) diameter metal or plastic caps, Miami Dade approved Tin Tags.

## CSI PART 3 Execution



### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.3 INSTALLATION

- A. Follow manufacturer's current installation guidelines, procedures found in the current version of the National



Roofing Contractors Association's (NRCA) "Steep Slope Roofing and Waterproofing Manual", and requirements of all code bodies having jurisdiction. In the event of a conflict in installation requirements, the more stringent method of installation will prevail.

- B. Roof Deck: Starting at the lowest point of the roof section, apply one layer of underlayment horizontally over all sections of roof deck not protected by eave or valley membrane and nail in place. Lap horizontal edges 2 4 inches (51 101 mm). Overlap ends at least 4 6 inches (102 152 mm); stagger end laps at least 36 inches (915 mm) apart.
- C. Eaves: Place eave edge metal flashing tight with fascia boards; lap joints 2 inches (50 mm) and seal; nail at top of flange.
- D. Valleys: Install a full width of weather barrier centered on valley; lap ends 6 inches (150 mm) and seal. Where open valley construction is specified, install metal flashing over weather barrier before roof deck underlayment is installed. Lap underlayment over valley protection at least 6 inches (150 mm).
- E. Vent Pipes and Field Penetrations: Apply a 24 inch (610 mm) square target sheet of weather barrier around the penetration. Lap over underlayment beneath and at the sides of the penetration and beneath underlayment above the penetration. Apply sealant to the seam above the penetration.
- F. Sidewalls, Headwalls and Chimneys: Apply weather barrier extending at least 8 inches (203 mm) up the wall and 12 inches (305 mm) on to the roof surface. Lap over roof deck protection.
- G. Hips and Ridges: Apply weather barrier over the length of the hips and ridges. Where ridge ventilation is specified, remove weather barrier from areas where ventilation slots are required prior to installing ridge vent.
- H. Rake Edges: Apply weather barrier and underlayment prior to installation of any rake edge flashing. Apply sealant to the edge prior to installation of metal flashing and nail metal edge flashing every 6 inches (152mm).
- I. Skylights: Apply weather barrier up the sides of the frame and 12 inches (305 mm) on to the roof surface on all sides, Lap over underlayment beneath and at the sides of the skylight and beneath underlayment above the penetration. Apply sealant to the seam above the skylight. See skylight manufacturer for any additional installation details.

### 3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

### END OF SECTION

# Selection Guide

		ASPHALT SHINGLES	SHAKES	METAL TILES	METAL PANELS	SLATE TILES	CONCRETE TILES	CLAY TILES
30 LB FELT REPLACEMENTS	<b>TITANIUM UDL-50</b>	BEST	BEST	BEST	BEST	BEST	BEST	BEST
	<b>TITANIUM UDL-30</b>	BETTER	BETTER	BETTER	BETTER	BETTER	BETTER	BETTER
	<b>TITANIUM UDL-25</b>	GOOD	GOOD	GOOD	GOOD	X	X	X
	<b>TITANIUM PSU-30</b>	BEST	BEST	BEST	BEST	BEST	BEST	BEST

Peel & Stick underlayment with ice damming protection

PRODUCT FEATURES	UDL-25 Value & Performance	UDL-30 Professional Grade	UDL-50 Commercial Grade	PSU-30 Peel & Stick Ice Damming Protection
Thickness	17 mils	25 mils	30 mils	45 mils
X times stronger than 30 lb felt	20 times stronger	20 times stronger	25 times stronger	Not applicable
Limited Warranty	30 years	40 years	50 years	30 years
X lighter than 30 lb felt	8 times lighter	6 times lighter	5 times lighter	Not applicable
Gross Roll size / Dimensions	10 Sq / 48" x 250'	10 Sq / 48" x 250'	10 Sq / 48" x 250'	2 Sq / 36" x 72'
Slip resistant walking surface	**Sure-Grip™	*Sure-Foot™	*Sure-Foot™	*Sure-Foot™
Cool gray surface	✓	✓	✓	✓
Contribute to LEED® pts/Recyclable	✓	✓	✓	
For use under	Metal, Shake & Shingle	Metal, Slate, Shake, Shingle & Tile	Premium Metal, Tile, Clay, Concrete, Slate, Shake & Shingles	Metal, Slate, Shake, Shingle & Tile

\*\*Sure-Grip™ is a ridged walking surface with a unique Diamond-Plate slip-resistant coating

\*Sure-Foot™ is a patented slip-resistant nodular walking surface that provides excellent walk-ability, even when wet





# TITANIUM<sup>®</sup> UDL 25 PLUS

SYNTHETIC ROOFING UNDERLAYMENT





# TITANIUM® UDL-25 PLUS

## Value & Performance Synthetic Roofing Underlayment

### UDL25 Features & Benefits

**UDL25 Plus is a premium synthetic roofing underlayment for use under:  
Metal, Shake & Shingle roofing.**

Titanium® UDL25 is a highly engineered, mechanically attached, coated woven synthetic roofing underlayment for sloped roofs. Titanium UDL25 represents the future in felt replacement technology, and used in conjunction with Titanium PSU30 self adhered underlayment for ice damming and valley areas, a truly revolutionary system of safety, security and simplicity... Two products (UDL25 & PSU30) are ALL your sloped roof needs.

- 8 times lighter and 20 times stronger than #30 felt
- 30 Year limited warranty
- Class A Fire ASTM E108, Meets & exceeds ASTM D226
- Meets Class 4 Hail Rating
- Synthetic construction impervious to mold growth
- Sure-Grip® ridged walking surface PLUS our new Diamond-Plate slip resistant coating technology!
- Contributes to LEED® points
- Certified minimum of 20% reclaimed content (100% Recyclable)
- All temperature performance -40°F to 240°F (-40°C to 115°C)
- 6 month UV exposure
- Cool gray surface, doesn't expand or contract
- Dual logo custom printing available

Titanium UDL25's advanced polymers combine to deliver a uniquely gray synthetic roofing underlayment that can be used under primary roofing materials to replace felt. Gray technology provides for a cooler roof and the best UV exposure properties (up to 6 months) in the marketplace. Unlike smooth surfaced underlayments, Titanium UDL25 has a unique ridged walking surface plus our Diamond-Plate slip resistant coating technology that allows for easier steep slope walk-ability, even when wet.



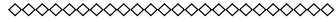
CAN/CSA A220.1  
FLORIDA BUILDING CODE  
CLASS A ASTM-E108  
FIBREGLASS SHINGLES



# TITANIUM® UDL-25 PLUS

Value & Performance Synthetic Roofing Underlayment

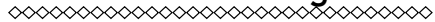
## UDL25 Technical Data



ROLL & PALLET SPECIFICATIONS	
LENGTH PER ROLL:	250' / 76.2 m
WIDTH PER ROLL:	48" / 122 cm
WEIGHT PER ROLL:	31 lbs / 14 kg
ROLL SIZE:	10 sq / 93 m <sup>2</sup>
ROLLS PER PALLET:	42
PALLET WEIGHT:	1352 lbs / 613 kg

TEST & ASTM STANDARD	UDL25 PLUS TYPICAL VALUE	#30 FELT TYPICAL VALUE
Class A Fire E108	Pass	N/A
Nail Sealability Modified D1970	Pass	N/A
Permeability E96	.06 perms	1.75 perms
Water Transmission D4869	Pass	Pass
Tear Strength D4533	MD 40 lbs (18 kg)   CD 35 lbs (17 kg)	MD 4 lbs (1.8 kg)   CD 2 lbs (0.9 kg)
Tensile Strength D751	MD 154 lbs (70 kg)   CD 110 lbs (50)	MD 70 lbs (32 kg)   CD 38 lbs (17 kg)
Burst Strength D751	220 psi (1517 kPa)	62 psi (430 kPa)
Elongation D751	MD 18% CD 18%	MD 2% CD 2%
Weight per Square D5261	2.9 lbs ( 1.3 kgs)	27.5 lbs ( 12.5 kgs)
Minimum Thickness D1777	17 mils (0.43 mm)	60 mils (1.5 mm)

## UDL25 PLUS Building Codes



- MIAMI-DADE NOA No.13-0610.01
- ICC ESR 2391
- INTERTEK WARNOCK HERSEY Report # 3107959
- CLASS A ASTM E-108 UDL 25 met ASTM E108, Intertek Report # 3114956-01
- CAN/CSA A220.1 Intertek Report # 3144563COQ-004A
- Florida Building Code (FBC) FL11602
- Meets Class 4 Hail Rating
- Meets and exceeds ASTM D226



# TITANIUM<sup>®</sup> UDL-25 PLUS

## Value & Performance Synthetic Roofing Underlayment

### UDL25 MSDS

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#### I. Product Identification and Use:

Product Identification: Titanium UDL  
Product Use/Description: Coated woven polyolefin for use as a roofing underlayment  
Product Composition: 95% polyolefin, 5% polymer blend

#### II. Hazardous Ingredients:

This is not a hazardous product as defined by WHMIS

#### III. Physical Data:

- a. Physical State: Solid
- b. Odor and Appearance: Pigmented odorless Woven fabric
- c. Odor threshold (ppm): N.Ap.
- d. Vapor Pressure (mmHg): N.Ap.
- e. Vapor Density (Air = 1): N.Ap.
- f. Evaporation rate: N.Ap.
- g. Boiling Point (oC): N.Ap.
- h. Freezing Point (oC): N.Ap.
- i. pH: N.Ap.
- j. Specific Gravity: N.Ap.
- k. Coef. Water/oil Dist. N.Ap.

#### IV. Fire and Explosion Data:

- a. Flammability: Not flammable, but in case of a fire it will contribute.
- b. Means of extinction: Water spray and dry chemicals.
- c. Flash point (oC) and Method: N.Ap.
- d. Upper flammable limit (% by volume): N.Ap.
- e. Lower flammable limit (% by volume): N.Ap.
- f. Hazardous combustion products: Carbon Monoxide, Carbon Dioxide, Nitrogen Oxides
- g. Explosion Data: Not sensitive to impact nor to static discharge.

#### V. Reactivity Data:

- a. Chemical stability: Yes.
- b. Incompatibility with other substances: None
- c. Reactivity: Non-reactive
- d. Hazardous decomposition products: No data.

#### VI. Toxicological properties:

- a. Route of entry: N. Ap.
- b. Effects of acute exposure to product: None known.
- c. Effects of chronic exposure to product: None known.
- d. Exposure Limits: Not available.
- e. Irritancy of product: N.Ap.
- f. Carcinogenicity: Not on IARC list.
- g. Synergistic Products: None known

#### VII. Preventive Measures:

- a. Gloves: N.Ap.
- b. No respirator required under normal use.
- c. Leak and spill procedure: N.Ap.
- d. Waste disposal: See your local authorities for disposal instructions.
- e. Handling and Storage: Rolls should be adequately restrained to prevent shifting during handling and storage.
- f. Storage Requirements: N.Ap.
- g. Special shipping information: None.

#### VIII. First aid measures:

\*N.Ap.

#### IX. Other Information:

- a. DOT Shipping Name: Not Available
- b. DOT Hazard Class: Not Available

Prepared by: IW R&D group. (604) 820-5400  
Revision Date: 25th June 2012

#### Disclaimer:

This information is furnished without warranty expressed or implied, except that it is accurate to the best knowledge of InterWrap Industries Inc. The data on this sheet relates only to the specific material designated herein. InterWrap Industries Inc. assumes no legal responsibility for use or reliance upon this data.

\*N.Ap. None Applicable

# TITANIUM® UDL-25 PLUS

## Value & Performance Synthetic Roofing Underlayment

### UDL25 Limited Warranty

InterWrap Corp (the "Seller") warrants to the purchaser of these goods (the "Buyer"), the product Titanium UDL25 PLUS synthetic roofing underlayment (hereafter called "product") it manufactures, if installed strictly pursuant to Seller's application instructions, that it will retain its ability to shed water, except as noted below, for a period of thirty (30) years from the sales invoice date (the "Warranty Period"). The above warranty does not apply if: 1. any part of the product is exposed to UV after roof cladding installation; and 2. the product has been installed and left uncovered without roof cladding for more than 180 days.

Buyer MUST give Seller written notice of any defects within 30 days from the date that the defect was discovered, along with field samples illustrating production codes, application details, and digital pictures. Seller reserves the right to reserve warranty claim judgment pending full field sample evaluation. Such notice shall be sent to Technical Services Manager, InterWrap Inc., 32923 Mission Way, Mission, BC, Canada, V2V-6E4. Seller shall, at its sole option and as Buyer's sole remedy, repair or replace the product or refund the purchase price for that portion of the product that has been proven to be defective, within the written warranty conditions. Buyer shall pay all handling or transportation charges. Failure to timely give Seller notice of a defect, or unauthorized repairs or alterations, or misuse or misapplication of the product makes this warranty VOID.

This warranty applies only to products purchased between the Effective Date and the date the Seller, in its sole discretion, modifies the warranty. This warranty does not cover leaks or damage caused by any penetrations (including penetrations by fasteners), or by animals, vandalism, abusive conditions, inadequate or faulty structural design, structural defects, building alterations, natural forces such as tornados, hurricanes, earthquakes, other acts of nature, or any other cause beyond Seller's control. The warranties set forth herein are Seller's sole and exclusive warranties. Seller's liability on any claim of any kind for any loss or damage arising out of, in connection with, or resulting from the manufacture, sale, or resale of the product shall in no case exceed the purchase price paid for the product, prorated from the date of purchase to the date of discovery of the defect.

In no event shall Seller be liable for other damages or for special, incidental, punitive or consequential damages. Seller makes no other warranties of any kind, express or implied, including without limitation, any warranty of merchantability or fitness for a particular purpose. No part of this warranty may be changed or cancelled except by a written document signed by Seller and Buyer. No course of dealing or performance, usage of trade or failure to enforce any term shall be used to modify the warranty. Buyer may not assign or permit any other transfer of this warranty without Seller's consent. If any of the terms contained herein are unenforceable, such term shall be limited only to the extent necessary to make it enforceable, and all other terms shall remain in full force and effect. The warranty shall be covered by the laws of Washington, without regard to its conflicts of laws, provisions, and exclusive jurisdiction for any dispute arising from this warranty shall be in the state or federal courts of Washington.

# TITANIUM® UDL-25 PLUS

## Value & Performance Synthetic Roofing Underlayment

### UDL25 Installation Instructions

Titanium UDL25 is an air, water and vapor barrier. It must be installed above properly ventilated spaces (follow ALL building codes applicable to your geographical regions and structure type) as it is considered a vapor barrier (.06 perms). The use of a rosin paper slip-sheet is not required underneath metal roofing systems. Protrusions from the deck area must be removed and decks shall have no voids, damaged or unsupported areas. The use of straight edge cutting knives is recommended. UDL25 is laid out horizontally (parallel) to the eave with the printed side up, and using 4" horizontal laps and 6" vertical laps. Follow building codes for low slopes as defined as 2:12 to 4:12 and steep slopes greater than 4:12 applications.

Fasteners: If leaving UDL25 exposed longer than 5 days product must be attached to the structural roof deck material using a minimum 1" diameter plastic or metal caps with either ring shank nails (preferred) or smooth leg nails (acceptable). Miami Dade approved tin tags/metal caps acceptable with the rough edge facing up. If product is going to be covered with asphalt shingles or metal roofing panels within 5 days UDL25 can be installed with the use of corrosive resistant 3/8" head x 1" minimum length leg roofing nails (ring shank nail leg is recommended). **DO NOT USE STAPLES:** use of staples to penetrate UDL25 will void warranty.

Anchoring to be installed at a minimum as per surface markings printed on the product, spaced 6" on center in the vertical and horizontal laps, and at 12" along the center of the roll in the field. If underlayment will be covered by primary roofing within 5 days of application, and not subject to heavy traffic or high wind, then the option to use every other printed anchoring point in the center field is acceptable.

All anchoring devices must be flush, 90 degrees to the roof deck, tight with the underlayment surface and the structural roof deck. For extended exposure (months) and or high wind, double the lap widths as a minimum. Alternatively: Use a compatible sealant between the laps; use a peel and stick tape between the laps; or fold the overlay laps forming a "J" channel configuration before nailing.

For batten secured installations, use only adequate length ring shank nails or screws (preferred), smooth leg nails (acceptable) to secure battens to the structural roof deck material. The use of cap nails is only required to secure UDL25 and prevent blow-off until the batten system is installed. Do not install battens directly over any cap nails. If this occurs, remove cap nail, patch the hole, then install cap outside batten field and continue.

Where seams and joints require sealant or adhesive, use a high quality, low solvent asbestos free, plastic roofing cement meeting ASTM D-4586 Type 1 (Asbestos Free) Federal Spec SS-153 Type 1 (Asbestos Free) such as Karnak, Henry, DAP, MB, Geocel or equivalent. Acceptable alternatives are butyl rubber, urethane, and EDPM based caulk or tape sealant. Depending on roof pitch and surface conditions, blocking may be required to support materials on the roof.

UDL25 is not designed for indefinite outdoor exposure. Final roofing should be installed within 6 months.

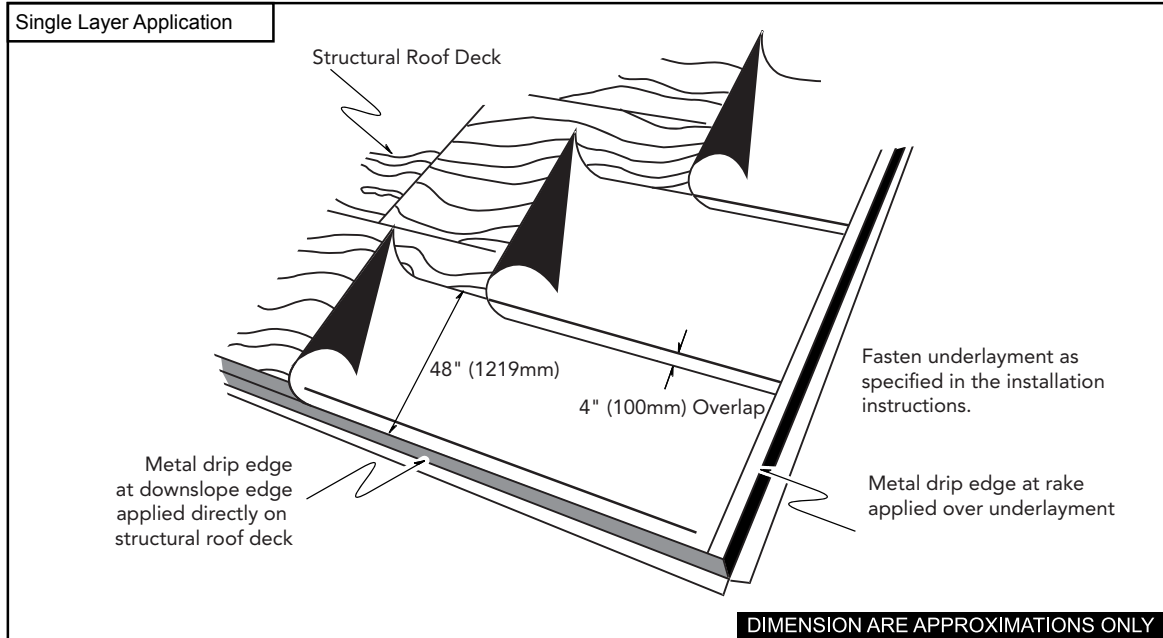
### CAUTION - READ GOOD SAFETY PRACTICES BELOW

As with any roofing product, always follow safe roofing codes & practices (OSHA) and always use and wear fall protection devices when working on roofs. Use caution when walking or standing on UDL25 as slip resistance may vary with surface conditions, weather, footwear and roof pitch. Failure to use proper safety gear and footwear can result in serious injury.

# UDL25 Application Diagram

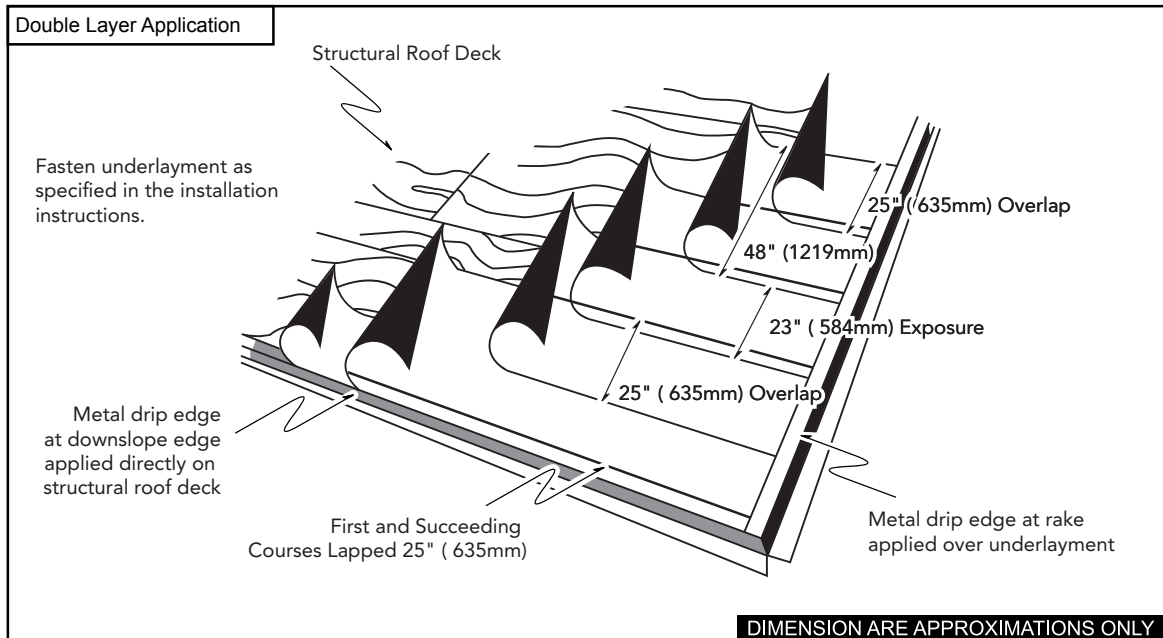
## Single layer application of TITANIUM UDL's

For roof decks having slopes greater than 4:12, TITANIUM® UDL should be applied horizontally in shingle fashion with a 44 inch exposure and a 4 inch overlap.  
Pay special attention to high wind and wind driven rain condition application instructions.



## Double layer application of TITANIUM UDL's

For roof decks having slope of 2:12 to 4:12 a minimum of two layers of TITANIUM® UDL underlayment should be applied horizontally in shingle (water fall) fashion with a with a 23 inch exposure and a 25 inch overlap.







# TITANIUM<sup>®</sup> UDL 30

**SYNTHETIC ROOFING UNDERLAYMENT**





# TITANIUM® UDL-30

## Professional Grade Synthetic Roofing Underlayment

### UDL30 Features & Benefits

UDL30 is a premium synthetic roofing underlayment for use under: Metal, Tile, Slate, Shake & Shingle roofing.

Titanium UDL30 is a highly engineered, mechanically attached, coated woven synthetic roofing underlayment for sloped roofs. Titanium UDL30 represents the future in felt replacement technology, and used in conjunction with Titanium PSU30 self adhered underlayment, offers the sloped roofing industry a truly revolutionary system of safety, security and simplicity... Two products (UDL30 & PSU30) are ALL your roof needs.

- 6 times lighter and 20 times stronger than 30 lb felt
- 40 year limited warranty
- Class A Fire ASTM E108, Meets & exceeds ASTM D226
- Meets Class 4 Hail Rating
- Synthetic construction inert to mold growth
- Patented Sure-Foot® slip resistant nodular walking surface and an advanced resin technology that provide superior steep slope walk-ability
- Contributes to LEED® points
- Certified minimum of 20% reclaimed content (100% Recyclable)
- All temperature performance -40°F to 240°F (-40°C to 115°C)
- 6 month UV exposure
- Cool light gray surface, doesn't expand or contract
- Dual logo custom printing available

Titanium UDL30's advanced polymers combine to deliver a uniquely gray synthetic roofing underlayment that can be used under all types of primary roofing materials to replace felt. Gray technology provides for a cooler roof and one of the best UV exposure properties (up to 6 months) in the marketplace. Unlike smooth surfaced underlayments, Titanium UDL30 possesses a revolutionary patented slip resistant Sure-Foot® nodular walking surface technology that allows for easier steep slope walk-ability, even in wet conditions.



CAN/CSA A220.1  
FLORIDA BUILDING CODE  
CLASS A ASTM-E108  
FIBREGLASS SHINGLES



# TITANIUM® UDL-30

## Professional Grade Synthetic Roofing Underlayment

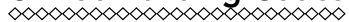
### UDL30 Technical Data



ROLL & PALLET SPECIFICATIONS	
LENGTH PER ROLL:	250' / 76.2 m
WIDTH PER ROLL:	48" / 122 cm
WEIGHT PER ROLL:	40 lbs / 18.2 kg
ROLL SIZE:	10 sq / 93 m <sup>2</sup>
ROLLS PER PALLET:	30
PALLET WEIGHT:	1250 lbs / 567 kg

TEST & ASTM STANDARD	UDL30 TYPICAL VALUE	#30 FELT TYPICAL VALUE
Class A Fire ASTM E108	Pass	N/A
Nail Sealability Modified D1970	Pass	N/A
Permeability ASTM E96	0.06 perms	1.75 perms
Water Transmission D4869	Pass	Pass
Tear Strength D4533	MD 44 lbs (20 kg)   CD 40 lbs (18 kg)	MD 4 lbs (1.8 kg)   CD 2 lbs (0.9 kg)
Tensile Strength D751	MD 143 lbs (65 kg)   CD 110 lbs (50)	MD 70 lbs (32 kg)   CD 38 lbs (17 kg)
Burst Strength D751	250 psi (1720 kPa)	62 psi (430 kPa)
Elongation D751	MD 18% CD 18%	MD 2% CD 2%
Weight per Square D5261	4.0 lbs (1.82 kg)	27.5 lbs ( 12.5 kgs)
Minimum Thickness D1777	25 mils (0.63 mm)	60 mils (1.5 mm)

### UDL30 Building Codes



- ICC-ES ESR-2154
- MIAMI-DADE NOA No.13-0610.01
- INTERTEK WARNOCK HERSEY Report No. 3019637
- CLASS A ASTM E-108 UDL 30 and 50 met ASTM E108, Class A requirements
- CAN/CSA A220.1 Intertek Report # 3124618COQ-005E
- Florida Building Code (FBC) FL11602
- FBC No. 1468
- Meets Class 4 Hail Rating
- Meets and exceeds ASTM D226



# TITANIUM® UDL-30

## Professional Grade Synthetic Roofing Underlayment

### UDL30 Limited Warranty



InterWrap Corp (the "Seller") warrants to the purchaser of these goods (the "Buyer"), the product Titanium UDL-30 synthetic roofing underlayment (hereafter called "product") it manufactures, if installed strictly pursuant to Seller's application instructions, that it will retain its ability to shed water, except as noted below, for a period of forty (40) years from the sales invoice date (the "Warranty Period"). The above warranty does not apply if: 1. any part of the product is exposed to UV after roof cladding installation; and 2. the product has been installed and left uncovered without roof cladding for more than 180 days.

Buyer MUST give Seller written notice of any defects within 30 days from the date that the defect was discovered, along with field samples illustrating production codes, application details, and digital pictures. Seller reserves the right to reserve warranty claim judgment pending full field sample evaluation. Such notice shall be sent to Technical Services Manager, InterWrap Inc., 32923 Mission Way, Mission, BC, Canada, V2V-6E4. Seller shall, at its sole option and as Buyer's sole remedy, repair or replace the product or refund the purchase price for that portion of the product that has been proven to be defective, within the written warranty conditions. Buyer shall pay all handling or transportation charges. Failure to timely give Seller notice of a defect, or unauthorized repairs or alterations, or misuse or misapplication of the product makes this warranty VOID.

This warranty applies only to products purchased between the Effective Date and the date the Seller, in its sole discretion, modifies the warranty. This warranty does not cover leaks or damage caused by any penetrations (including penetrations by fasteners), or by animals, vandalism, abusive conditions, inadequate or faulty structural design, structural defects, building alterations, natural forces such as tornados, hurricanes, earthquakes, other acts of nature, or any other cause beyond Seller's control. The warranties set forth herein are Seller's sole and exclusive warranties. Seller's liability on any claim of any kind for any loss or damage arising out of, in connection with, or resulting from the manufacture, sale, or resale of the product shall in no case exceed the purchase price paid for the product, prorated from the date of purchase to the date of discovery of the defect.

In no event shall Seller be liable for other damages or for special, incidental, punitive or consequential damages. Seller makes no other warranties of any kind, express or implied, including without limitation, any warranty of merchantability or fitness for a particular purpose. No part of this warranty may be changed or cancelled except by a written document signed by Seller and Buyer. No course of dealing or performance, usage of trade or failure to enforce any term shall be used to modify the warranty. Buyer may not assign or permit any other transfer of this warranty without Seller's consent. If any of the terms contained herein are unenforceable, such term shall be limited only to the extent necessary to make it enforceable, and all other terms shall remain in full force and effect. The warranty shall be covered by the laws of Washington, without regard to its conflicts of laws, provisions, and exclusive jurisdiction for any dispute arising from this warranty shall be in the state or federal courts of Washington.

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# TITANIUM® UDL-30

## Professional Grade Synthetic Roofing Underlayment

### UDL30 Installation Instructions

Titanium® UDL30 is an air, water and vapor barrier. It must be installed above properly ventilated spaces (follow ALL building codes applicable to your geographical regions and structure type) as it is considered a vapor barrier (.06 perms). The use of a rosin paper slip-sheet is not required underneath metal roofing systems. Protrusions from the deck area must be removed and decks shall have no voids, damaged or unsupported areas. The use of straight edge cutting knives is recommended. UDL30 is laid out horizontally (parallel) to the eave with the printed side up, and using 4" horizontal laps and 6" vertical laps. Follow building codes for low slopes as defined as 2:12 to 4:12 and steep slopes greater than 4:12 applications.

**FASTENERS:** If leaving UDL30 exposed longer than 5 days product must be attached to the structural roof deck material using a minimum 1" diameter plastic or metal caps with either ring shank nails (preferred) or smooth leg nails (acceptable). Miami-Dade approved tin tags/metal caps acceptable with the rough edge facing up. If product is going to be covered with asphalt shingles or metal roofing panels within 5 days UDL30 can be installed with the use of corrosive resistant 3/8" head x 1" minimum length leg roofing nail (ring shank nail leg is recommended).

**DO NOT USE STAPLES:** use of staples to penetrate UDL30 will void warranty. Anchoring to be installed at a minimum as per surface markings printed on the product, spaced 6" on center in the vertical and horizontal laps, and at 12" along the center of the roll in the field. If underlayment will be covered by primary roofing within 5 days of application, and not subject to heavy traffic or high wind, then the option to use every other printed anchoring point in the center field is acceptable.

All anchoring devices must be flush, 90 degrees to the roof deck, tight with the underlayment surface and the structural roof deck. For extended exposure (months) and or high wind, double the lap widths as a minimum. Alternatively: Use a compatible sealant between the laps; use a peel and stick tape between the laps; or fold the overlay laps forming a "J" channel configuration before nailing.

For batten secured installations, use only adequate length ring shank nails or screws (preferred), smooth leg nails (acceptable) to secure battens to the structural roof deck material. The use of cap nails is only required to secure UDL30 and prevent blow-off until the batten system is installed. Do not install battens directly over any cap nails. If this occurs, remove cap nail, patch the hole, then install cap outside batten field and continue.

Where seams and joints require sealant or adhesive, use a high quality, low solvent asbestos free, plastic roofing cement meeting ASTM D-4586 Type 1 (Asbestos Free) Federal Spec SS-153 Type 1 (Asbestos Free) such as Karnak, Henry, DAP, MB, Geocel or equivalent. Acceptable alternatives are butyl rubber, urethane, and EDPM based caulk or tape sealant. Depending on roof pitch and surface conditions, blocking may be required to support materials on the roof.

UDL30 is not designed for indefinite outdoor exposure. Final roofing should be installed within 6 months.

### CAUTION - READ GOOD SAFETY PRACTICES BELOW

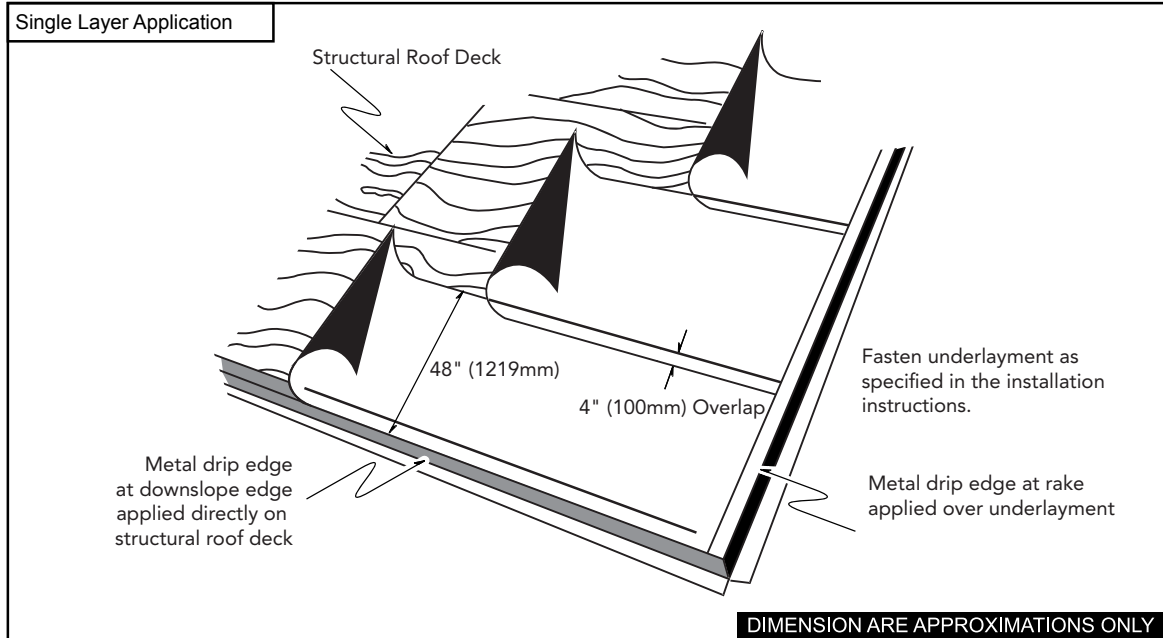
As with any roofing product, always follow safe roofing codes & practices (OSHA) and always use and wear fall protection devices when working on roofs. Use caution when walking or standing on Titanium UDL30 as slip resistance may vary with surface conditions, weather, footwear and roof pitch. Failure to use proper safety gear and footwear can result in serious injury.



# UDL30 Application Diagram

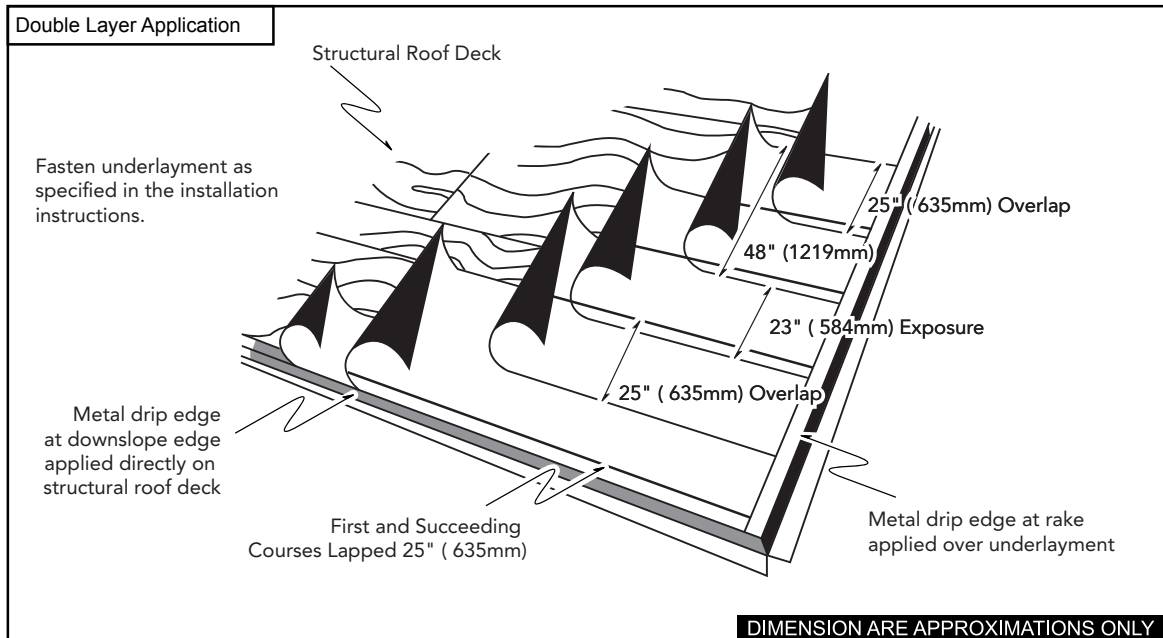
## Single layer application of TITANIUM UDL's

For roof decks having slopes greater than 4:12, TITANIUM® UDL should be applied horizontally in shingle fashion with a 44 inch exposure and a 4 inch overlap.  
Pay special attention to high wind and wind driven rain condition application instructions.



## Double layer application of TITANIUM UDL's

For roof decks having slope of 2:12 to 4:12 a minimum of two layers of TITANIUM® UDL underlayment should be applied horizontally in shingle (water fall) fashion with a with a 23 inch exposure and a 25 inch overlap.



# TITANIUM® UDL-30

## Professional Grade Synthetic Roofing Underlayment

### Technical Bulletin - UDL30 modified installation under metal panels

This Technical Bulletin is issued as the authorization for a modified installation of Titanium UDL30, under metal roofing panels & asphalt shingle roofing as detailed below:

Installation shall now also include allowing the use of a corrosive resistant/electrogalvanized 3/8 inch head x 1 inch minimum length leg roofing nail (ring shank nail leg is recommended but smooth leg is acceptable) to fasten Titanium UDL30 to the roof deck. (Mechanically driven nails preferred, hand driven nails acceptable).

With this modified Titanium UDL30 installation, exposure is limited to a maximum 5 days before the metal roofing panels or asphalt shingles are installed over it. The nail leg is to be driven 90 degrees into the deck and the nail head parallel to the deck and tight against the UDL30 to prevent the material from moving. Every printed anchoring position must be used as printed on the top side to secure the UDL30. Titanium UDL30 must be installed over a clean, dry, moisture free deck and should not be exposed to high winds (signs of underlayment uplifting) during and after installation. Trade or other equipment traffic should also be very limited or avoided.

The final installation and anchoring of the metal roofing panels and/or roofing shingles will further permanently hold the Titanium UDL30 in place.

For standard installation and extended 6 month exposure requirements, please refer to our online Titanium UDL30 Installation Instructions at: [http://www.interwrap.com/Titanium/udl\\_30\\_install.html](http://www.interwrap.com/Titanium/udl_30_install.html)

InterWrap Inc. is allowing this authorized modification to also be included in the Titanium UDL30 Warranty which will also remain in force as currently written. We request ALL local, state/provincial and national building code departments and personnel accept this modification to our standard installation instructions.



# TITANIUM<sup>®</sup> UDL 50 COMMERCIAL GRADE

SYNTHETIC ROOFING UNDERLAYMENT





# TITANIUM® UDL-50

## Commercial Grade Synthetic Roofing Underlayment

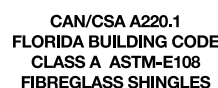
### UDL50 Features & Benefits

UDL50 is a heavy duty commercial grade synthetic roofing underlayment for use under all premium: Metal, Tile, Slate, Clay, Concrete, Shake & Heavy weight laminated shingles.

Titanium UDL50 is a highly engineered, mechanically attached, commercial grade coated woven synthetic roofing underlayment for sloped roofs. Titanium UDL50 is the first product for sloped roofs to address high end primary roofing products with long life warranties such as metal, clay & concrete tiles, slate and heavy weight laminated asphalt shingles. Titanium UDL50 used in conjunction with Titanium PSU30 self adhered underlayment, offers the sloped roofing industry a truly revolutionary system of safety, security and simplicity... two products (UDL50 & PSU30) are ALL your premium roofing systems need.

- 5 times lighter and 25 times stronger than 30 lb felt
- 50 year limited warranty
- Synthetic construction is impervious to mold growth
- Tougher, thicker robust construction that can withstand harsh environmental conditions
- Patented Sure-Foot® slip resistant nodular walking surface and an advanced resin technology that provide superior steep slope walk-ability
- Contributes to LEED® points
- SCS certified minimum of 20% reclaimed content (100% Recyclable)
- Class A Fire ASTM E108, Meets and exceeds ASTM D226
- Meets Class 4 Hail Rating
- All temperature performance -40°F to 240°F (-40°C to 115°C)
- 6 month UV exposure rating
- Cool gray surface, doesn't expand or contract
- Dual logo custom printing available

UDL50 is 5 times lighter and 25 times stronger than 30 lb felt! Gone are the days of blow-offs and call backs. A 10 square roll weighs less than 50 lbs! This low weight combined with 48" width and 250 ft run length means big savings in time and labor (over 30% faster than felt!). UDL50 can be attached with 3/8 inch head electro galvanized roofing nails; tin tag caps & nails; screws with washers; plastic cap staples or plastic cap nails. Fewer laps, cuts and roll handling means you can do more jobs in less time. Inventory fewer rolls and gain an edge in productivity and profits.



# TITANIUM® UDL-50

## Commercial Grade Synthetic Roofing Underlayment

### UDL50 Technical Data



ROLL & PALLET SPECIFICATIONS	
LENGTH PER ROLL:	250' / 76.2 m
WIDTH PER ROLL:	48" / 122 cm
WEIGHT PER ROLL:	48 lbs / 21.8 kg
ROLL SIZE:	10 sq / 93 m <sup>2</sup>
ROLLS PER PALLET:	25
PALLET WEIGHT:	1250 lbs / 567 kg

TEST & ASTM STANDARD	UDL50 TYPICAL VALUE	#30 FELT TYPICAL VALUE
Class A Fire E108	Pass	N/A
Nail Sealability Modified D1970	Pass	N/A
Permeability E96	0.05 perms	1.75 perms
Water Transmission D4869	Pass	Pass
Tear Strength D4533	MD 55 lbs (25 kg) CD 55 lbs (25 kg)	MD 4 lbs (1.8 kg)   CD 2 lbs (0.9 kg)
Tensile Strength D751	MD 178 lbs (81 kg) CD 176 lbs (80 kg)	MD 70 lbs (32 kg)   CD 38 lbs (17 kg)
Burst Strength D751	300 psi (2065 kPa)	62 psi (430 kPa)
Elongation D751	MD 20 % CD 20 %	MD 2% CD 2%
Weight per Square D5261	4.7 lbs (2.13 kg)	27.5 lbs ( 12.5 kgs)
Minimum Thickness D1777	30 mils (0.75 mm)	60 mils (1.5 mm)

### UDL50 Building Codes



- ICC-ES ESR-2154
- Meets Class 4 Hail Rating
- MIAMI-DADE NOA No.13-0610.01
- INTERTEK WARNOCK HERSEY
- CLASS A ASTM E-108 Intertek report# 312482MID-007
- CAN/CSA A220.1 Intertek report # 3124618COQ-005F
- Florida Building Code (FBC)
- Meets and exceeds ASTM D226





# TITANIUM® UDL-50

## Commercial Grade Synthetic Roofing Underlayment

### UDL50 Limited Warranty

InterWrap Corp (the "Seller") warrants to the purchaser of these goods (the "Buyer"), the product Titanium UDL-50 synthetic roofing underlayment (hereafter called "product") it manufactures, if installed strictly pursuant to Seller's application instructions, that it will retain its ability to shed water, except as noted below, for a period of fifty (50) years from the sales invoice date (the "Warranty Period"). The above warranty does not apply if: 1. any part of the product is exposed to UV after roof cladding installation; and 2. the product has been installed and left uncovered without roof cladding for more than 180 days.

Buyer MUST give Seller written notice of any defects within 30 days from the date that the defect was discovered, along with field samples illustrating production codes, application details, and digital pictures. Seller reserves the right to reserve warranty claim judgment pending full field sample evaluation. Such notice shall be sent to Technical Services Manager, InterWrap Inc., 32923 Mission Way, Mission, BC, Canada, V2V-6E4. Seller shall, at its sole option and as Buyer's sole remedy, repair or replace the product or refund the purchase price for that portion of the product that has been proven to be defective, within the written warranty conditions. Buyer shall pay all handling or transportation charges. Failure to timely give Seller notice of a defect, or unauthorized repairs or alterations, or misuse or misapplication of the product makes this warranty VOID.

This warranty applies only to products purchased between the Effective Date and the date the Seller, in its sole discretion, modifies the warranty. This warranty does not cover leaks or damage caused by any penetrations (including penetrations by fasteners), or by animals, vandalism, abusive conditions, inadequate or faulty structural design, structural defects, building alterations, natural forces such as tornados, hurricanes, earthquakes, other acts of nature, or any other cause beyond Seller's control. The warranties set forth herein are Seller's sole and exclusive warranties. Seller's liability on any claim of any kind for any loss or damage arising out of, in connection with, or resulting from the manufacture, sale, or resale of the product shall in no case exceed the purchase price paid for the product, prorated from the date of purchase to the date of discovery of the defect.

In no event shall Seller be liable for other damages or for special, incidental, punitive or consequential damages. Seller makes no other warranties of any kind, express or implied, including without limitation, any warranty of merchantability or fitness for a particular purpose. No part of this warranty may be changed or cancelled except by a written document signed by Seller and Buyer. No course of dealing or performance, usage of trade or failure to enforce any term shall be used to modify the warranty. Buyer may not assign or permit any other transfer of this warranty without Seller's consent. If any of the terms contained herein are unenforceable, such term shall be limited only to the extent necessary to make it enforceable, and all other terms shall remain in full force and effect. The warranty shall be covered by the laws of Washington, without regard to its conflicts of laws, provisions, and exclusive jurisdiction for any dispute arising from this warranty shall be in the state or federal courts of Washington

# TITANIUM® UDL-50

## Commercial Grade Synthetic Roofing Underlayment

### UDL50 Installation Instructions

Titanium UDL50 is an air, water and vapor barrier. It must be installed above properly ventilated spaces (follow ALL building codes applicable to your geographical region and structure type) as it is considered a vapor barrier (.05 perms). The use of a rosin paper slip-sheet is not required underneath metal roofing systems. Protrusions from the deck area must be removed and decks shall have no voids, damaged or unsupported areas. The use of a straight edge cutting knives is recommended. UDL50 is laid out horizontally (parallel) to the eave with the printed side up, and with the 4" horizontal laps and 6" vertical laps. Follow the codes for low slope as defined as 2:12 to 4:12 and steep slope greater than 4:12 applications.

**FASTENERS:** UDL50 must be attached to the structural roof deck material using 3/8" head electro galvanized roofing nails; tin tag caps & nails; screws with washers; plastic caps with minimum 7/16" leg staples or longer nails. Anchoring to be installed at a minimum as per surface markings printed on the product, spaced 6" on center in the vertical and horizontal laps, and at 12" along the center of the roll in the field. If underlayment will be covered by primary roofing within 5 days of application, and not subject to heavy traffic or high wind, then the option to use every other printed anchoring point in the center field is acceptable.

All anchoring devices must be flush, 90 degrees to the roof deck, and tight with the underlayment surface and the structural roof deck. For extended exposure (months) or high wind, double the lap widths as a minimum. Option: Fold the overlay laps forming a "J" channel configuration before nailing; using a compatible sealant between the laps, or using a peel and stick tape is highly recommended.

For batten secured installations, use only adequate length nails or screws to secure battens to the structural roof deck material. It is recommended to use 3/8" head electro galvanized roofing nails; plastic cap staples; plastic cap nails or screws with metal or plastic washers to secure UDL50 to prevent blow off until the batten system is installed. When using plastic cap and staples, staple leg should be a minimum 7/16" or longer. Do not install battens directly over any plastic caps. If this occurs, remove plastic cap staples or nails, patch the hole, then install cap outside batten field and continue. Where seams and joints require sealant or adhesive, use a high quality, low solvent, Asbestos free, plastic roofing cement meeting ASTM D-4586 Type 1 (Asbestos free), Federal Spec SS-153 Type 1 (Asbestos free) such as Karnak, Henry, DAP, MB, Geocel or equivalent. Acceptable alternatives are butyl rubber, urethane, and EDPM based caulk or tape sealant. Depending on roof pitch and surface conditions, blocking may be required to support materials on the roof.

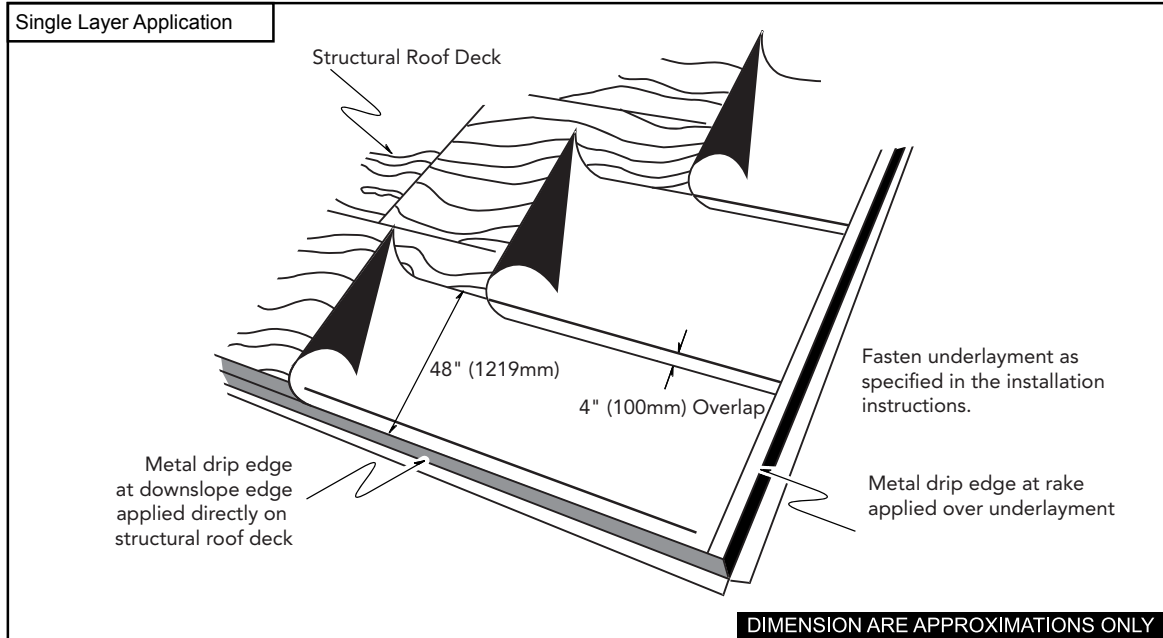
UDL50 is not designed for indefinite outdoor exposure. Final roofing should be installed within 6 months.

**CAUTION - READ GOOD SAFETY PRACTICES BELOW**  
As with any roofing product, always follow safe roofing codes & practices (OSHA) and always use and wear fall protection devices when working on roofs. Use caution when walking or standing on Titanium UDL50 as slip resistance may vary with surface conditions, weather, footwear and roof pitch. Failure to use proper safety gear and footwear can result in serious injury.

# UDL50 Application Diagram

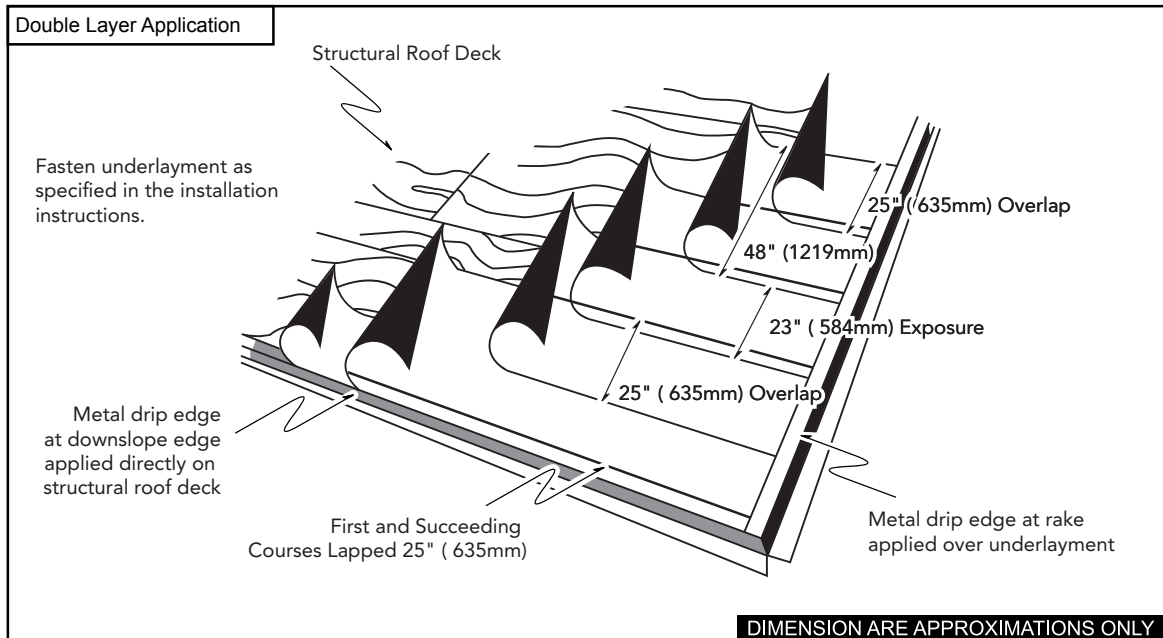
## Single layer application of TITANIUM UDL's

For roof decks having slopes greater than 4:12, TITANIUM® UDL should be applied horizontally in shingle fashion with a 44 inch exposure and a 4 inch overlap.  
Pay special attention to high wind and wind driven rain condition application instructions.



## Double layer application of TITANIUM UDL's

For roof decks having slope of 2:12 to 4:12 a minimum of two layers of TITANIUM® UDL underlayment should be applied horizontally in shingle (water fall) fashion with a with a 23 inch exposure and a 25 inch overlap.







# TITANIUM<sup>®</sup> PSU 30

SYNTHETIC ROOFING UNDERLAYMENT





# TITANIUM® PSU-30

## Peel & Stick Synthetic Roofing Underlayment with Ice Damming Protection

### PSU30 Features & Benefits

**PSU30 is a premium high & low temp. peel & stick with advanced ice damming protection. PSU30 is an air, water and vapor barrier for use under: Metal, Tile, Slate, Shake & Shingle roofing.**

Titanium PSU30 is the only modified rubberized asphalt Peel & Stick with a tough, rugged surface and a self sealing lap system! Titanium PSU30 is an advanced, slip resistant synthetic polymer surfaced self-adhered roofing underlayment. It is designed for 2:12 or greater sloped roof applications subject to the effects of ice damming and wind driven rain. Titanium PSU30 rubberized asphalt delivers a unique combination of both high temperature (240°F / 115°C) flow resistance, and low temperature (40°F / 5 ° C) deck adhesion "All Temp " performance. In addition Titanium PSU30 offers: a patented slip resistant Sure-Foot® nodular walking surface; a tough, durable, reflective gray synthetic polymer surface; a 6 month UV exposure rating; and an industry leading 30 year limited warranty!

- Watertight asphalt to asphalt lap system
- 30 Year limited warranty
- Titanium PSU30 is an approved Polyfoam underlayment for use with Polyset® foam systems
- The only modified rubberized asphalt Peel & Stick with a tough and rugged surface
- Class A Fire ASTM E108
- Meets and exceeds ASTM D226
- All temperature performance -40°F to 240°F (-40°C to 115°C) – Installation temperature 40°F (5°C) and above
- Patented Sure-Foot® slip resistant technology
- Synthetic construction is impervious to mold growth
- Cool gray surface, doesn't expand or contract
- Up to 6 Months UV exposure

Titanium PSU30 is the only modified rubberized asphalt Peel & Stick with a tough, rugged surface and a self sealing lap system! Titanium PSU30 is an advanced, slip resistant synthetic polymer surfaced self-adhered roofing underlayment. It is designed for 2:12 or greater sloped roof applications subject to the effects of ice damming and wind driven rain. Titanium PSU30 rubberized asphalt delivers a unique combination of both high temperature (240°F / 115°C) flow resistance, and low temperature (40°F / 5 ° C) deck adhesion "All Temp " performance. In addition Titanium PSU30 offers: a patented slip resistant Sure-Foot® nodular walking surface; a tough, durable, reflective gray synthetic polymer surface; a 6 month UV exposure rating; and an industry leading 30 year limited warranty!



CAN/CSA A220.1  
FLORIDA BUILDING CODE  
CLASS A ASTM-E108  
FIBREGLASS SHINGLES

# TITANIUM® PSU-30

## Peel & Stick Synthetic Roofing Underlayment with Ice Damming Protection

### PSU30 Technical Data

ROLL & PALLET SPECIFICATIONS	
LENGTH PER ROLL:	72' / 22 m
WIDTH PER ROLL:	36" / 91.4 cm
WEIGHT PER ROLL:	48 lbs / 22 kg
ROLL SIZE:	2 sq / 20 m <sup>2</sup>
ROLLS PER PALLET:	25
PALLET WEIGHT:	1300 lbs / 590 kg

TEST & PROPERTIES	ASTM STANDARD	PSU30 TYPICAL VALUE
Color		Gray
Surface		Synthetic Polymer - Patented Sure-Foot®
Release Liner		Silicone Treated, Crinkled Poly Split Release
Weight per square		24 lbs / (10.8 kg)
Nail Sealability	ASTM D1970 Modified	Pass
Permeability	ASTM E96	0.0336
Nominal Thickness	ASTM D5147	45 Mil (1.1 mm)
Tensile	ASTM D1970	MD 100 lbs/in/ (17.5 kN/m)   CD 80 lbs/in (14 kN/m)
Tear Resistance	ASTM D1970	MD 140 lbs (622 N)   CD 80 lbs (445 N)
Weight per Square		27.5 lbs ( 12.5 kgs)
Thermal Stability	ASTM D1970	240° F (115° C) Pass
Low Temp Flexibility	ICC AC 48	Pass
Adhesion to Plywood	ASTM D903	4 lb/in (700 N/m)
Self Sealability	ASTM D1970	Pass

### PSU30 Building Codes

- ICC-ES ESR-1306
- Class A ASTM E-108 Intertek Report # 3133961 - 01
- CAN/CSA A220.1 - M91 Intertek Report # 3126617COQ-009
- Florida Building Code (FBC) FL11602
- MIAMI-DADE Approved NOA No. 11-0815.05
- Tile Roofing Institute Approved

# TITANIUM® PSU-30

## Peel & Stick Synthetic Roofing Underlayment with Ice Damming Protection

### PSU30 MSDS

◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇

#### I. Product Identification and Use:

Product Identification: Titanium PSU

Product Use/Description: Coated woven polyolefin self adhesive membrane for use as a roofing underlayment

Product Composition: <25% Polyolefin Plastic  
>75% Rubberized Asphalt

#### II. Hazardous Ingredients:

Hazardous Component: ACGIH TLV LD50 %Wt

Petroleum Asphalt : 5.0mg/m 5-15g/kg > 50%

CAS # 8052-42-4

Petroleum Oil: 0.2000 TWA >15% CAS # 64741-88-4

#### III. Physical Data:

- a. Physical State: Solid.
- b. Odor and Appearance: Pigmented Woven fabric  
Slight Petroleum Odor
- c. Odor threshold (ppm): N.Ap.
- d. Vapor Pressure (mmHg): N.Ap.
- e. Vapor Density (Air = 1): N.Ap.
- f. Evaporation rate: N.Ap.
- g. Boiling Point (oC): N.Ap.
- h. Freezing Point (oC): N.Ap.
- i. pH: N.Ap.
- j. Specific Gravity: 1.2
- k. Coef. Water/oil Dist. N.Ap.

#### IV. Fire and Explosion Data:

- a. Flammability: Will Support Combustion under direct flame
- b. Fire Fighting Procedure: The use of self-contained breathing apparatus is recommended for firefighters.
- c. Means of extinction: Water spray and dry chemicals
- d. Flash point (oC) and Method: >410°F (T.O.C.).
- e. Upper flammable limit (% by volume): N.Ap.
- f. Lower flammable limit (% by volume): N.Ap.
- g. Hazardous combustion products: Carbon Monoxide, Carbon Dioxide, Nitrogen Oxides and Sulfur
- h. Explosion Data: Not sensitive to impact nor to static discharge.

#### V. Reactivity Data:

- a. Chemical stability: Yes.
- b. Incompatibility with other substances: None
- c. Reactivity: Non-reactive
- d. Hazardous decomposition products: No data.

#### VI. Toxicological properties:

- a. Route of entry: Skin , Ingestion
  - b. Skin: Avoid contact with skin. Excessive exposure may cause irritation to eyes, nose, throat and skin. Prolonged and repeated skin contact may cause skin irritation.
  - c. Ingestion: Slightly toxic
- Emergency and First Aid Procedures
- Inhalation: Not Applicable.
- Skin: Wash thoroughly with soap and water. If redness or irritation develops, obtain medical assistance.
- Eyes: Flush with water at least 15 minutes. Obtain medical assistance.
- Ingestion: Drink liquids. Obtain medical assistance.
- Medical Conditions Aggravated by Exposure: Disorders or Diseases of the Skin, Eyes, Respiratory Track or Allergies
- Carcinogenicity: No
- NTP: No IARC Monographs
- OSHA Regulated Irritant: Yes
- Sensitizer: Yes
- Mutagenic: No
- Teratogenic: No

#### VII. Preventive Measures:

- a. Gloves: Recommended
  - b. No respirator required under normal use.
  - c. Leak and spill procedure: N.Ap.
  - d. Waste disposal: See your local authorities for disposal instructions.
  - e. Handling and Storage: Rolls should be adequately restrained to prevent shifting during handling and storage.
  - f. Storage Requirements: N.Ap.
  - g. Special shipping information: None.
- IX. Other Information:
- a. Shipping Name: Asphaltic Roofing Material
  - b. DOT Hazard Class: Not Required

Prepared by: IW R&D group. (604) 820-5400

Revision Date: 25th June 2012

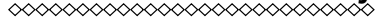
#### Disclaimer:

This information is furnished without warranty expressed or implied, except that it is accurate to the best knowledge of InterWrap Inc. The data on this sheet relates only to the specific material designated herein. InterWrap Industries Inc. assumes no legal responsibility for use or reliance upon this data.

# TITANIUM® PSU-30

## Peel & Stick Synthetic Roofing Underlayment with Ice Damming Protection

### PSU30 Limited Warranty



InterWrap Corp (the "Seller") warrants to the purchaser of these goods (the "Buyer"), the product Titanium PSU-30 peel and stick self adhered roofing underlayment (hereafter called "product") it manufactures, if installed strictly pursuant to Seller's application instructions, that it will retain its ability to shed water, except as noted below, for a period of thirty (30) years from the sales invoice date (the "Warranty Period"). The above warranty does not apply if: 1. any part of the product is exposed to UV after roof cladding installation; and 2: the product has been installed and left uncovered without roof cladding for more than 180 days.

Buyer must give Seller written notice of any defects within 30 days from the date that the defect was discovered. Such notice shall be sent to Customer Service Manager, InterWrap Inc., 32923 Mission Way, Mission, BC, Canada, V2V-6E4. Seller shall, at its sole option and as Buyer's sole remedy, repair or replace the product or refund the purchase price for that portion of the product that has been proven to be defective, within the written warranty conditions. Buyer shall pay all handling or transportation charges.

Failure to timely give Seller notice of a defect, or unauthorized repairs or alterations, or misuse or misapplication of the product makes this warranty VOID.

This warranty applies only to products purchased between the Effective Date and the date the Seller, in its sole discretion, modifies the warranty.

This warranty does not cover leaks or damage caused by any penetrations (including improper installations of fasteners), improper installation techniques, or by animals, vandalism, abusive conditions, inadequate or faulty structural design, structural defects, building alterations, natural forces such as tornados, hurricanes, earthquakes, other acts of nature, or any other cause beyond Seller's control.

The warranties set forth herein are Seller's sole and exclusive warranties. The warranty is for the original purchaser and is not transferable. Seller's liability on any claim of any kind for any loss or damage arising out of, in connection with, or resulting from the manufacture, sale, or resale of the product shall in no case exceed the purchase price paid for the product, prorated from the date of purchase to the date of discovery of the defect. In no event shall Seller be liable for other damages or for special, incidental, punitive or consequential damages.

Seller makes no other warranties of any kind, express or implied, including without limitation, any warranty of merchantability or fitness for a particular purpose.

No part of this warranty may be changed or cancelled except by a written document signed by Seller and Buyer. No course of dealing or performance, usage of trade or failure to enforce any term shall be used to modify the warranty. Buyer may not assign or permit any other transfer of this warranty without Seller's consent.

If any of the terms contained herein are unenforceable, such term shall be limited only to the extent necessary to make it enforceable, and all other terms shall remain in full force and effect.

The warranty shall be covered by the laws of Washington, without regard to its conflicts of laws, provisions, and exclusive jurisdiction for any dispute arising from this warranty shall be in the state or federal courts of Washington

# TITANIUM® PSU-30

## Peel & Stick Synthetic Roofing Underlayment with Ice Damming Protection

### PSU30 Installation Instructions

#### STORAGE

1. Titanium PSU30 must remain in the original packaging adequately protected and stored in a dry properly ventilated area. Keep away from open flames, sparks and sheltered from elements and harmful substance.
2. The rolls must be carefully stored upright.
3. Only rolls destined for the same-day use should be removed from this storage area.
4. Avoid prolonged storage above 90°F (32°C).
5. In cold weather, the material must be heated to a minimum temperature of 40° F (4°C) prior to application. If rolls cannot be stored in a heated environment, they may be pre-conditioned before installation.
6. Be careful not to load too much material on the roof in one area. Disburse the weight over structural supports where possible.

#### SURFACE PREPARATION

1. Titanium PSU30 must be installed on clean, dry, protrusion and moisture free, continuous structural deck
2. Deck shall have no voids, damaged or unsupported area.
3. Remove dust, dirt, loose nails and old roofing material. Use of calcium or salt for ice and snow removal is not recommended
4. To improve adhesion performance it may be required to prime the roof surface with a solvent or water based primer for self adhesive membranes

#### INSTALLATION

Titanium PSU30 must be installed above properly ventilated areas, as it's considered a vapor barrier. Apply Titanium PSU30 on a dry and moisture free deck, only in dry weather, when the air, membrane and the substrate are at temperature over 40°F (4.4°C). For applications below 40°F a primer should be used. Do not install on the end grain of wood planks. Do not install directly over old roof covering. Repair holes, fish mouths, tears, and any other penetration damage to the membrane with a round patch of membrane extending passed the damaged area 6" in all directions.

If fasteners are removed leaving holes in the membrane or other penetrations are accidentally produced, they must be patched, or warranty is void. Do not install fasteners through membrane over any unsupported areas of the structural deck, such as over joints between adjacent structural panels.

Protect completed roof areas to avoid damage during roof installation and material transportation by installing protective boardwalks to enable passage of people, equipment and products. It is recommended to use a double layer of Titanium PSU30 and repair any damage in critical areas, such as the

valleys or along the eaves in climates where severe ice damming is expected. For high elevation, high wind or wind driven rain protection it is recommended to cover the entire roof deck with Titanium PSU30.

Titanium PSU30 is to be laid out horizontally (parallel) to the eave with the printed side up, using 3" horizontal laps and 6" vertical laps. Prior to application of the second course remove the white release liner tape to expose the lap seal asphalt. Care should be taken not to walk on or contaminate the lap seal once exposed. Titanium PSU30 may also be installed vertically. It is recommended to blind nail the membrane on steep slopes (6/12 or greater). PSU30 should be blind nailed with 3/8" roofing nail of 1" or longer in the 3" over lap area as marked with a + symbol.

Always work from the low point to the high point of the roof. Apply the membrane in valleys before the membrane is applied to the eaves. Cut the membrane into 10-15 foot lengths and re-roll loosely. Peel back 1-2 feet of release liner, align the membrane, and continue to peel the release liner from the membrane. Hand press first followed by a heavy 75-100 lb pressure roller to smooth and secure the membrane, especially at the overlap layers. If a roller is not available or safe, walk on all laps and as much of the field area as possible to push the adhesive into the pours of the roof deck. For valleys and ridge applications, peel the release liner; center the sheet over the valley or ridge, drape, and hand press in place followed by a pressure roller or walking on it. When left exposed prior to application of primary roof covering, secure membrane in place carefully sealing the laps, to protect against uplift from wind exposure.

Do not fold Titanium PSU30 over the roof edge unless the edge is subsequently covered over by a drip edge or other flashing material. Do not install on the end grain of wood planks. Do not install directly over old roof covering. Repair holes, fish mouths, tears, and any other penetration damage to the membrane with a round patch of membrane extending passed the damaged area 6" in all directions. Depending on roof pitch and surface conditions, blocking maybe required to support roofing materials placed on the roof. For extended exposure applications, the surface layer may be slightly discolored; this is normal, and will not effect the product performance.

Titanium PSU30 is not designed for indefinite outdoor exposure. Final roofing should be installed within 6 months.

#### CAUTION - READ GOOD SAFETY PRACTICES BELOW

As with any roofing product, always follow safe roofing codes & practices (OSHA) and always use and wear fall protection devices when working on roofs. Release liners are slippery, remove from work area immediately after application. Use caution when walking or standing on Titanium PSU30 as slip resistance may vary with surface conditions, weather, footwear and roof pitch. Failure to use proper safety gear and footwear can result in serious injury. Beyond the Titanium PSU30 application instructions you should check with your local, county, state or national code as applicable.





**U15**

# RhinoRoof®

**SYNTHETIC ROOFING UNDERLAYMENT**

MEETS ASTM D226 & D4869

CAN/CSA A123.3

| FBC #FL15216



*Break free from felt!*™



### RhinoRoof U15 Features & Benefits

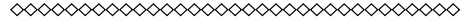
RhinoRoof U15 is a synthetic roofing underlayment for use under Asphalt Shingles only

**Say goodbye to traditional asphalt saturated felt paper and Break free from felt™ with RhinoRoof® synthetic roofing underlayment!**

RhinoRoof U15 is InterWrap's revolutionary new synthetic roofing underlayment and the first synthetic competitively priced with 15 lb felt! Designed specifically for use under asphalt shingle roofing. RhinoRoof is up to 25 x times stronger than 15 lb roofing felt, has a fiber grip walking surface, can also be chalked just like felt and is backed by a 10 year limited warranty! So when mother nature strikes, ensure your asphalt shingle roofing has the best backup available for your money with RhinoRoof synthetic underlayment.

- Meets ASTM D4869 & D226 Types I & II
- 25 x Stronger than 15 lb roofing felt
- 6 squares more per roll compared to 15 lb roofing felt
- Ease of installation – wider, lighter, more coverage per lap
- Synthetic construction is impervious to mold growth
- Lays flat and does not absorb water and wrinkle
- Enhanced UV protection
- No oil leaching - no hazardous material content
- Fiber grip slip-resistant walking surface
- Advanced backside non-slip coating
- Low temperature flexibility
- Florida Building Code Approved

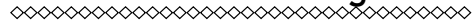
### RhinoRoof U15 Technical Data



U15 ROLL & PALLET SPECIFICATIONS	
LENGTH PER ROLL:	286' / 87 m
WIDTH PER ROLL:	42" / 1.1 m
WEIGHT PER ROLL:	23.5 lbs / 10.6 kg
ROLL SIZE:	10 sq / 93 m <sup>2</sup>
ROLLS PER PALLET:	56
PALLET WEIGHT:	1368 lbs / 620 kg

TEST & ASTM STANDARD	RHINOROOF U15 TYPICAL VALUE	#15 FELT TYPICAL VALUE
Permeability E96	.05 perms	5 perms
Water Transmission D4869	Pass	Pass
Tear Strength D4533	MD 26 lbs (12 kg)   CD 24 lbs (11 kg)	MD 2.2 lbs (1 kg)   CD 0.9 lbs (0.4 kg)
Tensile Strength D751	MD 81 lbs (37 kg)   CD 70 lbs (32 kg)	MD 54 lbs (24.5 kg)   CD 29 lbs (13.2 kg)
Burst Strength D751	130 psi (897 kPa)	35 psi (242 kPa)
Elongation D751	MD 20%   CD 20%	MD 3% CD 4%
Weight per Square D5261	2.25 lbs ( 1.02 kg)	11.2 lbs (5 kg)
Nominal Thickness D1777	7 mils (0.018 mm)	21 mils (0.525 mm)
Temperature Range	-70 °F to 212 °F (-55 °C to 100 °C)	14 °F to 212 °F (-10 °C to 100 °C)

### RhinoRoof U15 Building Codes



- Meets ASTM D4869 & D226 Types I & II
- Florida Building Code Approved # FL15216
- Warnock Hersey
- CAN/CSA A123.3



### RhinoRoof U15 10 Year Limited Warranty

InterWrap Corp (the "Seller") warrants to the purchaser of these goods (the "Buyer"), the product RhinoRoof U15 synthetic roofing underlayment (hereinafter called "product") it manufactures, if installed strictly pursuant to Seller's application instructions. These instructions can be found on our website at [www.interwrap.com/Rhinorooft](http://www.interwrap.com/Rhinorooft). Warranty covers the products ability to shed water and not degrade, except as noted below, for a period of ten (10) years from the sales invoice date or the product manufactured date printed on the product. (This is defined as the "Warranty Period"). The above warranty does not apply if: 1. any part of the product is exposed to UV after the asphalt shingle roofing material has been installed; and 2. the product has been installed and left uncovered without asphalt shingle roof material for more than 30 days. 3. the product is installed with non-specified fasteners such as staples. 4. product is used for an application outside of the recommended slope of no more that 7/12 or less than 2/12.

Buyer MUST give Seller written notice of any defects within 30 days from the date that the defect was discovered, along with field samples illustrating production codes, application details, and digital pictures. Seller reserves the right to reserve warranty claim judgment pending full field sample evaluation. Such notice shall be sent to Quality Control Manager, InterWrap Inc., 32923 Mission Way, Mission, BC, Canada, V2V 6E4. Seller shall, at its sole option and as Buyer's sole remedy, repair or replace the product or refund the purchase price for that portion of the product that has been proven to be defective, within the written warranty conditions. Buyer shall pay all handling or transportation charges. Failure to timely give Seller notice of a defect, or unauthorized repairs or alterations, or misuse or misapplication of the product makes this warranty VOID. Instructions on how to make a warranty claim can be found on our website.

This warranty does not cover leaks or damage caused by any penetrations (including penetrations by fasteners), or by animals, vandalism, abusive conditions, inadequate or faulty structural design, structural defects, building alterations, natural forces such as tornados, hurricanes, earthquakes, other acts of nature, or any other cause beyond Seller's control. The warranties set forth herein are Seller's sole and exclusive warranties. Seller's liability on any claim of any kind for any loss or damage arising out of, in connection with, or resulting from the manufacture, sale, or resale of the product shall in no case exceed the purchase price paid for the product, prorated from the date of purchase to the date of discovery of the defect.

In no event shall Seller be liable for other damages or for special, incidental, punitive or consequential damages. Seller makes no other warranties of any kind, express or implied, including without limitation, any warranty of merchantability or fitness for a particular purpose. No part of this warranty may be changed or cancelled except by a written document signed by Seller and Buyer. No course of dealing or performance, usage of trade or failure to enforce any term shall be used to modify the warranty. Buyer can not assign or permit any other transfer of this warranty without Seller's consent. If any of the terms contained herein are unenforceable, such term shall be limited only to the extent necessary to make it enforceable, and all other terms shall remain in full force and effect. The warranty shall be covered by the laws of Washington, without regard to its conflicts of laws, provisions, and exclusive jurisdiction for any dispute arising from this warranty shall be in the state or federal courts of Washington.



## Synthetic Roofing Underlayment

### RhinoRoof U15 Installation Instructions

RhinoRoof U15 is a synthetic roof underlayment and is designed and manufactured to replace 15 lb saturated asphalt felt. RhinoRoof is an air, water and vapor barrier and therefore must be installed above a properly ventilated space(s). Follow ALL building codes applicable to your geographical region and structure type as it is considered a vapor barrier.

**DECK PREP:** Protrusions from the deck area must be removed and decks shall have no voids, damaged or unsupported areas. Deck surface should be free of debris, dry and moisture free.

**APPLICATION:** RhinoRoof must be covered by asphalt shingles within 30 days of application. Follow all local municipality, state/province or national building codes for your region applicable to low slopes, defined as 2/12 to 4/12, and steep slopes greater than 4/12 applications. For slopes from 4/12 to 7/12 RhinoRoof is laid out horizontally (parallel) to the eave with the printed side up. Horizontal laps should be 4" and Vertical laps should be 6" and anchored approximately 1" in from the edge. For low slopes double coverage plus 1" (i.e. 22" horizontal overlap) is recommended, vertical end laps should be 12" overlap and anchored 1" in from the edge. Roof slopes greater than 7/12 pitch must be installed with Plastic Cap and Nails and be anchored in each location as printed on product. For slopes > 7/12 RhinoRoof must be covered within 24 hours. The use of roofing hammer, hatchet hammer, pneumatic air or gas driven fastener tools is acceptable. The use of straight edge cutting knives is recommended.

**FASTENERS:** Same day coverage with asphalt shingles - If RhinoRoof is covered within 24 hours of installation, it can be anchored with corrosive resistant 3/8" head x 1" leg roofing nails (ring shank preferred, but smooth leg roofing nail is acceptable). For same day coverage use of every other anchoring location printed on the product is acceptable. **DO NOT USE STAPLES:** use of staples to penetrate RhinoRoof will void warranty.

**ANCHORING:** All anchoring nails must be flush, 90 degrees to the roof deck, tight with the underlayment surface and the structural roof deck. For extended exposure (30 days), driving rain or strong winds, double the lap widths as a minimum. Alternatively: fold the overlay

laps forming a "J" channel configuration before nailing; using a compatible sealant between the laps, or using a peel and stick tape is highly recommended. For batten secured installations, use only adequate length ring shank nails or screws (preferred), smooth leg nails (acceptable) to secure battens to the structural roof deck material. Do not install battens directly over any cap nails. If this occurs, remove cap nail, patch the hole, then install cap outside batten field and continue.

Where seams and joints require sealant or adhesive, use a high quality, low solvent asbestos free, plastic roofing cement meeting ASTM D-4586 Type 1 (Asbestos Free) Federal Spec SS-153 Type 1 (Asbestos Free) such as Karnak, Henry, DAP, MB, Geocel or equivalent. Acceptable alternatives are butyl rubber, urethane, and EDPM based caulk or tape sealant.

**EXTENDED EXPOSURE:** If RhinoRoof product will be exposed longer than 24 hours and up to 30 days then product must be attached to the structural roof deck using a minimum 1" diameter plastic or metal cap roofing nails (ring shank preferred but smooth leg nails acceptable). Plastic Cap and Nails are defined as a minimum 1" (25mm) diameter plastic or metal cap with either ring shank nails (preferred) or smooth leg nails (acceptable). Miami Dade approved tin tags/metal caps are also acceptable with the rough edge facing up. For 30 day exposure anchoring on every printed position is required. RhinoRoof is not designed for indefinite outdoor exposure.

**CAUTION - READ GOOD SAFETY PRACTICES BELOW**  
Good safety practices should be followed on steep slope roofs, such as use of tie-offs, toe boards, ladders and/or safety ropes and personal body harnesses. Follow OSHA guidelines. Slip resistance may vary with surface conditions from debris that accumulates, weather, footwear and roof pitch. Failure to use proper safety gear can result in serious injury. Depending on roof pitch and surface conditions, blocking may be required to support materials on the roof and is good safety practice.

### RhinoRoof U15 Technical Bulletin - Material Repair

#### Option #1

##### Repair material:

Using Titanium or RhinoRoof membrane cut a circle, rectangular, or a lineal piece of material that extends 3 inches beyond both sides of the damaged area. If your repair material has 90 degree corners, round the corners with the radius of a quarter or clip the corners to a 45 degree angle.

##### Adhesives:

Titanium or RhinoRoof may be repaired using sealant or adhesive, use a high quality, low solvent asbestos free, plastic roofing cement meeting ASTM D-4586 Type 1 (Asbestos Free) Federal Spec SS-153 Type 1 (Asbestos Free) such as Karnak, Henry, DAP, MB, Geocel or equivalent. Acceptable alternatives are butyl rubber, urethane, and EDPM based caulk or tape sealant.

##### Applying adhesive:

It is ideal for the adhesive to be applied near the edge and the field of the of the patch material.

Apply the adhesive in a continuous bead to both the damaged material and to the repair material and press them together to disperse the adhesive. Make sure NO water can get under the new surface.

##### Repairing an open nail whole or equivalent:

Apply the adhesive over the hole and extend the adhesive at least ¼ inch beyond the edge of the hole on all sides.

#### Option #2

##### Removal of a damaged course of Titanium or RhinoRoof product:

You will need to remove the nails or plastic cap and nails in the top and bottom overlap field areas, and in the field area between the overlaps. Cut the ends of the material to be removed 90 degree to the overlap lines. Remove the damaged material. Cut your replacement material a minimum of 12 inches longer than the uncovered area. Make sure the deck area to be covered is clear of debris and protrusions. Slide the new replacement material under the upper course to the 4 inch overlap line of the new material. Center the replacement material to allow for a minimum of a 6 inch vertical overlap on both ends. Starting with a NEW nail position, nail through the overlap and through the new material using the 6 inch staggered nail spacing. Nail across the bottom overlap field using the printed 6 inch targets. Nail the vertical overlaps 1 inch in and starting near the bottom, nail every 6 inch until you reach the overlap. As an extra measure, apply some roofing cement over the holes in the top overlap caused by the nail or plastic cap and nail removal.

**Special note:** Many adhesives will shrink and gather or draw material a little when they cure.

#### Option #3

(A) Apply a piece of Titanium PSU30, remove the release liner, apply the PSU30 with at least 3 inch overlaps on all sides of the damaged area. Press hard by hand or walk on the PSU30 to push the modified SBS into the pours of the underlayment surface.

(B) For a small area, cut a piece of PSU30 into a diamond shape that should go 2 to 3 inches beyond the damage area on each side, clip the corners, apply the diamond shape with a point of the diamond pointed toward a ridge. In this way, if for any reason water will run by it, not against a ledge.

### RhinoRoof U15 Technical Bulletin - 7/12 Roof Pitch



#### **RhinoRoof installations now includes greater than 7/12 roof pitch applications**

Effective August 28th 2012 - RhinoRoof installation guidelines were modified to read:

- Roof slopes "GREATER" than 7/12 pitch use only Plastic Cap and Nails and covered by primary roofing material within 24 hours.
- Plastic Cap and Nails are defined as a minimum 1" (25mm) diameter plastic or metal cap with either ring shank nails (preferred) or smooth leg nails (acceptable).
- "MUST" anchor each location as printed on product.

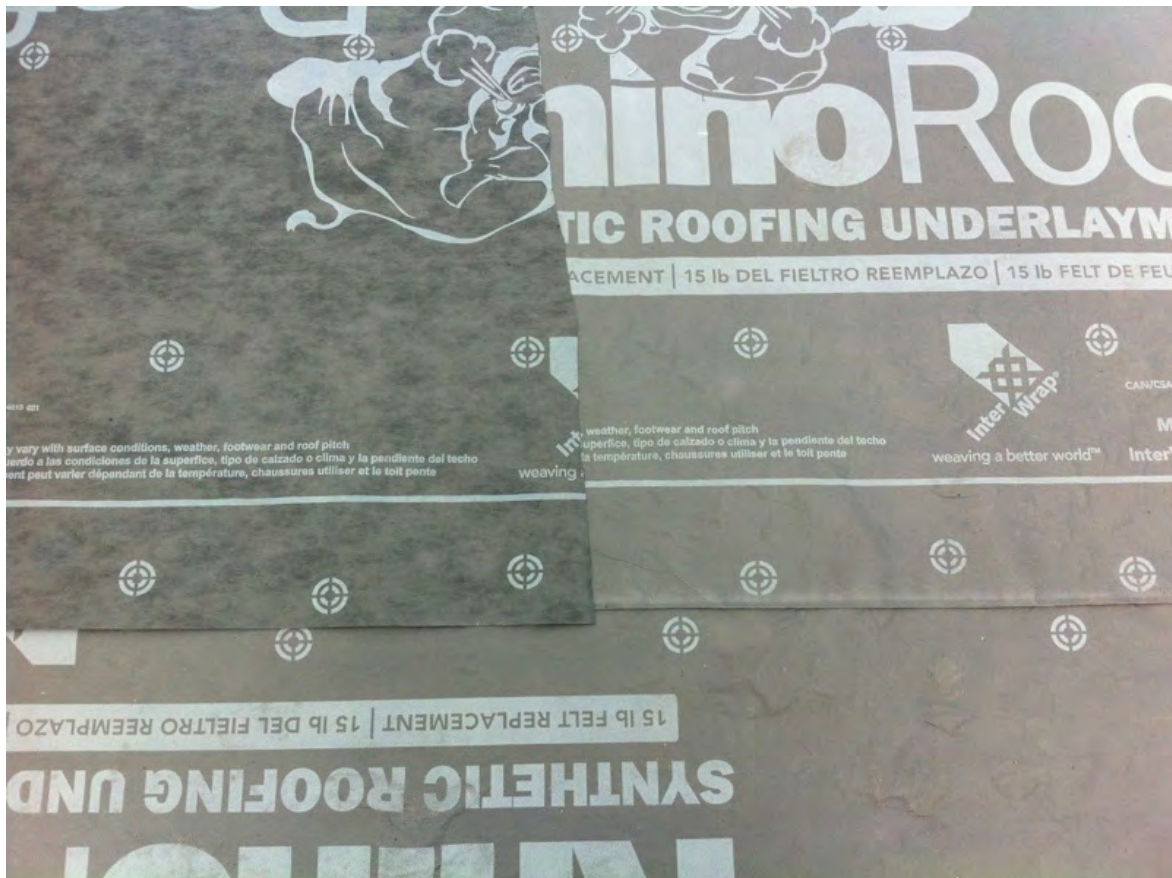
We re-state the following good safety precautions:

- Slip resistance may vary with surface conditions from debris that accumulates, weather, footwear and roof pitch
- Good safety practices should be followed on steep slope roofs, such as use of tie-offs, toe boards, ladders and/or safety ropes and personal body harnesses. Follow OSHA guidelines.

### RhinoRoof U15 Technical Bulletin - Color Variation

#### RhinoRoof color variation

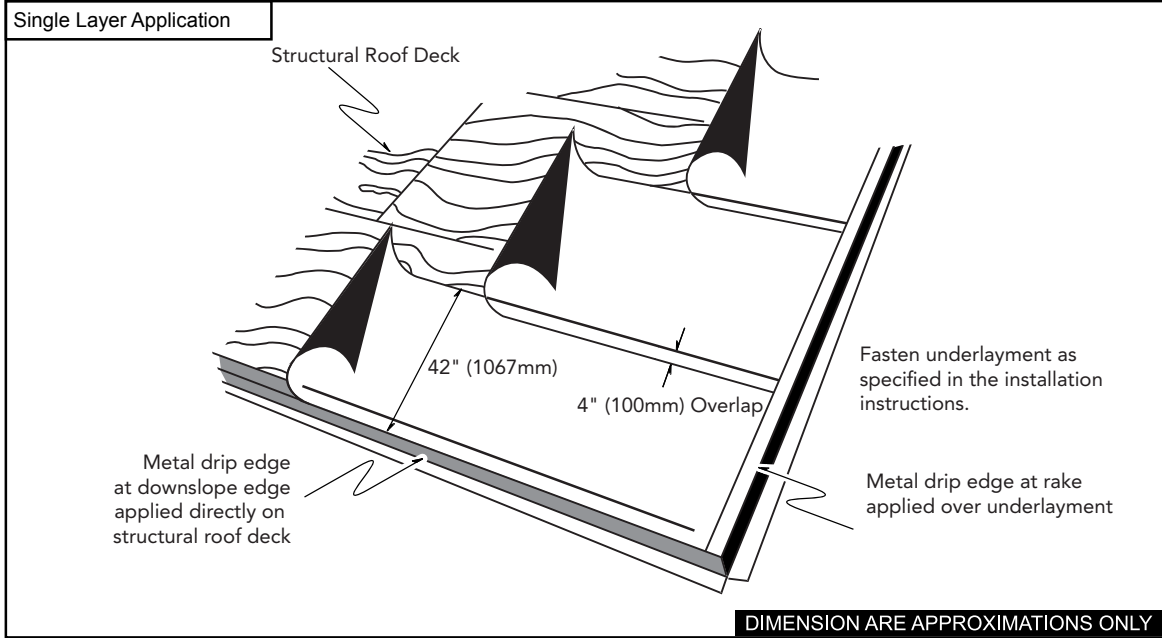
RhinoRoof synthetic roof underlayment has a very unique manufacturing process. During the process you may see a dark gray, light gray or light black color that can vary within the product and or between production runs. These rare color variations are only visual and do not affect the performance of the product and is not a manufacturing defect. See color variation example below.



# RhinoRoof Application Diagram

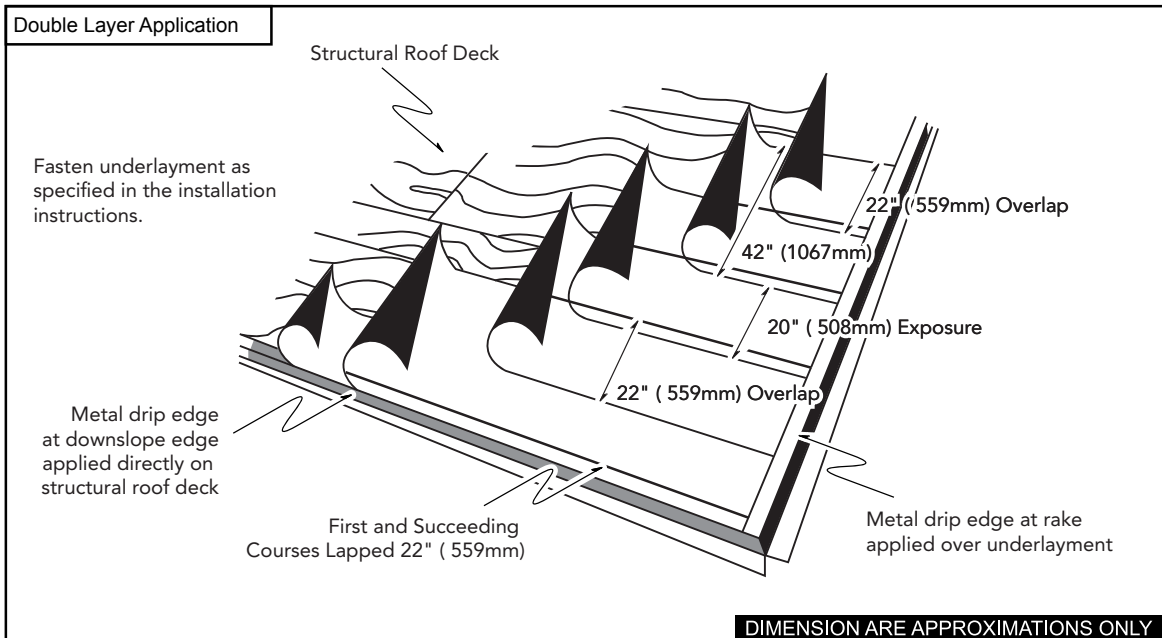
## Single layer application of RhinoRoof™

For roof decks having slopes greater than 4:12, RhinoRoof should be applied horizontally in shingle fashion with a 38 inch exposure and a 4 inch overlap.  
Pay special attention to high wind and wind driven rain condition application instructions.



## Double layer application of RhinoRoof™

For roof decks having slope of 2:12 to 4:12 a minimum of two layers of RhinoRoof underlayment should be applied horizontally in shingle (water fall) fashion with a with a 20 inch exposure and a 22 inch overlap.

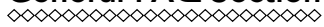




# Frequently Asked Questions

["Installation FAQ Section"](#) | ["Fastners FAQ Section"](#) | ["PSU Peel & Stick FAQ Section"](#)

## General FAQ Section



Q. What types of roofing materials can I use synthetic roofing underlayment with?

A. See our ["Selection Guide"](#)

Q. Do Titanium/RhinoRoof underlayments meet ASTM D226 standards?

A. Yes, all of our synthetic underlayments meet and exceed the testing requirements of ASTM D226. Same goes for ASTM4869.

Q. Can Titanium underlayments contribute to a buildings LEED® points?

A. Yes, Titanium underlayments contribute to LEED points.

Q. Where can I find the building code listings for Titanium underlayments?

A. Follow the green links below to go to the building code listings for the product that you are interested in:

["UDL25 PLUS Building Codes"](#) on page 13

["UDL30 Building Codes"](#) on page 20

["UDL50 Building Codes"](#) on page 28

["PSU30 Building Codes"](#) on page 35

Q. Can I print my company logo onto Titanium underlayments?

A. Dual Logo printing programs are available for: UDL25 PLUS, UDL30 & UDL50. [Click here](#) to download the Titanium Dual Logo printing form.

Q. Where can I buy Titanium Synthetic Roofing Underlayments?

A. [Click here](#) to locate your nearest roofing distributor. Alternatively, ask for it at your nearest roofing products distributor or lumber yard.

Q. Why should I use synthetic underlayments instead of traditional felt papers?

A.

- Felt papers can tear easily whereas Titanium is a high strength coated woven construction (20-25 times stronger than 30lb felt)
- Felt does not have a mechanical slip resistant feature like Titanium which has a patented Sure-Foot® nodular slip resistant walking surface
- Felt becomes brittle within days of UV exposure whereas Titanium can be left exposed for up to 6 months
- Felt leaches oil in the heat and cracks in the cold whereas Titanium UDL's remain flexible from -40°F to 240°F
- Felt papers are susceptible to mold growth whereas Titanium is completely inert to mold
- Felt paper is prone to "blow-offs" in windy conditions whereas Titanium's high strength coated woven construction holds fast even in extreme conditions thereby protecting your roof from leaks and water
- Felts are not covered by warranties whereas Titanium products are available with 25, 30 & 50 year limited warranties

## Frequently Asked Questions

- Felt only comes in heavy 36" wide rolls whereas Titanium UDL rolls are up to 8 times lighter and 48" wide (This makes installation faster with fewer laps)
- Felt comes in 2 or 4 square rolls whereas Titanium is available in 10 gross square rolls
- A 5,000 square foot job requires 25 rolls of #30 felt whereas with Titanium you would only requires 5.3 rolls.
- Felt paper is not recyclable whereas Titanium UDL products are made partially from recycled material and are 100% recyclable (where facilities exist)

Q. What approvals / certifications / building code approvals do InterWrap underlayments comply with?

A. Exceeds all the underlayment standards. See product code listing page links below:

"UDL25 PLUS Building Codes" on page 13

"UDL30 Building Codes" on page 20

"UDL50 Building Codes" on page 28

"PSU30 Building Codes" on page 35

Q. Are Titanium underlayments breathable?

A. Titanium underlayments are classified as an air, water and vapor barrier with a permeability rating based on ASTM E96 of approximately .06 perms.

Q. If the product is an 'air water & vapor barrier' - can you apply on a wet or damp roof? Will it trap/prevent moisture from drying out/escaping?

A. No. Installation instructions require that it be installed over a clean and dry deck. If installed over a wet deck, it could trap the moisture causing premature rot of the deck over time.

Q. What is Titanium product made of?

A. 100% polypropylene coated woven material, certified minimum of 20% reclaimed content – contribute to LEED points and are 100% recyclable, recycle symbol #5

Q. Is Titanium product flammable?

A. Products qualifies for a Class A under metal, tile, slate, fibreglass mat based asphalt shingles per ASTM 108

Q. What is meant by Titanium being inert to mold?

A. Titanium and RhinoRoof are completely unaffected by mold and do not contribute to mold growth. Mold requires a food source to feed on (such as the paper in asphalt saturated felt underlayments) Titanium and RhinoRoof are 100% synthetic therefore mold cannot feed on it. Mold may appear on the surface (Due to environmental conditions) but the product is completely unaffected by it.

Q. Do Titanium products have an R Rating?

A. R-value is a measure of thermal resistance used in the building and construction industry. At this time none of InterWrap roofing underlayments have an R value.

# Frequently Asked Questions

## Installation FAQ Section

Q. Can I use Titanium underlayments on a low slope or flat roof?

A. Titanium underlayments are for use primarily under steep slope roofing types. Steep sloped roofs are defined as having a pitch greater than 4:12. For low sloped (defined as 2:12 to 4:12) or flat roof types follow your regional building codes.

Q. How do I install synthetic underlayments?

A. Our installation instructions are available in English, French & Spanish. Click on the underlayment you are using to go to the installation instructions for that product.

"UDL25 PLUS Installation Instructions" on page 16

"UDL30 Installation Instructions" on page 23

"UDL50 Installation Instructions" on page 31

"PSU30 Installation Instructions" on page 38

Q. What is a "Batten System"?

A. A Batten is normally a 1" x 2" x 48" wood strip (in a few areas 6' or 10'). Most tile roofing have a cleat at one end and the cleat rests against the batten so it does not slide down the roof. These applications are normally 6:12 or greater unless the regional building codes requires differently. When the battens are installed they are spaced approx. 2 inches apart, end to end to allow water through.

Q. Can Titanium be put on top of felt?

A. Prefer installation applied to a clean roofing deck with no protrusions or voids- but yes" .... follow the surface preparation in our installation instructions available on our website.

Q. Can I use Titanium under clay tiles as I'm concerned about the foam application.

A. We are approved to be used with Polyset foam application for PSU30, UDL30 & UDL50. These products are approved by Polyset foam & InterWrap with warranties in place.

Q. Can Titanium products be put on top of other ice damming products (not our PSU)?

A. YES, in many cases UDL is applied over PSU brands including ours to extend the UV exposure time or so the foot traffic effects the UDL not the PSU products.

Q. What is the minimum slope requirement for use of mechanically attached roofing underlayments?

A. InterWrap Titanium synthetics follow the same practice as for 30# felt. In short they can be used in a single layer for steep slope 4/12 or greater. For low slope applications 2/12 to 4/12 it would require and minimum overlap of 50% coverage plus 1 inch.

Q. Why is there a minimum slope requirement?

A. Slope effects the speed at which water runs down the roof or overlaps. If there is driving wind and rain water can get under the overlap and go beyond the 4 inch over lap and therefore water can get to the raw deck.

# Frequently Asked Questions

Q. Is "Valley Flashing" required?

A. Yes, valleys should be prepared according to NRCA roofing practices, local codes or the primary roofing material manufacturer's recommendation. The use of UDL does not change good valley preparation and application.

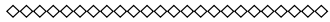
Q. Can Titanium UDL be used with foam insulation?

A. Blown foam insulation by its very nature can make a roof attic not well ventilated. Titanium installation instructions state to use "above a properly ventilated areas, as it is considered a vapor barrier". Titanium UDL underlayment can be used with a blown foam system if the attic area is part of a closed loop, meaning it is part of the HVAC system. Therefore the attic air temperature and moisture is being controlled by the HVAC mechanicals.

Q. Can Titanium UDL be used for wall application?

A. Titanium UDL products should only be used if the wall envelope design calls for an air water and vapor barrier. IF a breathable product is specified then NO.

## Fasteners FAQ Section



Q. Can staples be used to fasten UDL products?

A. Plastic cap staples with a 7/16" leg or greater are OK with UDL50 only. Note: 3/8" head x 1" length ring shank nails preferred

Q. Why can't I use staples?

A. Use of staples results in poor hold down performance and the opportunity for staples to slice the membrane during traffic on the roof. The square edges of a staple act like a knife and with any movement, it could slice material and causing leakage. Plastic Cap Staples can be used with UDL50 only.

Q. How many plastic cap nails per UDL roll?

A. For overlap = 250' long x 12" / 6" spacing = 500 nails would be required In the field = 3,000" /24" spacing = 125 nails per row x 3 rows Total = 875 nails. With 10% overage we would recommend approximately 1,000

Note: This would be nails required for extended exposure. If covering the underlayment within 24 hours you can use every other anchoring point in the field and overlaps and therefore approximately 500 nails could be used.)

Q. Why is it recommended to use plastic cap nails?

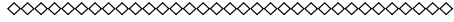
A. The 1" diameter plastic cap helps increase hold down strength in high wind conditions. If wind gets under the UDL underlayment and lifts the product against a 3/8" nail head (pillowing between anchoring points) the nail head can slice through the product. Plastic cap nails provide some flex and a larger surface area to hold down product and are much less likely to pull through the UDL material.

Q. When using UDL30 under metal roof - do you have to use plastic cap nails?

A. The use of 3/8" head x 1" minimum length leg corrosion resistant roofing nails can be used without caps, if covered in 5 working days with the primary roofing material. (Ring shank nail leg is preferred)

# Frequently Asked Questions

## PSU Peel & Stick FAQ Section



Q. Is Titanium PSU compatible with Dow Styrofoam?

A. No. the modified SBS asphalt will effect the Dow foam. Dow states the same.

Q. Can you apply PSU and/or UDLs on top of foam (no deck in between)?

A. PSU can not be directly applied over Dow foam board. Yes UDL can be applied over foam board as long as the manufacturer of the foam board's directions are followed. Be careful not to tighten down the anchoring devises on the foam board too tight as this will create water pounding.

Q. Can I put PSU over UDL?

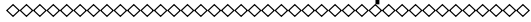
A. Yes, this is frequently used in southern climates under tile. Our PSU30 has been approved and is a requirement for Miami Dade code installations. You cannot use this method for areas that require PSU ice damming protection. In this case the PSU must be applied directly to the deck surface.

Q. Is PSU self sealing around nails?

A. PSU30 passes the Modified ASTM D1970 Nail Sealability test.



## Technical Bulletin - Eave protection



August 26th, 2010

Titanium® UDL25, UDL30, UDL50 synthetic roof underlayments are air, water and vapour barriers. They all meet and exceed the test standards for 30lb felt paper with ASTM D226 rating. Where felt paper is accepted as eave protection, Titanium UDL synthetic roof underlayments can be used in the same area. For ice dam protection, we recommend our self adhering peel and stick product, Titanium PSU30.

InterWrap Inc.'s Titanium warranties will remain in force as currently written.

# Key Contacts & Technical Help

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## Online Spec Data

Technical and Spec data is also available from the following websites:

Spec Edge - Reed Construction Data: <http://www.reedconstructiondata.com/companies/18540/interwrap/>

Arcat: <http://www.arcacat.com/arcacatcos/cos44/arc44108.html>