

SECTION 00300

PROPOSAL

TO THE MAYOR AND COMMISSIONERS
CITY OF HOLLYWOOD, FLORIDA

SUBMITTED January 28, 2015

Dear Mayor and Commissioners:

The undersigned, as BIDDER, hereby declares that the only person or persons interested in the Proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this Proposal or in the Contract to be entered into; that this Proposal is made without connection with any other person, company or parties making a Bid or Proposal; and that it is in all respects fair and in good faith without collusion or fraud.

The BIDDER further declares that he has examined the site of the Work and informed himself fully in regard to all conditions pertaining to the place where the Work is to be done; that he has examined the Drawings and Specifications for the Work and contractual documents relative thereto, including the Notice to Bidders, Instructions to Bidders, Proposal Bid Form, Form of Bid Bond, Form of Contract and Form of Performance Bond, General, Supplementary and Technical Specifications, Addenda, Drawings, and Local Preference Program, Exhibit A, and has read all of the Provisions furnished prior to the opening of bids; and that he has satisfied himself relative to the work to be performed.

The undersigned BIDDER has not divulged to, discussed or compared his bid with other bidders and has not colluded with any other BIDDER of parties to this bid whatever.

If this Proposal is accepted, the undersigned BIDDER proposes and agrees to enter into and execute the Contract with the City of Hollywood, Florida, in the form of Contract specified; of which this Proposal, Instructions to Bidders, General Specifications, Supplementary Conditions and Drawings shall be made a part for the performance of Work described therein; to furnish the necessary bond equal to one hundred (100) percent of the total Contract base bid, the said bond being in the form of a Cash Bond or Surety Bond prepared on the applicable approved bond form furnished by the CITY; to furnish all necessary materials, equipment, machinery, tools, apparatus, transportation, supervision, labor and all means necessary to construct and complete the work specified in the Proposal and Contract and called for in the Drawings and in the manner specified; to commence Work on the effective date established in the "Notice to Proceed" from the ENGINEER; and to substantially complete all Contract Work within 60 days with final completion within 90 days, and stated in the "Notice to Proceed" or pay liquidated damages for each calendar day in excess thereof, or such actual and consequential damages as may result therefrom, and to abide by the Local Preference Ordinance.

The BIDDER acknowledges receipt of the following addenda:

No. <u>#1</u>	Dated <u>1/21/15</u>
No. _____	Dated _____
No. _____	Dated _____

And the undersigned agrees that in case of failure on his part to execute the said Contract and the Bond within ten (10) days after being presented with the prescribed Contract forms, the check or Bid Bond accompanying his bid, and the money payable thereon, shall be paid into the funds of the City of Hollywood, Florida, otherwise, the check or Bid Bond accompanying this Proposal shall be returned to the undersigned.

Attached hereto is a certified check on the

_____ Bank of _____

or approved Bid Bond for the sum of

_____ Dollars (\$11,508.00) according to the conditions under the Instructions to Bidders and provisions therein.
Eleven Thousand Five Hundred Eight Dollars

NOTE: If a Bidder is a corporation, the legal name of the corporation shall be set forth below, together with signature(s) of the officer or officers authorized to sign Contracts on behalf of the corporation and corporate seal; if Bidder is a partnership, the true name of the firm shall be set forth below with the signature(s) of the partner or partners authorized to sign Contracts in behalf of the partnership; and if the Bidder is an individual, his signature shall be placed below; if a partnership, the names of the general partners.

WHEN THE BIDDER IS AN INDIVIDUAL:

(Signature of Individual)

(Printed Name of Individual)

(Address)

WHEN THE BIDDER IS A SOLE PROPRIETORSHIP OR OPERATES UNDER A TRADE NAME:

(Name of Firm)

(Address)

(Signature of Individual) (SEAL)

WHEN THE BIDDER IS A PARTNERSHIP:

N/A

(Name of Firm) A Partnership

(Address)

By: _____
(SEAL)
(Partner)

Name and Address of all Partners:

WHEN THE BIDDER IS A JOINT VENTURE:

N/A

(Correct Name of Corporation)

By: _____
(SEAL)
(Address)

(Official Title)

As Joint Venture
(Corporate Seal)

Organized under the laws of the State of Florida, and authorized by the law to make this bid and perform all Work and furnish materials and equipment required under the Contract Documents.

WHEN THE BIDDER IS A CORPORATION:

Roofing Concepts Unlimited/Florida, Inc.
(Correct Name of Corporation)

By: _____
(SEAL)

Vice President
(Official Title)

11820 NW 41st Street, Coral Springs, FL 33065
(Address of Corporation)

Organized under the laws of the State of Florida, and authorized by the law to make this bid and perform all Work and furnish materials and equipment required under the Contract Documents.

CERTIFIED COPY OF RESOLUTION OF
BOARD OF DIRECTORS

Roofing Concepts Unlimited/Florida, Inc.
(Name of Corporation)

RESOLVED that Anthony Jacobazzi
(Person Authorized to Sign)

Vice President of Roofing Concepts Unlimited/Florida, Inc.
(Title) (Name of Corporation)

be authorized to sign and submit the Bid or Proposal of this corporation for the following project:

CITY OF HOLLYWOOD

SRWWTP Sludge Building Roof Replacement

Project No.: 14-9115

The foregoing is a true and correct copy of the Resolution adopted by

Roofing Concepts Unlimited/Florida, Inc. at a meeting of its Board of
(Name of Corporation)

Directors held on the 1st day of January, 20 15.

By: Anthony Jacobazzi

Title: Vice President
(SEAL)

The above Resolution MUST BE COMPLETED if the Bidder is a Corporation.

- END OF SECTION -

SECTION 00301

**CITY OF HOLLYWOOD
DEPARTMENT OF PUBLIC UTILITIES
ENGINEERING & CONSTRUCTION DIVISION**

PROPOSAL BID FORM (Rev. 1, 1/21/15)

Project Name: SRWWTP Sludge Building Roof Replacement
Project No.: 14-9115

If this Proposal is accepted, the undersigned Bidder agrees to complete all work under this contract within 60 calendar days following the issuance of the Notice to Proceed. **UNIT PRICE PREVAILS OVER TOTAL PRICE.** All entries on this form must be typed or written in block form in ink. Quantities provided are for information purposes.

<u>No</u>	<u>Description</u>	<u>Qty.</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Total</u>
1	Tear off and properly dispose of existing roofing, insulation, flashings, perimeter metal. Install vapor barrier as specified, install tapered roof insulation as specified. Install top layer of new roof insulation as specified. Install first ply sheet as specified. Install cap sheet as specified. Install new flashings as specified. Install new coping cap, surface mount counter flashing, lead stack flashing, and other metal components as specified. Remove, reinstall and / or replace existing lightning protection equipment in compliance with code requirements. Provide manufacturer's warranty as specified.	1	LS		\$94,120.00
2	Replace existing four (4) roof drains with new roof drains.	1	LS		\$5,800.00
3	Replace approx. 14 linear feet of roof drain cast iron pipe and fittings with new drain pipe and new cast iron fittings. This drain pipe is located in the electrical room below the south drain on the lower roof.	1	LS		\$1,450.00
4	Replace damaged light weight concrete on low bay roof.	200	SF		\$1,700.00
5	Owner's Contingency for work as directed by the Engineer and upon authorization by the Owner due to undefined conditions.	1	AL	\$6,000.00	\$6,000.00
6	Permit fees and Testing Allowance	1	AL	\$6,000.00	\$6,000.00
7	Consideration for Indemnification in accordance with the Supplementary General	1	LS	\$10.00	\$10.00

BASE BID TOTAL FOR COMPLETE PROJECT

115,080.00

TOTAL BASE BID IN WRITING One Hundred Fifteen Thousand Eighty DollarsCOMPANY NAME: Roofing Concepts Unlimited/Florida Inc.

SECTION 00410

APPROVED BID BOND

(Construction)

STATE OF FLORIDA

KNOW ALL MEN BY THESE PRESENTS:

That we Roofing Concepts Unlimited/Florida, Inc., as Principal, and Endurance Reinsurance, as
Corporation of America
Surety, are held and firmly bound unto the City of Hollywood in the sum of Ten Percent of Amount Bid
_____ Dollars (\$ 10% of Amount Bid) lawful money
of the United States, amounting to 10% of the total Bid Price, for the payment of said sum, we
bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly
by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal has submitted
the accompanying bid, dated January 29th, _____ 20 15 for

SRWWTP Sludge Roof ReplacementCity Project No.: 14-9115

NOW, THEREFORE, if the principal shall not withdraw said bid within 90 days after date of the
same and shall within ten days after the prescribed forms are presented to him for signature,
enter into a written contract with the CITY, in accordance with the bid as accepted, and give
bond with good and sufficient surety or sureties, and provide the necessary Insurance
Certificates as may be required for the faithful performance and proper fulfillment of such
Contract, then this obligation shall be null and void.

Approved Bid Bond

In the event of the withdrawal of said bid within the specified period, or the failure to enter into such contract and give such bond and insurance within the specified time, the principal and the surety shall pay to the City of Hollywood the difference between the amount specified in said bid and such larger amount for which the City of Hollywood may in good faith contract with another party to perform the work and/or supply the materials covered by said bid.

IN WITNESS WHEREOF, the above bound parties have executed this statement under their several seals this 29th
day of January, 2015, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

WHEN THE PRINCIPAL IS AN INDIVIDUAL:

Signed, sealed and delivered in the presence of:

Witness

Signature of Individual

Address

Printed Name of Individual

Witness

Address

Approved Bid Bond

WHEN THE PRINCIPAL IS A CORPORATION:

Attest:

Secretary

Roofing Concepts Unlimited/Florida, Inc.

Name of Corporation

11820 N.W. 41st Street

Business Address

Coral Springs, Florida 33067

By:

(Affix Corporate Seal)

Printed Name

Official Title

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, Denise Jacobazzi, certify that I am the secretary of the Corporation named as Principal in the attached bond; that Anthony Jacobazzi who signed the said bond on behalf of the Principal, was then Vice President of said Corporation; that I know his signature, and his signature thereto is genuine and that said bond was duly signed, sealed and attested for and on behalf of said Corporation by authority of its governing body.

Secretary

Approved Bid Bond

TO BE EXECUTED BY CORPORATE SURETY:

Attest: As Per Attached Power of Attorney

Secretary

Endurance Reinsurance Corporation of America

Corporate Surety

750 Third Avenue, 2nd Floor

Business Address

New York, NY 10017

BY:

(Affix Corporate Seal)

David T. Satine

Attorney-in-Fact

Alter Surety Group, Inc.

Name of Local Agency

5979 NW 151st Street, #104

Business Address

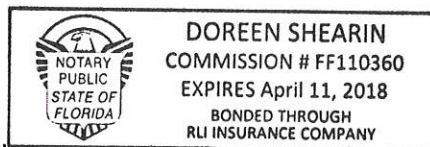
Miami Lakes, FL 33014

STATE OF FLORIDA

Before me, a Notary Public, duly commissioned, qualified and acting, personally appeared, David T. Satine to me well known, who being by me first duly sworn upon oath says that he is the attorney-in-fact for the Endurance Reinsurance Corporation of America and that he has been authorized by Endurance Reinsurance Corporation of America to execute the forgoing bond on behalf of the CONTRACTOR named therein in favor of the City of Hollywood, Florida. Subscribed and sworn to before me this 29th day of January, 20 15

Notary Public, State of Florida

My Commission Expires: April 11th, 2018



- END OF SECTION -

ENDURANCE REINSURANCE CORPORATION OF AMERICA

BIDR501500137

POWER OF ATTORNEY

Know all Men by these Present, that ENDURANCE REINSURANCE CORPORATION OF AMERICA, a Delaware corporation (the "Corporation"), with offices at 4 Manhattanville Road, 3rd Floor, Purchase, NY 10577, Purchase, New York 10604, has made, constituted and appointed and by these presents, does make, constitute and appoint DAVID T. SATINE, WARREN M. ALTER its true and lawful Attorney(s)-in-fact, at MIAMI LAKES in the State of FL and each of them to have full power to act without the other or others, to make, execute and deliver on its behalf, as surety or co-surety; bonds and undertakings given for any and all purposes, also to execute and deliver on its behalf as aforesaid renewals, extensions, agreements, waivers, consents or stipulations relating to such bonds or undertakings provided, however, that no single bond or undertaking so made, executed and delivered shall obligate the Corporation for any portion of the penal sum thereof in excess of the sum of SEVEN MILLION FIVE HUNDRED THOUSAND Dollars (\$7,500,000).

Such bonds and undertakings for said purposes, when duly executed by said attorney(s)-in-fact, shall be binding upon the Corporation as fully and to the same extent as if signed by the President of the Corporation under its corporate seal attested by its Corporate Secretary.

This appointment is made under and by authority of certain resolutions adopted by the Board of Directors of the Corporation by unanimous written consent on the 9th of January, 2014, a copy of which appears below under the heading entitled "Certificate".

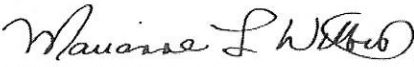
This Power of Attorney is signed and sealed by facsimile under and by authority of the following resolution adopted by the Board of Directors of the Corporation by unanimous written consent on January 9, 2014 and said resolution has not since been revoked, amended or repealed:

RESOLVED, that in granting powers of attorney pursuant to certain resolutions adopted by the Board of Directors of the Corporation by unanimous written consent on January 9, 2014, the signature of such directors and officers and the seal of the Corporation may be affixed to any such power of attorney or any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signature or seal shall be valid and binding upon the Corporation in the future with respect to any bond or undertaking to which it is attached.

This Power of Attorney shall expire and all authority hereunder shall terminate without notice at midnight (Standard Time where said attorney(s)-in-fact is authorized to act.) November 9, 2015

IN WITNESS WHEREOF, the Corporation has caused these presents to be duly signed and its corporate seal to be hereunto affixed and attested this 10th day of November, 2014 at Purchase, New York.

(Corporate Seal)
ATTEST


MARIANNE L. WILBERT, SENIOR VICE PRESIDENT

ENDURANCE REINSURANCE CORPORATION OF AMERICA
By


SHARON L. SIMS, SENIOR VICE PRESIDENT

STATE OF NEW YORK
COUNTY OF WESTCHESTER

ss: Purchase

On the 10th day of November, 2014 before me personally came SHARON L. SIMS, SENIOR VICE PRESIDENT to me known, who being by me duly sworn, did depose and say that (s)he resides in SCOTCH PLAINS, NEW JERSEY that (s)he is a SENIOR VICE PRESIDENT of ENDURANCE REINSURANCE CORPORATION OF AMERICA, the Corporation described in and which executed the above instrument; that (s)he knows the seal of said Corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said Corporation, and that (s)he signed his (her) name thereto by like order.
(Notarial Seal)



ANIE LICARI, Notary Public - My Commission Expires
10/29/2015

CERTIFICATE

STATE OF NEW YORK
COUNTY OF WESTCHESTER

ss: Purchase

I, CHRISTOPHER DONELAN the PRESIDENT of ENDURANCE REINSURANCE CORPORATION OF AMERICA, a Delaware Corporation (the "Corporation"), hereby certify:

1. That the original power of attorney of which the foregoing is a copy was duly executed on behalf of the Corporation and has not since been revoked, amended or modified; that the undersigned has compared the foregoing copy thereof with the original power of attorney, and that the same is a true and correct copy of the original power of attorney and of the whole thereof;
2. The following are resolutions which were adopted by the Board of Directors of the Corporation by unanimous written consent on January 9, 2014 and said resolutions have not since been revoked, amended or modified:

"RESOLVED, that each of the individuals named below is authorized to make, execute, seal and deliver for and on behalf of the Corporation any and all bonds, undertakings or obligations in surety or co-surety with others:

CHRISTOPHER DONELAN, SHARON L. SIMS, MARIANNE L. WILBERT

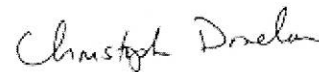
And be it further

RESOLVED, that each of the individuals named above is authorized to appoint attorneys-in-fact for the purpose of making, executing, sealing and delivering bonds, undertakings or obligations in surety or co-surety for and on behalf of the Corporation."

3. The undersigned further certifies that the above resolutions are true and correct copies of the resolutions as so recorded and of the whole thereof

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal this 29th day of January, 2015

(Corporate Seal)


CHRISTOPHER DONELAN, PRESIDENT

SECTION 00420
INFORMATION REQUIRED FROM BIDDERS
GENERAL INFORMATION

The Bidder shall furnish the following information. Failure to comply with this requirement may cause its rejection. Additional sheets shall be attached as required.

1. Contractor's Name/Address: Roofing Concepts Unlimited/Florida, Inc.
11820 NW 41st Street
Coral Springs, Fl. 33065
2. Contractor's Telephone Number: 954-786-9350
and e-mail address: michaelj@rcu-inc.com
3. Contractor's License (attach copy): CCC036963
Primary Classification: Roofing Contractor
Broward County License Number (attach copy): Business Tax Receipt #185-1540 expires 9/30/15
4. Number of years as a Contractor in construction work of the type involved in this Contract: 22 Years
5. List the names and titles of all officers of Contractor's firm:
Michael Jacobazzi- President
Anthony Jacobazzi- Vice President
Denise Jacobazzi- Secretary
6. Name of person who inspected site or proposed work for your firm:
Name: Phillip Brearey-Senior Estimator
Date of Inspection: 1/6/15
7. What is the last project of this nature you have completed?
Florida Department of Transportation- 3 Buildings: Storage, Homicide and FHP. The buildings we
we did were located at Ft. Lauderdale/Sunrise Toll Plaza on the mainline of Florida's Turnpike.



DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD
1940 NORTH MONROE STREET
TALLAHASSEE FL 32399-0783

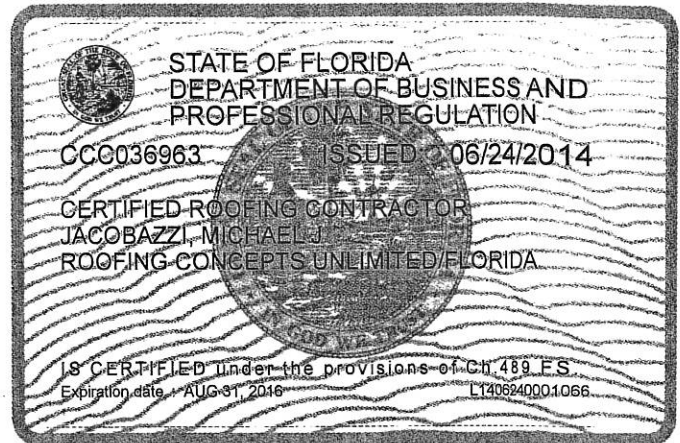
(850) 487-1395

JACOBACCI, MICHAEL J
ROOFING CONCEPTS UNLIMITED/FLORIDA INC
11820 NW 41ST STREET
CORAL SPRINGS FL 33065

Congratulations! With this license you become one of the nearly one million Floridians licensed by the Department of Business and Professional Regulation. Our professionals and businesses range from architects to yacht brokers, from boxers to barbeque restaurants, and they keep Florida's economy strong.

Every day we work to improve the way we do business in order to serve you better. For information about our services, please log onto www.myfloridalicense.com. There you can find more information about our divisions and the regulations that impact you, subscribe to department newsletters and learn more about the Department's initiatives.

Our mission at the Department is: License Efficiently, Regulate Fairly. We constantly strive to serve you better so that you can serve your customers. Thank you for doing business in Florida, and congratulations on your new license!



DETACH HERE

RICK SCOTT, GOVERNOR

KEN LAWSON, SECRETARY

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
CONSTRUCTION INDUSTRY LICENSING BOARD

LICENSE NUMBER

CCC036963

The ROOFING CONTRACTOR
Named below IS CERTIFIED
Under the provisions of Chapter 489 FS.
Expiration date: AUG 31, 2016

JACOBACCI, MICHAEL J
ROOFING CONCEPTS UNLIMITED/FLORIDA INC
11820 NW 41ST STREET
CORAL SPRINGS FL 33065



ISSUED: 06/24/2014

DISPLAY AS REQUIRED BY LAW

SEQ # L1406240001066

BROWARD COUNTY LOCAL BUSINESS TAX RECEIPT

115 S. Andrews Ave., Rm. A-100, Ft. Lauderdale, FL 33301-1895 – 954-831-4000

VALID OCTOBER 1, 2014 THROUGH SEPTEMBER 30, 2015

DBA:
Business Name: ROOFING CONCEPT UNLIMITED FLORIDA
INC

Receipt #: 185-1540
Business Type: ROOFING/SHEET METAL CONTRACTOR
(ROOFING CONTRACTOR)

Owner Name: MICHAEL J JACOBACZZI /QUAL
Business Location: 11820 NW 41 ST
CORAL SPRINGS
Business Phone: 954-786-9350

Business Opened: 12/01/1992
State/County/Cert/Reg: CCC036963
Exemption Code:

Rooms

Seats

Employees
35

Machines

Professionals

For Vending Business Only						
Number of Machines:				Vending Type:		
Tax Amount	Transfer Fee	NSF Fee	Penalty	Prior Years	Collection Cost	Total Paid
108.00	0.00	0.00	0.00	0.00	0.00	108.00

THIS RECEIPT MUST BE POSTED CONSPICUOUSLY IN YOUR PLACE OF BUSINESS

THIS BECOMES A TAX RECEIPT

WHEN VALIDATED

This tax is levied for the privilege of doing business within Broward County and is non-regulatory in nature. You must meet all County and/or Municipality planning and zoning requirements. This Business Tax Receipt must be transferred when the business is sold, business name has changed or you have moved the business location. This receipt does not indicate that the business is legal or that it is in compliance with State or local laws and regulations.

Mailing Address:

ROOFING CONCEPT UNLIMITED FLORIDA
11820 NW 41 ST
CORAL SPRINGS, FL 33065

Receipt # 1CP-13-00006507
Paid 07/16/2014 108.00

2014 - 2015

8. Have you ever failed to complete work awarded to you; if so, where and why?

No

9. Name three individuals or corporations for which you have performed work and to which you refer:

See Attached RCU Partial Reference List

10. List the following information concerning all contracts on hand as of the date of submission of this proposal (in case of co-venture, list the information for all coventures).

Name of Project	City	Total Contract Value	Contracted Date of Completion	% Completion to Date
Lago Del Mar	Delray Beach	\$386,130.00		20%
Golden Lakes Village	West Palm Beach	\$106,558.00		50%
N.C. Builders-Benetti Residence	Plantation	\$27,000.00		0%

(Continue list on inset sheet, if necessary)

11. What equipment do you own that is available for the work?

We own all necessary equipment needed to perform the work.

12. What equipment will you purchase for the proposed work?

We own all necessary equipment needed to perform the work.

NOTE:

If requested by CITY, the Bidder shall furnish a notarized financial statement, references and other information, sufficiently comprehensive to permit an appraisal of its current financial condition.



Partial Summary of Completed Projects

*Benchmark Properties
7932 Wiles Road
Coral Springs, Fl. 33067
954/ 344-5353
Attn: Dan Sugarman
Project: Re-Roof's/Various Repairs
Product: SBS Modified/John Mansville*

*Wynmoor Community Council
2395 Wynmoor Road, North
Coconut Creek, Fl. 33066
954/ 978-2640
Attn: Jack Kubasek
Project: Re-Roof's/Various Repairs
Product: SBS Modified Bitumen*

*The Ritz Carlton Key Biscayne
455 Grand Bay Drive
Key Biscayne, Fl. 33149
305/ 365-4161
Attn: Richard Payne
Project: Re-Roof's/Various Repairs
Product: Firestone SBS Modified*

*Holy Cross Hospital, Inc.
4725 N. Federal Highway
Ft. Lauderdale, Fl. 33308
954/ 492-5760
Attn: Facilities
Project: Re-Roof's/Various Repairs
Product: Coal Tar Pitch/SBS Modified Bitumen*

*Pine Crest Preparatory School
1501 NE 62nd Street
Ft. Lauderdale, Fl. 33442
954/ 492-4160
Attn: Steve Damiano
Project: Re-Roofs/Various Repairs
Product: SBS Modified/Tile*

*Cypress Bend Condo Assoc.
2320 S. Cypress Bend Drive
Pompano Beach, Fl. 33069
954/ 971-1340
Attn: John DePasquale
Project: Re-Roof's/Various Repairs
Product: Scandinavian Metal/SBS Modified Bitumen*

*Courvoisier Courts Condo
701 Brickell Key Blvd.
Miami, Fl. 33331
305/ 374-6966
Attn: Steve Mason
Project: Re-Roof's
Product: Soprema*

*Terranova Corporation
801 Arthur Godfrey Road, #600
Miami Beach, Fl. 33140
305/ 779-8935
Attn: Mario Farnesi
Project: Re-Roof
Product: SBS Modified*



Partial Summary of Completed Projects *Continued*

San Remo, A Condominium
2871 N. Ocean Blvd.
Boca Raton, Fl. 33431
561/ 750- 7775
Attn: Bonnie Goldstein
Project: Re-Roof's/Various Repairs
Product: SBS Modified/Tile/SR Restoration

Ocean Village
101 Ocean Lane Drive
Key Biscayne, Fl. 33149
202/ 682- 1000 ext #13
Attn: John Grotta
Project: Re-Roof's
Product: FMRP Metal Tile Panels

Palm Beach County
2633 Vista Parkway
West Palm Beach, Fl. 33411
561/ 233-5057
Attn: Daniel Racette
Project: Re-Roof's /Various Repairs
Product: Coal Tar/ Modified Bitumen/BUR

Glades Medical Center.
1590 NW 10th Avenue
Boca Raton, Fl. 33486
561/ 391-4744
Attn: Dr. Tom Hancock
Project: Re-Roof's
Product: SBS Modified Bitumen

AT THE TOP OF THE ROOFING PROFESSION

Valley Forge Fabrics, Inc.
2981 Gateway Drive
Pompano Beach, Fl. 33069
954/ 971-1776
Attn: Jeffrey Taragano
Project: Re-Roof
Product: SBS Modified Bitumen

Condo Association of Drake Towers
1800 N. Andrews Avenue
Ft. Lauderdale, Fl. 33311
954/ 895-2619
Attn: Tim Talbot
Project: Re-Roof's
Product: Perma Mop

Roof Management Solutions
P.O. Box 814766
Hollywood, Fl. 33081
954/ 753-8303
Attn: Howard Lustgarten
Project: Various
Product: SBS Modified/Tile/ Shingle/Metal

City of Coral Springs
9551 W. Sample Road
Coral Springs, Fl. 33065
954/ 344-1167
Attn: Richard Michaud
Project: Re-Roof's/Various Repairs
Product: Tile /SBS Modified /Shingle



A Roof Doctors South Florida Affiliated Company



THINK GREEN – GO SOLAR



Partial Summary of Completed Projects
Continued

*City of Hallandale Beach
630 NW 2nd Street
Hallandale Beach, Fl. 33009
954/ 457-1606
Attn: Freddy LaRosa
Project: Re-Roof's
Product: SBS Modified Bitumen*

*1110 Brickell Condo Association
1110 Brickell Avenue
Miami, Fl. 33131
305/ 377-3563
Attn: Emilia Nablis
Project: Re-Roof's
Product: SBS Modified Bitumen*

*Weatherproofing Technologies, Inc.
3735 Green Road
Beachwood, OH 44122
315/ 768-4884
Attn: Greg King
Project: University of Miami
Product: Modified Bitumen*

*Thornton Construction
4300 Biscayne Blvd., #207
Miami, Fl. 33137
305/ 649-1995 Ext#2021
Attn: Jose Rovirosa
Project: University of Miami
Product: Modified Bitumen*

*JM Lexus
5350 West Sample Road
Margate, Fl. 33073
954/ 590-5132
Attn: Heather Griggs
Project: Coating/Upgrades
Product: Tropical Asphalt*

*Midgard Property Management
1475 W. Cypress Creel Road, #202
Ft. Lauderdale, Fl. 33309
954 /771-6714
Attn: Dick Wyzanski
Project: Repairs/Maint/Re-Roof's
Product: Various*

*Pointe Group Advisors
13218 W. Broward Blvd.
Plantation, Fl. 33325
954/ 727-9335
Attn: Misti Coon
Project: Repairs/Maint/Re-Roof's
Product: Various*

*Taylor & Mathis of Florida, LLC
3050 Universal Blvd, #100
Weston, Fl. 33331
954/ 845-8840
Attn: Karen Mulherin
Project: Meridian Business Campus 3360
Product: Firestone TPO*



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THINK GREEN – GO SOLAR



Partial Summary of Completed Projects **Continued**

*Courts of Brickell Key Condo
801 Brickell Key Blvd.
Miami, Fl. 33131
305/ 416-5129
Attn: Fernando Ubilla
Project: Re-Roof's/Coating
Product: SBS Modified Bitumen/Gaco*

*City of Miami Gardens
1515 NW 167th Street, Bldg #5, Suite #200
Miami Gardens, Fl., 33169
305/ 622-8000 ext#2512
Attn: Anthony Smith
Project: Re-Roof
Product: SBS Modified*

*NAI Miami
9655 S. Dixie Hwy, #200
Miami, Fl. 33156
954/ 943-1193
Attn: Karen Donaldson
Project: Re-Roof's
Product: SBS Modified*

*University of Miami
1400 NW 10th Avenue
Miami, Fl. 33136
305-243-5786
Attn: Al Harris
Project: Re-Roof's/Repairs
Product: Carlisle TPO*

*Sandalfoot South
c/o A.J. Wallace Management
P.O. Box 273632
Boca Raton, Fl. 33427
561/ 239-5906
Attn: Bob Benjamin
Project: Re-Roof's/Various Repairs
Product: SBS Modified*

*Village of Key Biscayne
c/o Skyline Management Group
4040 NE 2nd Avenue
Miami, Fl. 33137
305/ 365-8900
Attn: Ana Colls
Project: Re-Roof's/Various Repairs
Product: Granulated/Modified Bitumen*

*NCCI Holdings, Inc.
901 Peninsula Corp. Circle
Boca Raton, Fl. 33487
561/ 893-1623
Attn: Alex Nekrasovski & Alberto Nunez
Project: Repairs/Maint
Product: Various*

*The Marker Group
226 SE 12th Avenue
Ft. Lauderdale, Fl. 33301
954/ 818-1005
Attn: Anthony Alari
Project: Re-Roof's
Product: Various*

*Fifteen Group
47 N.E. 36th Street.2nd Floor
Miami, Fl. 33137
770/ 331-2768
Attn: Jim Waldrop
Project: Re-Roof's
Product: GAF*

*Holliday Properties
4101 N.W. 4th Street, Suite# 10
Plantation, Fl. 33317
954/ 316-3255
Attn: Jacqueline Fermin
Project: Re-Roof's
Product: Firestone TPO*



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Partial Summary of Completed Solar Projects

*Altman Contractors, Inc.- Satori Apartments
1515 S. Federal Highway, #300
Boca Raton, Fl. 33432
561/997-8661
Attn: Kelly Wilson
Project: Solar
Product: Photovoltaic
System Size: 25,432 watts*

*Giacobazzi Partners, LLC
11820 NW 41st Street
Coral Springs, Fl. 33065
954/ 786-9350
Attn: Michael Jacobazzi
Project: Solar
Product: Photovoltaic
System Size: 26,112 watts*

*City of Tamarac-Community Center
8601 W. Commercial Blvd.
Tamarac, Fl. 33321
954/ 724-2410
Attn: Dave Moore
Project: Solar
Product: Photovoltaic
System Size: 25,000 watts in 5 locations
Total System Size: 125,000 watts*

Roofing Concepts Unlimited
AT THE TOP OF THE ROOFING PROFESSION

Updated 12/9/14-CA



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LIST OF SUBCONTRACTORS

The Bidder shall list below the name and address of each Subcontractor who will perform work under this Contract in excess of one-half percent of the total bid price, and shall also list the portion of the work which will be done by such Subcontractor. After the opening of Proposals, changes or substitutions will be allowed with written approval of the City of Hollywood. Subcontractors must be properly licensed and hold a valid Hollywood Certificate of Competency.

	Work to be Performed	Subcontractor's Name / Address
1.	Plumbing	Veterans Plumbing & Air Conditioning 3020 NW 23rd Ave., Oaklnd Park, Fl. 33311
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

NOTE: Attach additional sheets if required.

- END OF SECTION -



Section 00420
References of similar projects performed within the last 7 years

- **Project Name:** Golden Lakes Village
- **Project Location:** West Palm Beach. Fl. 33411
- **Project Description:** Firestone, Soprema
- **Owner:** Golden Lakes Village Condo Association
- Address:** 1700 Golden Lakes Blvd.
- Phone:** 561/ 689-2142
- Contact:** Lennie Pleasure
- **Square feet:** 22,302
- **Detailed Description of scope & results of such services:** Various re-roofing projects, and repairs. This is Phase 4 that consists of 9 buildings.
- **Superintendent:** Anthony Jacobazzi
- **Project Manager:** Michael Levine

- **Project Name:** Wynmoor Village-East & West Theater
- **Project Location:** Coconut Creek, Fl. 33066
- **Project Description:** Firestone, Entegra



- **Owner:** Wynmoor Village

Address: 2395 Wynmoor Road, North

Phone: 954/ 978-2640

Contact: Jack Kubasek

- **Square feet:** 17,600
- **Detailed Description of scope & results of such services** Re-roofing of several buildings and repairs.
- **Superintendent:** Anthony Jacobazzi
- **Project Manager:** Michael Levine

➤ **Project Name:** 220 Miracle Mile

- **Project Location:** Miami Beach, Fl. 33140

- **Project Description:** Soprema

- **Owner:** Gables Miracle Mile, LLC

Address: 801 Arthur Godfrey Road, #600

Phone: 305/ 779-8935

Contact: Mario Farnesi

- **Square Feet:** 21,900
- **Detailed Description of scope & results of such services:** Re-Roof
- **Superintendent:** Anthony Jacobazzi
- **Project Manager:** Phillip Brearey



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➤ **Project Name:** University of Miami Sylvester Cancer Center Penthouse

- **Project Location:** Miami, Fl. 33136
- **Project Description:** Soprema
- **Owner:** University of Miami Health System

Address: 1475 NW 12th Avenue

Phone: 786/ 427-7172

Contact: Link Construction-Amany Solan

- **Square Feet:** 1,700
- **Detailed Description of scope & results of such services:** Re-Roof
- **Superintendent:** Anthony Jacobazzi
- **Project Manager:** Phillip Brearey

RCU
Roofing Concepts Unlimited
AT THE TOP OF THE ROOFING PROFESSION



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THINK GREEN – GO SOLAR



Anthony R. Jacobazzi

9396 154th Road N

Jupiter, FL 33478

(561) 741-2292

Objective: To help build and manage Roofing Concepts Unlimited/FL, Inc. and Roof Doctors South Florida, Inc. by teaming with the most qualified and experienced individuals in our local industry.

Qualifications: *Management* skills include project scheduling, project management and warehouse management. Supervising and motivating 50 team associates. Ensure proper company presentation on job sites. Maintain efficient vendor communication. Ensure accuracy of paperwork, material purchasing, material delivery and inventory control.

Sales Consultant/Estimator and Customer Service in consumer products and services for residential and commercial roofing projects; deal with customers on an individual basis to best meet their needs. Ultimately responsible for customer satisfaction.

Other Responsibilities include devising and implementing numerous programs relating to recruitment, scheduling and financing; communicate and teach employees company practices; computer literate; well versed in commercial billing; crane and semi-tractor trailer operator.

Work History: 2001 to Present: *Roof Doctors South Florida, Inc.*, Coral Springs, FL
Vice-president

1993 to Present: *Roofing Concepts Unlimited/FL, Inc.*, Coral Springs, FL
Vice-president

1989 to 1993: *Roofing Concepts Unlimited/IL, Inc.*, Chicago, IL
Sales, Customer Service, Warehouse Manager

Education: *Contractors Exam School of Pompano Beach*, Pompano Beach, FL
1998 Obtained Florida State Class "A" General Contractor's License
Number CGC059557

Asbestos Consulting and Training Systems

1994 Completed "Roofer's Asbestos Supervision Course"

Hinsdale Central Township Central High School

1991 Graduated – Obtained Diploma

***Professional
Affiliations:***

- Chamber of Commerce, Pompano Beach, FL
- National Roofing Contractor's Association
- Broward County Roofing Contractor's Association
- Construction Association of South Florida



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
1/7/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Frank H. Furman, Inc. 1314 East Atlantic Blvd. P. O. Box 1927 Pompano Beach FL 33061		CONTACT NAME: PHONE (A/C No. Ext): (954) 943-5050 FAX (A/C No.): (954) 943-5417 E-MAIL ADDRESS:	
INSURED Roofing Concepts Unlimited/FL Inc., and Roof Doctors-South Florida Inc. 11820 N W 41 Street Coral Springs FL 33065		INSURER(S) AFFORDING COVERAGE INSURER A: Indian Harbor Insurance Co 36940 INSURER B: Ohio Security Insurance Co 24082 INSURER C: Bridgefield Employers Ins Co 10701 INSURER D: INSURER E: INSURER F:	

COVERAGES

CERTIFICATE NUMBER: JAN 2015

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY					EACH OCCURRENCE \$ 1,000,000	
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY					DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 50,000	
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR	X	ESG300036600	5/21/2014	5/21/2015	MED EXP (Any one person) \$ EXCLUDED	
	<input checked="" type="checkbox"/> Contractual & XCU					PERSONAL & ADV INJURY \$ 1,000,000	
	GEN'L AGGREGATE LIMIT APPLIES PER POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC					GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000	
B	AUTOMOBILE LIABILITY					COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000	
	<input checked="" type="checkbox"/> ANY AUTO					BODILY INJURY (Per person) \$	
	<input type="checkbox"/> ALL OWNED AUTOS	<input type="checkbox"/> SCHEDULED AUTOS	X	BAS1555907443	1/10/2015	1/10/2016	BODILY INJURY (Per accident) \$
	<input checked="" type="checkbox"/> HIRED AUTOS	<input checked="" type="checkbox"/> NON-OWNED AUTOS				PROPERTY DAMAGE (Per accident) \$	
						\$	
	UMBRELLA LIAB	<input type="checkbox"/> OCCUR				EACH OCCURRENCE \$	
	EXCESS LIAB	<input type="checkbox"/> CLAIMS-MADE				AGGREGATE \$	
	DED RETENTION \$					\$	
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY					<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	Y/N <input type="checkbox"/>	N/A	83025385	8/24/2014	8/24/2015	E L EACH ACCIDENT \$ 500,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E L DISEASE - EA EMPLOYEE \$ 500,000
							E L DISEASE - POLICY LIMIT \$ 500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Project Number: 14-9115; SRWWTP Sludge Building Roof Replacement.

City of Hollywood, Florida is named as Additional Insured in regards to General Liability and Automobile Liability as required by written contract.

CERTIFICATE HOLDER**CANCELLATION**City of Hollywood, Florida
Department of Public Utilities - ECSD
2600 Hollywood Blvd.
Hollywood, FL 33020

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Dirk DeJong/CS

ENDORSEMENT

This endorsement, effective 12:01 a.m., 5/21/2014

Policy No. issued to
ESG300036600 Roofing Concepts Unlimited/FL Inc.,
 and Roof Doctors-South Florida Inc.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED CONSTRUCTION PROJECT(S) GENERAL AGGREGATE LIMIT (WITH TOTAL AGGREGATE LIMIT FOR ALL DESIGNATED CONSTRUCTION PROJECT(S))

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Designated Construction Projects:

As required by written contract

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

- A. For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under COVERAGE A (SECTION I), and for all medical expenses caused by accidents under COVERAGE C (SECTION I), which can be attributed only to ongoing operations at a single designated construction project shown in the Schedule above:
1. A separate Designated Construction Project General Aggregate Limit applies to each designated construction project, and that limit is equal to the amount of the General Aggregate Limit shown in the Declarations.
 2. The Designated Construction Project General Aggregate Limit is the most we will pay for the sum of all damages under COVERAGE A, except damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard", and for medical expenses under COVERAGE C regardless of the number of:
 - a. Insureds;
 - b. Claims made or "suits" brought; or
 - c. Persons or organizations making claims or bringing "suits".

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3. Any payments made under COVERAGE A for damages or under COVERAGE C for medical expenses shall reduce the Designated Construction Project General Aggregate Limit for that designated construction project. Such payments shall not reduce the General Aggregate Limit shown in the Declarations nor shall they reduce any other Designated Construction Project General Aggregate Limit for any other designated construction project shown in the Schedule above.
 4. The limits shown in the Declarations for Each Occurrence, Fire Damage and Medical Expense continue to apply. However, instead of being subject to the General Aggregate Limit shown in the Declarations, such limits will be subject to the applicable Designated Construction Project General Aggregate Limit.
- B. For all sums which the insured becomes legally obligated to pay as damages caused by "occurrences" under COVERAGE A (SECTION I), and for all medical expenses caused by accidents under COVERAGE C (SECTION I), which cannot be attributed only to ongoing operations at a single designated construction project shown in the Schedule above:
1. Any payments made under COVERAGE A for damages or under COVERAGE C for medical expenses shall reduce the amount available under the General Aggregate Limit or the Products-Completed Operations Aggregate Limit, whichever is applicable; and
 2. Such payments shall not reduce any Designated Construction Project General Aggregate Limit.
- C. When coverage for liability arising out of the "products-completed operations hazard" is provided, any payments for damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard" will reduce the Products-Completed Operations Aggregate Limit, and not reduce the General Aggregate Limit nor the Designated Construction Project General Aggregate Limit.
- D. If the applicable designated construction project has been abandoned, delayed, or abandoned and then restarted, or if the authorized contracting parties deviate from plans, blueprints, designs, specifications or timetables, the project will still be deemed to be the same construction project.
- E. The provisions of Limits Of Insurance (SECTION III) not otherwise modified by this endorsement shall continue to apply as stipulated.
- F. Notwithstanding the foregoing or any other provision of this policy or any endorsement attached thereto, the most we will pay under the Designated Construction Project General Aggregate Limit for all Designated Construction Projects combined is _____.

All other terms and conditions of this policy remain unchanged.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – SCHEDULED PERSON OR
ORGANIZATION**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location(s) Of Covered Operations
As required by written contract	As required by written contract
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

POLICY NUMBER: ESG300036600

COMMERCIAL GENERAL LIABILITY
CG 20 37 07 04

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – COMPLETED OPERATIONS**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location And Description Of Completed Operations
As required by written contract	As required by written contract
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

Policy Number: BAS1555907443

Policy Dates: 1/10/2015-2016

BUSINESS AUTO COVERAGE ENHANCEMENT ENDORSEMENT INCLUDES:

Coverage	Description
Broad Form Insured	Covers, with limitations, all legally incorporated entities of which the insured owns more than a 50% interest.
Employees as Insureds	Provides excess non-owner liability coverage to cover the individual liability of employees using their own autos in the insured's business.
Additional Insured By Contract, Agreement or Permit	Includes as an insured any person or organization with whom the insured has agreed, by written contract, agreement or permit to provide insurance such as is afforded under this policy.
Supplementary Payments	Increases bail bonds to \$3000 and loss of earnings to \$500 per day.
Amended Fellow Employee Exclusion	Amends the Fellow Employee Exclusion to extend to Bodily Injury resulting from the use of a covered auto.
Hired Auto Physical Damage	Provides excess physical damage coverage for owned autos to autos rented or hired by the insured if hired autos are covered for liability up to the smallest of \$50,000, ACV or RC, subject to largest deductible applicable to any owned auto to maximum of \$750 per accident.
Towing and Labor	Provides towing and labor up to \$50 per disablement for private passenger autos and light weight trucks; up to \$150 per disablement for medium weight trucks.
Physical Damage Additional Transportation Expense Coverage	Increase coverage for temporary transportation expense up to \$50 per day (\$1500 total) if a covered auto is stolen.
Rental Reimbursement	Provides up to \$75 per day for rental reimbursement because of an accident or loss to an auto with Physical Damage coverage and up to \$500 for expenses incurred to remove and replace tools and equipment from the covered auto.
Extra Expense - Broadened Coverage	Covers up to \$1000 for the expense of returning to the insured a stolen covered auto.
Personal Effects Coverage	Provides coverage up to \$600 for personal effects if stolen with a covered auto.
Accidental Airbag Deployment	Provides Excess Coverage to reset or replace an airbag that inflates accidentally if the auto is covered for comprehensive or collision coverage.
Audio, Visual and Data Electronic Equipment Coverage	Covers permanently installed electronic equipment that receives or transmits audio, visual or data signals. \$100 deductible applies to equipment or accessories used with this equipment.
Loan/Lease Gap Coverage	Pays the outstanding balance of a lease, if it exceeds the actual cash value of the auto and the loss is a total loss.
Glass Repair - Waiver of Deductible	Waives the deductible if the glass is repaired instead of replaced.
Parked Auto Collision Coverage (Waiver of Deductible)	The Collision Deductible doesn't apply to private passenger autos or light trucks while in the charge of an insured, legally parked and unoccupied.
Unintentional Failure to Disclose Hazards	Clarifies that the insured's failure to disclose all hazards or exposures will not affect coverage unless the failure was intentional.
Amended Duties in the Event of Accident, Claim, Suit or Loss	Clarifies that the insured's duty to notify us of a loss does not begin until the loss is known to the insured.
Waiver of Transfer of Rights of Recovery Against Others to Us	Clarifies if any person or organization to or for whom we make payment has waived their rights of recovery before an accident or loss, our rights are waived also.
Hired Auto Coverage Territory	Territory for autos hired 30 days or less is extended to anywhere in the world.
Bodily Injury Redefined	Redefines bodily injury to mean physical injury, sickness or disease sustained by a person, including mental anguish, mental injury, shock, fright or death resulting from any of these at any time.
Extended Cancellation Condition	Provides at least 60 days' time in which to replace coverage if cancellation is for any reason other than nonpayment.

* This summary contains highlights only and is subject to change. The specific terms of coverage, exclusions, and limitations are contained in the Insurance Policy.

COMMON POLICY CONDITIONS

All Coverage Parts included in this policy are subject to the following conditions.

A. Cancellation

1. The first Named Insured shown in the Declarations may cancel this policy by mailing or delivering to us advance written notice of cancellation.
2. We may cancel this policy by mailing or delivering to the first Named Insured written notice of cancellation at least:
 - a. 10 days before the effective date of cancellation if we cancel for nonpayment of premium; or
 - b. 30 days before the effective date of cancellation if we cancel for any other reason.
3. We will mail or deliver our notice to the first Named Insured's last mailing address known to us.
4. Notice of cancellation will state the effective date of cancellation. The policy period will end on that date.
5. If this policy is cancelled, we will send the first Named Insured any premium refund due. If we cancel, the refund will be pro rata. If the first Named Insured cancels, the refund may be less than pro rata. The cancellation will be effective even if we have not made or offered a refund.
6. If notice is mailed, proof of mailing will be sufficient proof of notice.

B. Changes

This policy contains all the agreements between you and us concerning the insurance afforded. The first Named Insured shown in the Declarations is authorized to make changes in the terms of this policy with our consent. This policy's terms can be amended or waived only by endorsement issued by us and made a part of this policy.

C. Examination Of Your Books And Records

We may examine and audit your books and records as they relate to this policy at any time during the policy period and up to three years afterward.

D. Inspections And Surveys

1. We have the right to:
 - a. Make inspections and surveys at any time;

- b. Give you reports on the conditions we find; and

- c. Recommend changes.

2. We are not obligated to make any inspections, surveys, reports or recommendations and any such actions we do undertake relate only to insurability and the premiums to be charged. We do not make safety inspections. We do not undertake to perform the duty of any person or organization to provide for the health or safety of workers or the public. And we do not warrant that conditions:
 - a. Are safe or healthful; or
 - b. Comply with laws, regulations, codes or standards.

3. Paragraphs 1. and 2. of this condition apply not only to us, but also to any rating, advisory, rate service or similar organization which makes insurance inspections, surveys, reports or recommendations.

4. Paragraph 2. of this condition does not apply to any inspections, surveys, reports or recommendations we may make relative to certification, under state or municipal statutes, ordinances or regulations, of boilers, pressure vessels or elevators.

E. Premiums

The first Named Insured shown in the Declarations:

1. Is responsible for the payment of all premiums; and
2. Will be the payee for any return premiums we pay.

F. Transfer Of Your Rights And Duties Under This Policy

Your rights and duties under this policy may not be transferred without our written consent except in the case of death of an individual named insured.

If you die, your rights and duties will be transferred to your legal representative but only while acting within the scope of duties as your legal representative. Until your legal representative is appointed, anyone having proper temporary custody of your property will have your rights and duties but only with respect to that property.

January 13, 2015

ROOFING CONCEPTS UNLIMITED
11820 NW 41st St
Coral Springs, FL 330657606

To Whom It May Concern:

Please be advised that ROOFING CONCEPTS UNLIMITED is a licensed Red Shield applicator in good standing with Firestone Building Products Company.

ROOFING CONCEPTS UNLIMITED is authorized with Firestone for EPDM effective 05/27/92, APP effective 05/27/92, ULTRAPLY effective 05/27/92, SBS/BUR effective 05/27/92 under license #05103.

Firestone is proud to include ROOFING CONCEPTS UNLIMITED into our family of Red Shield applicators.

If I may be of further assistance, please feel free to call my office.

Sincerely,



Phil LaDuke
Director, Quality Assurance

PL/jas

1/13/2015

TECHNICAL INFORMATION SHEET

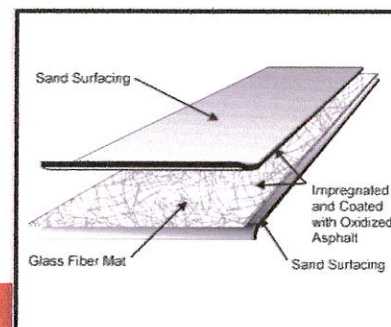
MB Base

Item Description
MB Base Sheet

Item Number
W70RAC8500

Meets ASTM D 4601, Type II. Tested in Accordance with D 146.

Product Information



Description:

Firestone MB Base Sheet is high-performance roofing base sheet, which is asphalt impregnated and coated and has a glass fiber mat reinforcement. It has been designed to provide superior durability and ease of installation in asphalt roofing systems.

By using only pure roofing grade asphalt, with little or no fillers, Firestone MB Base Sheet offers better flexibility and workability than typical heavily filled base sheets. Firestone MB Base Sheet may be used as a base ply in SBS, APP Modified Bitumen and Built-Up Roofing Systems.

Method of Application:

1. MB Base Sheet shall be installed with Firestone fasteners and insulation plates, conventional hot asphalt, or Firestone MB Cold Adhesive.
2. When installed with cold adhesive, this membrane **must** be applied using Firestone MB Cold Adhesive (or other approved Firestone Cold Adhesive). Use of non-Firestone adhesives will void all warranties and may cause damage to the membrane.

Product Packaging

<u>Property</u>	<u>Value</u>
Roll Width:	39.4" (1.00 m)
Roll Length:	98.7' (30.1 m)
Net Coverage:	300 ft ² (27.5 m ²)
Roll Weight:	75 lb (34.0 kg)
Pallet Size:	51" x 39" (1.3 m x 1.0 m)
Rolls per Pallet:	25
Weight per Pallet:	1,935 lb (878.5 kg)
Pallets Per Truckload:	20

Storage:

- All material should be stored out of the weather in a clean, dry area in its original unopened packaging at a minimum of 40 °F (4 °C) and a maximum of 140 °F (60 °C) so that it will be a minimum of 40 °F (4 °C) at the time of application.
- **Stack Firestone MB Base rolls squarely in original unopened packaging no more than two (2) pallets high.**
- If material must be stored temporarily on the roof before application, it must be elevated from the roof surface on a pallet, stored on end, and covered from the weather with a light-colored opaque tarp in a neat, safe manner not to exceed the allowable live load of the storage area.

TECHNICAL INFORMATION SHEET



MB Base

Precautions:

1. Refer to Safety Data Sheets for BUR Ply Sheets.
2. Take care when transporting and handling Firestone MB Base rolls to avoid punctures and other types of physical damage.
3. Isolate waste products, petroleum products, grease, oil (mineral and vegetable) and animal fats from all Firestone roofing membranes.

Performance Advantages:

- The glass fiber mat provides high tensile strength and excellent dimensional stability.
- Meets the criteria for an Underwriters Laboratories (UL) G-2 base sheet.
- Approved for use in Factory Mutual tested roofing assemblies.
- Designed for use in all climatic zones.

LEED® Information:

Post Consumer Recycled Content: 0%
Post Industrial Recycled Content: 0%
Manufacturing Location: Tuscaloosa, AL



Typical Properties (Meets ASTM D 4601, Type II. Tested in Accordance with D 146.)

Property	ASTM Standard Required Value	Firestone Value
Width of Roll:	39.4" (1.0 m)	39.4" (1.0 m)
Product Thickness:	N/A	55.0 mil (1.4 mm)
Net Dry Mass – Coated Sheet, min.:	14.5 lb/100 ft ² (708.0 g/m ²)	23.3 lb/100 ft ² (1,122.9 g/m ²)
Moisture at Time of Manufacture, max.:	1.0%	0.7%
Mass of Desaturated Glass Mat, min.:	1.7 lb/100 ft ² (83.0 g/m ²)	1.9 lb/100 ft ² (93.0 g/m ²)
Ash, (Glass Mat Only):	70 to 88%	75.0%
Surfacing and Stabilizer, max.:	65.0%	42.0%
Asphalt, min.:	7.0 lb/100 ft ² (342.0 g/m ²)	11.6 lb/100 ft ² (566.4 g/m ²)
Breaking Strength, min.:	44.0 lbf/in, MD (7.7 kN/m), MD	65.2 lbf/in, MD (11.4 kN/m), MD
	44.0 lbf/in, XMD (7.7 kN/m), XMD	55.1 lbf/in, XMD (9.6 kN/m), XMD
Pliability, 1/2" (13 mm) Radius Maximum Failures, 10 Specimens:	N/A	0

Please contact Quality Building Services Technical Department at 1-800-428-4511 for further information.

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TECHNICAL INFORMATION SHEET

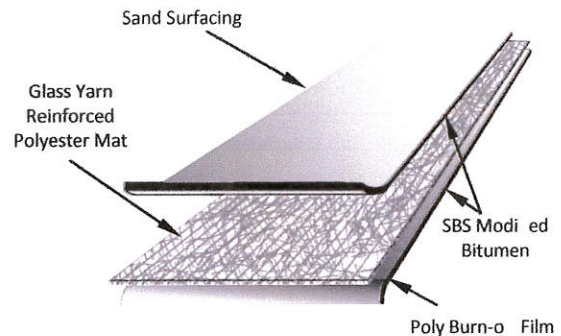
SBS Poly Torch Base

ITEM NUMBER: W71PSP1625

TIS #504

Description:

Firestone SBS Poly Torch Base is a Styrene-Butadiene-Styrene modified bitumen membrane that is reinforced with a 190 g/m² (3.89 lb/100²) non-woven polyester mat enhanced with continuous glass fiber strands in the machine direction. The combination results in a flexible, durable membrane. The addition of SBS rubber optimizes the natural waterproofing characteristics of asphalt and increases system performance. This proprietary compound provides resistance to thermal and physical forces over a wide range of temperatures.



Method of Application:

1. SBS Poly Torch Base shall be installed by fully heat welding the membrane to an appropriate substrate.
2. Please see the SBS Application Guide at www.firestonebpc.com for detailed information regarding the application of SBS Poly Torch Base.

Storage:

- All material should be stored out of the weather in a clean, dry area in its original unopened packaging at a minimum of 50 °F (10 °C) and a maximum of 100 °F (38 °C) so that it will be 50 °F (10 °C) or above at the time of application.
- If material must be stored temporarily on the roof before application, it must be elevated from the roof surface on a pallet, stored on end, and covered from the weather with a light colored opaque tarp in a neat, safe manner that does not exceed the allowable load limit of the storage area.
- Stack Firestone SBS Poly Torch Base squarely in the original unopened packaging not more than two (2) pallets high.

Precautions:

- Take care when transporting and handling Firestone Modified Bitumen rolls to avoid punctures and other types of physical damage.
- Isolate waste products, petroleum products, grease, oil (mineral and vegetable) and animal fats from all Firestone Modified Bitumen membranes.
- Consult your Technical Coordinator at 800-428-4511 for specific recommendations.
- Refer to Material Safety Data Sheet for SBS Membranes and Flashing.

Compliance:

Post Consumer Recycled Content: 4%
Pre Consumer Recycled Content: 0%
Manufacturing Location: Beech Grove, IN



Packaging:

Roll Width:	3.3 (1m)
Roll Length:	33.5 (10.2 m)
Net Coverage :	100 ² (9.3 m ²)
Roll Weight :	85 lb (39 kg)
Pallet Size :	48" x 39" (1.2 m x 1m)
Rolls per Pallet:	25
Weight per Pallet	2,125 lb (965 kg)

TECHNICAL INFORMATION SHEET

SBS Poly Torch Base ASTM D 6164 Type I, Grade S

Physical Properties Tested in accordance with ASTM D 5147	ASTM Standard Required Value	Units	Firestone Value	Metric Units	Firestone Value
Product Thickness	85	mil	120	mm	3.0
Net Mass	54	lb/100 ²	85	g/m ²	3,549
Bottom Side Coating	40	mil	54	mm	1.4
Peak Load @ 0°F (-18°C)	70	lb/inch, MD	130	kN/m	23
	70	lb/inch, CD	100	kN/m	18
Elongation @ Peak Load @ 0°F (18°C)	20	% MD	34	%	6
	20	% CD	40	%	7
Peak Load @ 73°F (-25°C)	50	lb/inch, MD	75	kN/m	13
	50	lb/inch, CD	60	kN/m	11
Elongation @ Peak Load @ 73°F (25°C)	35	% MD	62	%	62
	35	% CD	75	%	75
Ultimate Elongation @ 5% of Peak load 73°F (25°C)	38	% MD	115	%	115
	38	% CD	110	%	110
Tear Strength @ 73°F (25°C)	55	lb, MD	110	N	489
	55	lb, CD	90	N	400
Dimensional Stability	1	% Change MD	-0.1	%	-0.1
	1	% Change CD	0.1	%	0.2
Low Temperature Flexibility	0	°F	-20	°C	-29
Compound Stability	215	°F	270	°C	132

Acceptable Substrates:

Structural Concrete (New and Existing)
Gypsum
Lightweight Concrete
Plywood and OSB
Firestone Insulation

Note:

Notes:

Please consult the SBS Design Guide and Quick Specs on line at www.restonebpc.com to review specific information regarding fastener types appropriate for the type of deck and insulation in use.

Please consult the SBS Design Guide and Quick Specs on line at www.restonebpc.com to review specific information regarding the appropriate fastener or adhesive for the deck and type of insulation in use.

Requires a coverboard when applied in hot asphalt

Cannot be installed in hot asphalt

Cannot be installed in hot asphalt

Cannot be encapsulated in hot asphalt

ISO 95+ GL™
ISOGARD HD™
RESISTA™
DensDeck

Please Contact your Firestone Technical Coordinator at 1-800-428-4511 for further information.

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TECHNICAL INFORMATION SHEET

SBS FR Torch

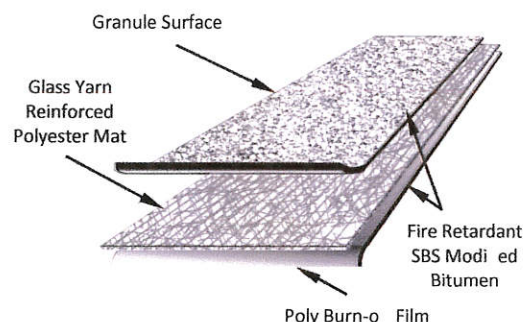
TIS #508

ITEM NUMBER: W71PUWP16FT2 (UltraWhite™)
W71PWP16FT2 (White)
W71PBP16FT2 (Black)

Description:

Firestone SBS FR Torch is a Styrene-Butadiene-Styrene modified bitumen membrane that is reinforced with a 190 g/m² (3.89 lb/100²) non-woven polyester mat enhanced with continuous glass fiber strands in the machine direction. The combination results in a flexible, durable membrane. The addition of SBS rubber optimizes asphalt's natural waterproofing characteristics and increases system performance. This proprietary compound provides resistance to thermal and physical forces over a wide range of temperatures.

SBS FR Torch is ideal for both new construction and reproofing applications. Low slope roofs of any size, even those with numerous penetrations, may accommodate a Firestone SBS FR Torch application. Firestone SBS FR Torch with UltraWhite granules has a highly reflective surface designed to meet national, state and local energy code requirements.



Method of Application:

1. SBS FR Torch shall be installed by fully heat welding the membrane to an appropriate substrate.
2. Please see the SBS Application Guide at www.firestonebpco.com for detailed information regarding the application of SBS FR Torch.

Storage:

- All material should be stored out of the weather in a clean, dry area in its original unopened packaging at a minimum of 50 °F (10 °C) and a maximum of 100 °F (38 °C) so that it will be 50 °F (10 °C) or above at the time of application.
- If material must be stored temporarily on the roof before application, it must be elevated from the roof surface on a pallet, stored on end, and covered from the weather with a light colored opaque tarp in a neat, safe manner that does not exceed the allowable load limit of the storage area.
- Stack Firestone SBS FR Torch squarely in the original unopened packaging not more than two (2) pallets high.

Precautions:

- Take care when transporting and handling Firestone Modified Bitumen rolls to avoid punctures and other types of physical damage.
- Isolate waste products, petroleum products, grease, oil (mineral and vegetable) and animal fats from all Firestone Modified Bitumen membranes.
- Consult your Technical Coordinator at 800-428-4511 for specific recommendations.
- Refer to Material Safety Data Sheet for SBS Membranes and Flashing.

Compliance:

Post Consumer Recycled Content: 3%
Pre Consumer Recycled Content: 0%
Manufacturing Location: Beech Grove, IN



Note:
Dade County Approval
of UltraWhite products is
pending

Packaging:

Roll Width:	3.3 (1m)
Roll Length	33.5 (10.2 m)
Net Coverage :	100 ² (9.3 m ²)
Roll Weight :	103 lb (46.8 kg)
Pallet Size :	48" x 39" (1.2 m x 1m)
Rolls per Pallet:	20
Weight per Pallet	2,120 lb (964 kg)

TECHNICAL INFORMATION SHEET

SBS FR Torch ASTM D 6164 Type I, Grade G

Physical Properties:	ASTM Standard	Units	Firestone Value	Metric Units	Firestone Value
Product Thickness	130	mil	160	mm	4.1
Net Mass	75	lb/100 ²	97	g/m ²	4,711
Bottom Side Coating	40	mil	47	mm	1.2
Peak Load @ 0°F (-18°C)	70	lbf/inch, MD	120	kN/m	24
		lbf/inch, CD	90	kN/m	23
Elongation @ Peak Load @ 0°F (-18°C)	20	% MD	45	%	45
	20	% CD	50	%	50
Peak Load @ 73°F (-25°C)	50	lbf/inch, MD	80	kN/m	14
	50	lbf/inch, CD	75	kN/m	13
Elongation @ Peak Load @ 73°F (-25°C)	35	% MD	51	%	51
	35	% CD	59	%	59
Ultimate Elongation @ 5% of Peak load 73°F (25°C)	38	% MD	100	%	100
	38	% CD	102	%	102
Tear Strength @ 73°F (25°C)	55	lbf/inch, MD	125	kN/m	555
	55	lbf/inch, CD	105	kN/m	467
Dimensional Stability	1	% Change MD	-0.1	%	-0.1
	1	% Change CD	0.2	%	0.2
Low Temperature Flexibility	0	°F	-20	°C	-29
Compound Stability	215	°F	270	°C	132
Granule Loss	2	grams	0.7	grams	0.7

Acceptable Substrates:

Structural Concrete (New and Existing)
 Gypsum
 Lightweight Concrete
 Plywood and OSB
 Existing Granule Surfaced Modified Bitumen

Notes:

Please consult the SBS Design Guide and Quick Specs on line at www.restonebpc.com to review specific information regarding fastener types appropriate for the type of deck and insulation in use.

Firestone Insulation Note:

ISO 95+ GL™
 ISO GARD HD™
 RESISTA™
 DensDeck

Please consult the SBS Design Guide and Quick Specs on line at www.restonebpc.com to review specific information regarding the appropriate fastener or adhesive for the deck and type of insulation in use.
 Requires a coverboard when applied in hot asphalt
 Cannot be installed in hot asphalt
 Cannot be installed in hot asphalt
 Cannot be encapsulated in hot asphalt

Reciprocity: UltraWhite only



Solar Reflectance
 Thermal Emittance
 Rated Product ID
 Licensed Manufacturer ID
 Classification

Initial	Weathered	#
0.73	pending	
0.92	pending	
		0034
		0608
		Production Line

Solar Reflectance Index (SRI) = 87

SRI calculated using the ORNL (DOE) calculator, ASTM E 1980-01

Please Contact your Firestone Technical Coordinator at 1-800-428-4511 for further information.

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TECHNICAL INFORMATION SHEET

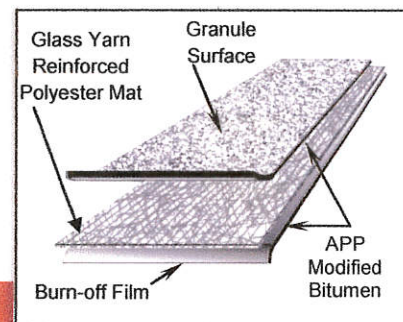
APP 180 FR

Item Description

- 1 Roll – UltraWhite™ (1 Square)
- 1 Roll – White Sheet (1 Square)
- 1 Roll – Black Sheet (1 Square)

Item Number

- W70PUWP180F
- W70PWP180F
- W70PBP180F



Meets ASTM D 6222, Type I, Grade G. Tested in Accordance with D 5147.

Product Information

Description:

Firestone APP 180 FR is a granule-surface APP modified bitumen roofing membrane designed to be heat-welded. It consists of select asphalt, modified with atactic polypropylene, and strengthened with a fiber glass reinforced polyester nonwoven mat [190 g/m² (3.9 lb/100ft²)] made with 100% recycled PET fibers. The combination results in a flexible and durable material that exceeds the performance requirements of ASTM D 6222 Type I, Grade G. APP 180 FR is a membrane that is strong and stable, and resistant to natural forces and other factors on the roof-top. The addition of fire-retardant materials increases the fire resistance of the membrane. APP 180 FR is ideal for both new construction and re-roofing applications as a cap sheet or as a flashing sheet in single or multi-ply APP applications.

Product Packaging

Roll Width:	3'-3" (1 m)	Pallet Size:	48" x 39" (1.2 m x 1 m)
Roll Length:	32'-10" (10 m)	Rolls Per Pallet:	20
Net Coverage:	98 ft ² (9 m ²)	Weight per Pallet:	2,020 lb (916 kg)
Roll Weight:	98 lb (39 kg)		

Method of Application:

1. APP 180 FR membranes must be fully heat-welded to an approved substrate.
2. Please see the APP Design and Application Guide at www.firestonebpco.com for detailed information regarding the application of APP180 FR membrane.

Storage:

- All material should be stored out of the weather in a clean, dry area in its original unopened packaging at a minimum of 50 °F (10 °C) and a maximum of 100 °F (38 °C) so that it will be 50 °F (10 °C) or above at the time of application. Do not stack Firestone APP 180 FR membrane more than two (2) pallets high.
- If the material must be stored temporarily on the roof before application, it must be elevated from the roof surface on a pallet, stored on end, and covered from the weather with a light colored opaque tarp in a neat, safe manner that does not exceed the allowable load limit of the storage area.

Precautions:

1. For safety information, refer to the Safety Data Sheet (SDS) for APP Membranes and Flashing.
2. Take care when transporting and handling Firestone Modified Bitumen rolls to avoid punctures and other types of physical damage.
3. Isolate waste products, petroleum products, grease, oil (mineral and vegetable) and animal fats from all Firestone Modified Bitumen membranes.

TECHNICAL INFORMATION SHEET



APP 180 FR

Acceptable Substrates

<u>Substrate</u>	Note: Please consult the APP Design Guide and QuickSpecs online at www.firestonebpc.com to review specific information regarding fastener types appropriate for the type of deck and insulation in use.
Structural Concrete (New and Existing)	Surface must be clean and dry and primed with ASTM D-41 asphalt primer prior to the installation of APP 180 FR by heat welding.
Gypsum	An approved base sheet must be mechanically attached directly to gypsum before APP 180 FR can be installed.
Lightweight Concrete	An approved base sheet must be mechanically attached directly to lightweight concrete before APP 180 FR can be installed.
Plywood and OSB	An approved base sheet must be mechanically attached directly to wood surfaces before APP 180 FR can be installed.
ISO 95+™ GL Insulation	An approved base sheet or coverboard must be installed directly over ISO 95+ GL before APP 180 FR can be installed.
ISOGARD™ HD Cover Board	An approved base sheet must be mechanically attached directly over ISOGARD HD before APP 180 FR can be installed.
RESISTA™ Insulation	An approved base sheet must be mechanically attached directly over RESISTA Insulation before APP 180 FR can be installed.
DensDeck®	APP 180 FR can be directly heat-welded to DensDeck Prime.

LEED® Information:

Postconsumer Recycled Content: 6%
 Preconsumer Recycled Content: 0%
 Manufacturing Location: Beech Grove, IN



Radiative Properties (UltraWhite Sheet Only)

<u>Cool Roof Rating Council (CRRC): Initial / 3 yr</u>	<u>UltraWhite Sheet</u>
Solar Reflectance	0.73 / Pending
Thermal Emittance	0.90 / Pending
Rated Product ID	0034
Licensed Manufacturer ID	0608
Classification	Production Line
Solar Reflectance Index (SRI)*	89

* SRI calculated using the ORNL (DOE) calculator, ASTM E 1980-01

NOTE: The SRI for standard white membrane is 33. The SRI for black membrane is N/A.

TECHNICAL INFORMATION SHEET



APP 180 FR

Typical Properties

Meets ASTM D 6222, Type I, Grade G. Tested in Accordance with D 5147.)

Property	ASTM Standard Required Value	Firestone Typical Performance
Product Thickness:	160 mil (4 mm)	162 mil (4.1 mm)
Net Mass:	85 lb/100 ft ² (4,150 g/m ²)	93 lb/100 ft ² (4,554 g/m ²)
Bottom Side Coating:	30 mil (0.8 mm)	48 mil (1.2 mm)
Peak Load at 0 °F (-18 °C):	60 lbf/in, MD (11 kN/m, MD)	120 lbf/in, MD (21 kN/m, MD)
	60 lbf/in, XMD (11 kN/m, XMD)	100 lbf/in, XMD (18 kN/m, XMD)
Elongation at Peak Load at 0 °F (-18 °C):	10%, MD	24%, MD
	10%, XMD	29%, XMD
Peak Load at 73 °F (23 °C):	50 lbf/in, MD (9 kN/m, MD)	90 lbf/in, MD (21 kN/m, MD)
	50 lbf/in, XMD (9 kN/m, XMD)	80 lbf/in, XMD (16 kN/m, XMD)
Elongation at Peak Load at 73 °F (23 °C):	23%, MD	42%, MD
	23%, XMD	51%, XMD
Ultimate Elongation at 5% of Peak Load 73 °F (23 °C):	30%, MD	45%, MD
	30%, XMD	57%, XMD
Tear Strength at 73 °F (23 °C):	70 lbf, MD (311 N, MD)	90 lbf, MD (400 N, MD)
	70 lbf, XMD (311 N, XMD)	120 lbf, XMD (534 N, XMD)
Dimensional Stability:	1% Change, MD	-0.05% Change, MD
	1% Change, XMD	0.04% Change, XMD
Low Temperature Flexibility:	32 °F (0 °C)	14 °F (-10 °C)
Compound Stability:	230 °F (110 °C)	270 °F (132 °C)

Please contact the Quality Building Services Technical Department at 1-800-428-4511 for further information.

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ISO 95+™ GL Insulation

Item Description

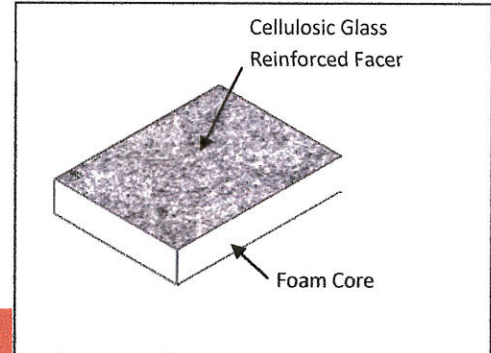
Flat and Tapered

Flat Boards: 4' x 4' (1.22 m x 1.22 m)
4' x 8' (1.22 m x 2.44 m)

Tapered Boards: 4' x 4' (1.22 m x 1.22 m)

Slopes ranging: 1/16" per foot (.5%) to 1/2" per foot (4%)

Thickness ranging: 0.5" (12.7 mm) to 4.0" (101.6 mm)



Product Information

Description:

Firestone ISO 95+ GL flat and tapered roof insulation consists of a closed-cell polyiso foam core laminated to a black glass reinforced mat facer on both major surfaces. Flat and tapered ISO 95+ GL insulation provides outstanding thermal performance on commercial roofing applications, while providing positive rooftop drainage to help eliminate ponding water when tapered ISO 95+ GL insulation is used.

Method of Application:

1. Insulation shall be neatly fitted to all roof penetrations, projections and nailers.
2. No more insulation shall be installed than can be covered with membrane and completed before the end of each day's work or before the onset of inclement weather.
3. Firestone ISO 95+ GL board may be installed using:
 - Firestone fasteners and plates
 - Hot asphalt (requires a cover board)
 - Firestone approved insulation adhesives
 - I.S.O. Twin Pack™
 - I.S.O. Stick™
 - I.S.O. Spray™S
 - I.S.O. FIX™II

For ballasted systems, the top layer of Firestone insulation may not be mechanically attached.

ISO 95+ GL Flute Span Over Metal Decks				
Thickness	1.0"	1.25"	1.5"-3.8"	4.0"
Span	2.625"	3.675"	4.375"	4.5"

Storage:

- Keep insulation dry at all times.
- Elevate insulation above the deck or ground.
- Cover insulation with waterproof tarps.

TECHNICAL INFORMATION SHEET



ISO 95+™ GL Insulation

Precautions:

1. Polyiso foam will burn if exposed to a flame of sufficient heat and intensity. Keep away from heat, sparks, and open flames.
2. Protect against dust that may be generated during installation.
3. Refer to Safety Data Sheet (SDS) for additional information.
4. Use in accordance with Firestone ISO 95+ Specifications.

Note: Miami Dade Classified POLYISO is only produced in the Jacksonville, FL and Youngwood, PA facilities.

Specification Compliance:

ASTM C1289, Type II, Class 1
UL Classified
FM Class 1 Approved
Manufactured in an ISO 9001 Registered Facility
CAN/ULC-S704, Type 1, Class 3



CCMC 13274-L

LEED® Information:

Manufacturing Locations:

Florence, KY
De Forest, WI
Jacksonville, FL

Corsicana, TX
Salt Lake City, UT

Bristol, Ct
Youngwood, PA

Typical Properties

Property	ASTM Standard	Units	Value	Units	Value
Compressive Strength:	D1621	psi	*20	kPa	138
Density:	D1622	pcf	2	kg/m ³	32
Dimensional Stability:	D2126	%	<2	%	<2
Moisture Vapor Transmission:	E96	perm	<1	ng/(Pa•s•m ²)	<57.5
Water Absorption:	C209	% by volume	<1	% by volume	<1
Service Temperature:	----	°F	-100 to 250 °F	°C	-73 to 121 °C

*25 psi (172 kPa) available upon request.

TECHNICAL INFORMATION SHEET



ISO 95+™ GL Insulation

Product Data

Thickness*		LTTR** (R-Value)	Max Flute Span		Total Recycled Content %	% Post Industrial	% Post Consumer
inches	mm		inches	mm			
1.00	25.40	5.7	2.625	66.675	52	15%	37%
1.25	31.75	7.1	3.675	93.345	48	15%	33%
1.50	38.10	8.6	4.375	111.12	44	15%	29%
1.75	44.45	10.0	4.375	111.12	41	15%	26%
2.00	50.80	11.4	4.375	111.12	39	15%	24%
2.30	58.42	13.2	4.375	111.12	36	15%	21%
2.50	63.50	14.4	4.375	111.12	35	15%	20%
2.80	71.12	16.2	4.375	111.12	33	15%	18%
3.00	76.20	17.4	4.375	111.12	32	15%	17%
3.25	82.55	18.9	4.375	111.12	31	15%	16%
3.50	88.90	20.5	4.375	111.12	30	15%	15%
3.75	95.25	22.0	4.375	111.12	29	15%	14%
4.00	101.60	23.6	4.500	114.30	29	15%	14%

*Other thicknesses available upon request.

**Long Term Thermal Resistance (LTTR) values provide a 15-year time-weighted average in accordance with CAN/ULC-S770.

Acceptable Substrates:

Structural Concrete, 3000 psi (New and Existing)
Steel, min. 22 gage
Lightweight Concrete
Plywood and OSB, min. ½"
Gypsum Deck, min. 2"

Please consult the SBS Design Guide and Quick Specs on line at www.firestonebpco.com to review specific information regarding fastener types appropriate for the type of deck and insulation in use.

Please contact The Quality Building Services Technical Department at 1-800-428-4511 for further information.

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Manufacturer

Georgia-Pacific Gypsum LLC Georgia-Pacific Canada LP
133 Peachtree Street 2180 Meadowvale Boulevard, Suite 200
Atlanta, GA 30303 Mississauga, ON L5N 5S3
Technical Service Hotline: 1-800-225-6119

Description

DensDeck® Prime Roof Board is an exceptional fire barrier, thermal barrier and recovery board used in various commercial roofing systems. The product features a pre-primed surface to make the bond even stronger. The DensDeck design employs fiberglass mats front and back that are embedded into a gypsum core, providing excellent fire resistance and wind uplift properties. The unique construction of DensDeck Prime Roof Board provides superior flute spanning and will help stiffen and stabilize the roof deck. Additionally, DensDeck Prime Roof Board has been shown to withstand delamination, deterioration and jobsite damage more effectively than roofing membrane substrates such as paper-faced gypsum board, fiberboard and perlite insulation. DensDeck Prime Roof Board is resistant to the growth of mold when tested as manufactured, per ASTM D 3273.

Primary Uses

Roof system manufacturers and designers have found DensDeck Prime Roof Board to be compatible with many types of roofing systems, including: modified asphalt, single-ply, metal systems, recover board, as well as an overlayment for polyisocyanurate and polystyrene insulation. DensDeck Prime Roof Board can also be used as a form board for poured gypsum concrete deck in roof applications as well as a substrate for spray foam roofing systems. 1/2" (12.7 mm) and 5/8" (15.9 mm) DensDeck Prime Roof Board may also be used in vertical applications as a backer board or liner for the roof side of parapet walls.

DensDeck Prime Roof Board may allow the bonding of cold mastic modified bitumen and torching directly to the surface. *Consult with the system manufacturer for recommendations on this application.*

DensDeck Prime Roof Board is the preferred substrate for vapor retarders.

Standards and Code Approvals

DensDeck Prime Roof Boards are manufactured to meet ASTM C 1177 and have the following approvals:

- Florida Product Approval Code FL 1250
- Miami-Dade County, Florida NOA 08-0908.10

Recommendations and Limitations

DensDeck Prime Roof Boards are manufactured to act with a properly designed roof system following good roofing practices. The actual use of DensDeck Prime Roof Board as a roofing component in any system or assembly is the responsibility of the roofing system's design authority. Consult with the appropriate system manufacturer and/or design authority for system and assembly specifications and instructions on applying other products to DensDeck Prime Roof Board. Georgia-Pacific does not warrant and is not responsible for any systems or assemblies utilizing DensDeck Prime Roof Board or any component in such systems or assemblies other than DensDeck Prime Roof Board.

The need for a separator sheet between the DensDeck Prime Roof Board and the roofing membrane must be determined by the roof membrane manufacturer or roofing system designer.

Confirm any priming requirements with the membrane manufacturer. When applying solvent-based adhesives or primers, allow sufficient time for the solvent to flash off to avoid damage to roofing components.

DensDeck Prime Roof Boards should not be subjected to abnormal or excessive loads

or foot traffic, such as, but not limited to, use on plaza decks or under steel-wheeled equipment that may fracture or damage the panels. Provide suitable roofing system protection when required.

When using DensDeck Prime Roof Boards for hot-mopped applications, Georgia-Pacific recommends maximum asphalt application temperatures for Type III asphalt of 425°F (218°C) to 450°F (232°C). Application temperatures above these recommended temperatures may adversely affect roof system performance. For application temperatures in excess of 450°F (232°C) and for mopping of type IV asphalt, ribbon or spot mopping or the installation of a perforated base sheet are recommended methods of bonding asphalt in lieu of full mopping. Consult and follow the roofing system manufacturer's specifications for full mopping applications and temperature requirements.

When using DensDeck Prime Roof Board as a substrate for torch applications, ensure that the product is dry and that the proper torching technique is used. Limit the heat to the DensDeck Prime Roof Board. Maintain a majority of the torch flame directly on the roll.

Conditions beyond the control of Georgia-Pacific, such as weather conditions, dew, leaks, application temperatures and techniques may cause adverse effects with roofing systems.

Moisture Management

DensDeck Prime Roof Boards, like other components used in roofing systems, must be protected from exposure to moisture before, during and after installation.

Remove the plastic packaging from all DensDeck Prime Roof Board immediately upon receipt of delivery. Failure to remove the plastic packaging may result in entrapment of condensation or moisture. DensDeck Prime Roof Board stored outside must be stored level and off the ground and protected by a breathable waterproof covering. Provide means for air circulation around and under stored bundles of DensDeck Prime Roof Board. DensDeck Prime Roof Board must be covered the same day as installed.

Avoid application of DensDeck Prime Roof Boards during rain, heavy fog and any other conditions that may deposit moisture on the surface, and avoid the overuse of non-vented, direct-fired heaters during winter months. When roofing systems are installed on new poured concrete or light weight concrete decks or when re-roofing over a wet existing concrete deck, a venting base sheet or vapor retarder should be installed above the concrete to retard the migration of water from the concrete into the roof assembly. Always consult the roofing system manufacturer or design authority for specific instructions for applying other products to DensDeck Prime Roof Boards.

Moisture vapor movement by convection must be eliminated, and the flow of water by gravity through imperfections in the roof system must be controlled. After a leak has occurred, no condensation on the upper surface of the system should be tolerated, and the water introduced by the leak must be dissipated to the building interior in a minimum amount of time.

Although DensDeck Prime Roof Boards are engineered with fiberglass facings and high density gypsum cores, the presence of free moisture can have a detrimental effect on the performance of the product and the installation of roofing membranes. For example, hot asphalt applications can blister; torched modified bitumen may not properly bond; and adhesives for single ply membranes may not dry properly. Moisture accumulation may also significantly decrease wind uplift and vertical pull resistance in the system or assembly. DensDeck Prime Roof Boards containing excessive free moisture content may need to be evaluated for structural stability to assure wind uplift performance.

Fire Resistance Classifications

DensDeck Prime Roof Boards are excellent fire barriers over combustible and noncombustible roof decks, including steel decks.

continued →

Submittal Approvals

Job Name _____

Contractor _____

Date _____

Stamps / Signatures

UL 790 Classification. DensDeck Prime Roof Boards have been classified by Underwriters Laboratories (UL) for use as a fire barrier over combustible and noncombustible decks in accordance with the ANSI/UL 790 test standard. The UL classification includes a comprehensive Class A, B or C rating. For additional information concerning the UL 790 classification, consult the UL Certification Directory.

UL 1256 Classification. DensDeck® Prime Roof Boards have also been classified by UL in roof deck constructions for internal (under deck) fire exposure in accordance with the ANSI/UL 1256 Steiner Tunnel test. For additional information concerning the UL 1256 classification, consult the UL Certification Directory.

FM Class 1 Approvals. DensDeck Prime Roof Boards are included in numerous roofing assemblies with a Factory Mutual (FM) Class 1 fire rating. 1/4" (6.4 mm) DensDeck Prime Roof Boards have passed testing under the FM Calorimeter Standard 4450 and have been approved by FM as such for insulated steel deck roofs when installed according to the conditions identified by FM. For more information concerning FM Approvals and FM Class 1 assemblies with DensDeck Prime Roof Boards, consult FM or RoofNav®.

Type X. 5/8" (15.9 mm) DensDeck® Prime Fireguard® Roof Boards are manufactured to meet the "Type X" requirements of ASTM C 1177 for increased fire resistance beyond regular gypsum board.

UL Fire Resistance Ratings. 5/8" (15.9 mm) DensDeck Prime Fireguard Roof Boards are designated as **Type DD** by UL and included in assembly designs investigated by UL for hourly fire resistance ratings. 5/8" (15.9 mm) DensDeck Prime Fireguard Roof Boards may also replace any unclassified 5/8" (15.9 mm) gypsum board in an assembly in the UL Fire Resistance Directory under the prefix "P".

Flame Spread and Smoke Developed. When tested in accordance with ASTM E 84, DensDeck Prime Roof Boards had Flame Spread 0, Smoke Developed 0.

Wind Uplift

DensDeck Prime Roof Boards are included in numerous assemblies evaluated by FM or other independent laboratories for wind uplift performance. For information concerning such assemblies, please visit www.roofnav.com.

Physical Properties

Properties	1/4" (6.4 mm)	1/2" (12.7mm)	5/8" (15.9 mm)
Thickness, nominal	1/4" (6.4 mm) + 1/16" (1.6 mm)	1/2" (12.7 mm) ± 1/32" (.8 mm)	5/8" (15.9 mm) ± 1/32" (.8 mm)
Width, standard	4' (1219 mm) ± 1/8" (3 mm)	4' (1219 mm) ± 1/8" (3 mm)	4' (1219 mm) ± 1/8" (3 mm)
Length, standard	4' (1219 mm) and 8' (2438 mm) ± 1/4" (6.4 mm)	4' (1219 mm) and 8' (2438 mm) ± 1/4" (6.4 mm)	4' (1219 mm) and 8' (2438 mm) ± 1/4" (6.4 mm)
Weight, nominal, lbs./sq. ft. (Kg/m²)	1.2 (5.9)	2.0 (9.8)	2.6 (12.7)
Surfacing	Fiberglass mat with non-asphaltic coating	Fiberglass mat with non-asphaltic coating	Fiberglass mat with non-asphaltic coating
Flexural Strength¹, parallel, lbf. min. (N)	40 (178)	80 (356)	100 (444)
Flute Spanability²	2-5/8" (66.7 mm)	5" (127 mm)	8" (203 mm)
Permeance³, perms (ng/Pa·S·m²)	>50 (>2850)	>35 (>1995)	>32 (>1824)
R Value⁴, ft²·°F·hr/BTU (m²·K/W)	.28	.56	.67
Linear Variation with Change in Temp., in/in °F (mm/mm/°C)	8.5 x 10⁻⁶ (15.3 x 10⁻⁶)	8.5 x 10⁻⁶ (15.3 x 10⁻⁶)	8.5 x 10⁻⁶ (15.3 x 10⁻⁶)
Linear Variation with Change in Moisture	6.25 x 10⁻⁶	6.25 x 10⁻⁶	6.25 x 10⁻⁶
Water Absorption⁵, % max	10.0	10.0	10.0
Compressive Strength⁶, psi nominal	900	900	900
Surface Water Absorption, grams, nominal	≤2.0	≤2.0	≤2.0
Flame Spread, Smoke Developed (ASTM E 84)	0/0	0/0	0/0
Bending Radius	5' (1524 mm)	8' (2438 mm)	12' (3658 mm)

1. Tested in accordance with ASTM C 473 method B.

2. Tested in accordance with ASTM E 661.

3. Tested in accordance with ASTM E 96 (dry cup method).

4. Tested in accordance with ASTM C 518 (heat flow meter).

5. Tested in accordance with ASTM C 1177.

6. Tested in accordance with ASTM C 473.



U.S.A. — Georgia-Pacific Gypsum LLC
 Canada — Georgia-Pacific Canada LP

SALES INFORMATION AND ORDER PLACEMENT

U.S.A. Midwest: 1-800-876-4746 West: 1-800-824-7503
 South: 1-800-327-2344 Northeast: 1-800-947-4497

CANADA Canada Toll Free: 1-800-387-6823
 Quebec Toll Free: 1-800-361-0486

TECHNICAL INFORMATION

U.S.A. and Canada: 1-800-225-6119

www.gpgypsum.com

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WARRANTIES, REMEDIES AND TERMS OF SALE For current warranty information for this product, please go to www.gpgypsum.com and select the product for warranty information. All sales of this product by Georgia-Pacific are subject to our Terms of Sale available at www.gpgypsum.com.

UPDATES AND CURRENT INFORMATION The information in this document may change without notice. Visit our website at www.gpgypsum.com for updates and current information.

CAUTION For product fire, safety and use information, go to www.gp.com/safetyinfo or call 1-800-225-6119.

HANDLING AND USE—CAUTION This product contains fiberglass facings which may cause skin irritation. Dust and fibers produced during the handling and installation of the

product may cause skin, eye and respiratory tract irritation. Avoid breathing dust and minimize contact with skin and eyes. Wear long sleeve shirts, long pants and eye protection. Always maintain adequate ventilation. Use a dust mask or NIOSH/MSHA approved respirator as appropriate in dusty or poorly ventilated areas.

FIRE SAFETY CAUTION Passing a fire test in a controlled laboratory setting and/or certifying or labeling a product as having a one-hour, two-hour, or any other fire resistance or protection rating and, therefore, as acceptable for use in certain fire rated assemblies/systems, does not mean that either a particular assembly/system incorporating the product, or any given piece of the product itself, will necessarily provide one-hour fire resistance, two-hour fire resistance, or any other specified fire resistance or protection in an actual fire. In the event of an actual fire, you should immediately take any and all actions necessary for your safety and the safety of others without regard for any fire rating of any product or assembly/system.

TECHNICAL INFORMATION SHEET

LWC Base-Ply Fastener (Lightweight Concrete)

TIS #1012

ITEM NUMBER:

1.2" W56RAC4256

1.7" W56RAC4257

Description:

The Firestone LWC Base-Ply Fastener is specifically designed to be used in all Firestone asphalt roof systems to attach base sheets to lightweight insulating or cellular concrete decks or gypsum roof decks. It is suitable for use with all FMRC-approved base sheets.

Method of Application:

Lightweight concrete must be a minimum of 2" (50.8 mm) thick and conform to Firestone requirements for structural integrity and moisture content. This fastener is not suitable for applications where the hardness of the deck causes the fastener's leg to distort. Do not overdrive. The Firestone LWC Base-Ply Fastener should be installed using a stand-up magnetic driver or standard 2 lb (0.9 kg) mallet.



Storage:

Store in original unopened packaging protected from the weather.

Precautions:

- Eye protection must be worn during the installation of the fasteners.

Compliance:

Post Consumer Recycled Content: 0%
 Pre Consumer Recycled Content: 30%
 Manufacturing Location: Bristol, RI



Packaging:

Length	Pieces/Carton	Cartons/Pallet	#s/Carton
1.2" (30.48 mm)	1,000	18	35
1.7" (43.18 mm)	1,000	18	39

Determine required fastener as follows:

- 1.2" (30.48 mm): Recover gypsum decks.
 1.7" (43.18 mm): New and recover insulating or cellular lightweight concrete decks.

Physical Properties:

Value

Metal Plate

Material: Galvalume® Sheet Steel
 Thickness: 0.013" (0.33 mm)
 Shape: 2.7" (68.6 mm) Diameter Round Plate
 Corrosion Resistance: Meets FM No. 4470 Criteria

Fastener

Material: G-90 Steel Black Urethane Coated
 Thickness: 0.013" (0.33 mm)
 Fastener Head: 1.2" (30.48 mm) Diameter
 Fastener Length: 1.2" (30.48 mm); 1.7" (43.18 mm)
 Corrosion Resistance: Meets FM No. 4470 Criteria

Galvalume® is a registered trademark of BIEC International, Inc

Please Contact your Firestone Roof Systems Advisor at 1-800-428-4511 for further information.

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TECHNICAL INFORMATION SHEET

I.S.O. Twin Pack™ Adhesive

TIS # 812

ITEM NUMBER: W56RACINTA

Description:

I.S.O. Twin Pack Insulation Adhesive is a two-component low-rise polyurethane adhesive designed for anchoring acceptable roof insulation to acceptable substrates, and to adhere multiple layers of insulation. I.S.O. Twin Pack is a solvent free and VOC free insulation adhesive that contains no harmful HCFC or CFCs.

I.S.O. Twin Pack Insulation Adhesive is suitable for cold weather applications when stored properly. I.S.O. Twin Pack Insulation Adhesive is dispensed using I.S.O. Twin Pack Hand Dispenser (Firestone Item No.: W56RACINTG); I.S.O. Twin Pack Four Bead Dispenser (Firestone Item No.: W56RACINT4); Multi-Bead Plus Dispenser; Battery Powered Single Bead Applicator or a Pneumatic Single Bead Applicator. The dispensers extrude I.S.O. Twin Pack Part A and B simultaneously to the static mixer, which results in a mixed adhesive in bead form.



Firestone Building Products standard warranties are available up to 30-year warranty period. Please refer to the Firestone Technical Database at www.firestonebpco.com for specific warranty requirements.

Method of Application:

1. I.S.O. Twin Pack Insulation Adhesive can be installed at temperatures as low as 20° F (-7° C) and rising when the material is stored between 60° F and 80° F.
2. The substrate must be clean, smooth, dry, free of sharp edges, loose and foreign materials, oil, grease, and other contaminants.
3. To mix and dispense I.S.O. Twin Pack Insulation Adhesive from kits, remove plugs and apply the static mixer over plug end of kit by hand tightening static mixer to kit with plug end facing up. Keep plug end facing up until you are ready to dispense I.S.O. Twin Pack Insulation Adhesive to the deck substrate.
4. Properly mixed I.S.O. Twin Pack will be amber, with no marbling. Part A and B will be extruded simultaneously through dispensing equipment.
5. To stop dispensing I.S.O. Twin Pack Insulation Adhesive, stop the dispenser plunger from advancing and point the mixing end up to stop Part A and Part B from entering static mixer. This stopped position of the kit can only be maintained for several minutes, as Part A and Part B already in the static mixer will continue to react, set up, and block the static mixer. If the static mixer becomes blocked during stopped period, replace static mixer in order to mix and dispense the remaining Part A and Part B in kit.
6. Apply I.S.O. Twin Pack Insulation Adhesive in a bead 1/2" (12.7 mm) wide to deck substrate in spacing as specified for the project. The adhesive will rise to a bead of 3/4" – 1" (19.0 mm – 25.4 mm) within minutes after placement. Rise time will depend on the ambient conditions: warmer=faster; cooler=slower.
7. To ensure that the insulation makes continuous contact with the adhesive during the critical set-up period, set the insulation board *4' x 4' (1.22 m x 1.22 m) maximum+, immediately in fresh I.S.O. Twin Pack insulation adhesive before a skim coat develops. Immediately after setting each insulation board, weight each board using full pails of Bonding Adhesive or other available source of weight that will not damage the roof insulation.

Storage:

- Store in original containers at temperatures between 60 °F - 80 °F (16 °C - 27 °C).
- Store cartons with kits on their side.
- DO NOT store kits with plunger or plugged end down to avoid the possibility of leakage.
- When I.S.O. Twin Pack is stored in original unopened container indoors away from direct sunlight between 60 °F - 80 °F (16 °C - 27 °C), shelf life is twelve months.
- For optimum results, rotate your stock to ensure stored material has not exceeded the shelf life of one year.

Precautions:

- Review applicable Material Safety Data Sheets prior to use.
- Personnel who are sensitive/allergic to isocyanate or polyurethane should not work with I.S.O. Twin Pack Insulation Adhesive.
- At the start of each workday, perform a trial anchoring with a sample piece of insulation with I.S.O. Twin Pack Insulation Adhesive to verify applicability for that day. Verify that proper mixing, set-up and overall adhesion of insulation to substrate is being achieved before proceeding. Use only when conditions allow, and daily trials indicate successful adhesion.
- Install only as much roof insulation anchored with I.S.O. Twin Pack Insulation Adhesive as can be covered and made watertight during that working day. Performance of I.S.O. Twin Pack should be periodically monitored during the workday to verify that sufficient rise, adhesion, and mating of the insulation using I.S.O. Twin Pack is occurring.
- Review dispensing equipment prior to use. Ensure dispensing equipment is in good working order.

TECHNICAL INFORMATION SHEET

- It is the responsibility of the Roofing Contractor to maintain dispensing equipment in good working order to deliver and thoroughly mix, meter, and dispense this adhesive in ratio of 1:1 (Part A:Part B).
- Avoid contact with eyes. Wear safety glasses with side shields.
- Avoid breathing of vapors. A Self-Contained Breathing Apparatus (SCBA) or Respirator should be used in areas of limited ventilation.
- Avoid contact with skin. Wear gloves when dispensing. Wash hands thoroughly after handling.
- Do not allow I.S.O. Twin Pack to freeze. Store between 60 °F - 80 °F (16 °C - 27 °C).
- DO NOT store in direct sunlight.
- Store kits on their sides. DO NOT store with plunger or plug end down to avoid leakage.
- Keep plugs on kits tightly closed during storage. DO NOT expose to moisture.
- Set insulation boards immediately into wet I.S.O Twin Pack Insulation Adhesive. Insulation boards shall not exceed 4' x 4' (1.2 m x 1.2 m).
- It is imperative that freshly installed insulation is continuously weighted until I.S.O. Twin Pack Insulation Adhesive sets up and the board is held in place by the adhesive.
- Use caution when removing plugs from kits
- Do not burn empty kit containers. Dispose in accordance with local, federal, and state regulations.

Compliance:

Post Consumer Recycled Content: 0%
Pre Consumer Recycled Content: 0%
Manufacturing Location: Chargin Falls, OH



Packaging:

<i>Kit Contents:</i>	I.S.O. Twin Pack Insulation Adhesive is packaged as a kit consisting of one 750 ml Part A cartridge fastened together with one 750 ml Part B cartridge.
<i>Each Case Contains:</i>	4 Part A – Part B Kits, 4 Static Mixers, Instruction Sheet
<i>Weight of Case:</i>	≈20 lbs (9 kg)
<i>Number per pallet:</i>	48

Coverage rates of each I.S.O. Twin Pack kit, when properly mixed, dispenses 150 ft (45.7 m) of mixed adhesive in a bead 1/2" (12.7 mm) wide. This bead will rise to 3/4" - 1" (19.0 mm - 25.4 mm). This equates to 600 ft² (55.74 m²) per carton when installed in beads 12" (304.8 mm) on center (typical spacing). *Note: Coverage rate may be reduced due to irregularities in substrates.*

Beads Dispensed at:		Coverage per Carton:	
4" o.c.	102 mm	200 ft ²	27.87 m ²
6" o.c.	152 mm	300 ft ²	18.58 m ²

Typical Set Up Times:

At 60°F (15.6° C) to 90°F (32.2°C): ≈ 5-8 minutes
At 20°F (-7° C) to 60°F (15.6°C): ≈ 8-15 minutes

Physical Properties:

Physical Properties:	Minimum Performance
<i>Color, Part A: Color,</i>	Amber
<i>Part B:</i>	Off-White
<i>Composition, Part A</i>	Isocyanate pre-polymer
<i>Composition, Part B</i>	Polyol
<i>Mix Ratio of A:B</i>	1:1 by volume
<i>Specific Gravity, Part A:</i>	1.18 ± 0.06
<i>Specific Gravity, Part B:</i>	1.02 ± 0.05
<i>Viscosity Part A/Part B:</i>	3,000-24,000 cps, #52 spindle at 5 RPM, 77°F
<i>V.O.C. Content</i>	0 g/L (0 lb/gal)

TECHNICAL INFORMATION SHEET

Acceptable Substrates:	Notes:
Structural Concrete (New) Structural Concrete (Existing) Steel Gypsum Decks Cementitious Woodfiber Modified Bitumen Roofs Plywood and OSB SBS Base Sheets V-Force Membrane Lightweight Concrete	New poured decks must have a minimum 28 day cure time. Positive adhesion test required. New steel decks may require cleaning to remove processing oils. Positive adhesion test required.
Existing Asphalt and Modified Bitumen Roofs (Mineral or Smooth Surfaced) Coal Tar Pitch <u>Insulation</u> ISO95+ GL™, ISOgard™ HD, RESISTA™, FiberTop Woodfiber, Dens-Deck® Product, Expanded Polystyrene, Extruded Polystyrene	Positive adhesion test required. Acceptable Lightweight concrete substrates include cellular or air-entrained concrete. Lightweight concrete substrates with aggregate (such as Perlite or vermiculite) are not acceptable. Existing substrates containing residual asphalt must be cleaned and scraped smooth as possible. Positive adhesion test required. Primer may be required.
NOT ACCEPTABLE:	Non-Firestone brand insulations require a positive adhesion test.
Notes:	Single Ply membrane, Fiberglass insulation, Perlite insulation. <i>Dens-Deck is a registered Trademark of Georgia-Pacific.</i>

Necessary Equipment:

The following equipment is necessary to dispense I.S.O. Twin Pack Insulation Adhesive:

- **Static Mixer:** Supplied with I.S.O. Twin Packs. Static mixer tubes are bolted onto the plugged end of kit after plugs removed. As Part A and B are simultaneously extruded through the tube, the static mixer properly and thoroughly mixes Part A and Part B. The tip at the end of the static mixer (opposite bolt end) dispenses mixed I.S.O. Twin Pack Insulation Adhesive in a 1/2" (12.7 mm) wide bead.
- **I.S.O. Twin Pack 4 Bead (Firestone Item No. W56RACINT4) and 13 Bead MBA+ Multi Bead Dispenser (sold separately):**
Cart and wheel mounted, hand maneuverable, with battery driven plungers, these dispensers mix and dispense multiple beads of I.S.O. Twin Pack Insulation Adhesive simultaneously from 12" (304.8 mm) on center all the way up to full coverage on open, unobstructed roof areas. Pre-marked cartridge slots provide consistent application for desired bead spacing of the I.S.O. Twin Pack.
- **I.S.O. Twin Pack Single Bead Hand Dispenser (Firestone Item No. W56RACINTG); Battery Powered Single Bead Applicator and Pneumatic Single Bead Applicator (sold separately):**
Mixes and dispenses one bead of I.S.O. Twin Pack Insulation Adhesive and are necessary for dispensing I.S.O. Twin Pack Insulation Adhesive on roof areas where Multi Bead Dispensers cannot be maneuvered.

Please Contact your Firestone Technical Coordinator at 1-800-428-4511 for further information.

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RED SHIELD WARRANTY



RED SHIELD ROOFING SYSTEM LIMITED WARRANTY

Warranty No:
Building Owner:
Building Identification:
Building Address:
Warranty Period Of:
Roofing Contractor:

FBPCO #

Square Footage:

s.f.

SAMPLE

For the warranty period indicated above, Firestone Building Products Company, LLC ("Firestone"), an Indiana limited liability company, warrants to the Building Owner ("Owner") named above that Firestone will, subject to the Terms, Conditions and Limitations set forth below, repair any leak in the Firestone Roofing System ("System").

TERMS, CONDITIONS AND LIMITATIONS

- Products Covered.** The System shall mean only the Firestone brand roofing membranes, Firestone brand roofing insulations, Firestone brand roofing metal, and other Firestone brand roofing accessories when installed in accordance with Firestone technical specifications by a Firestone-licensed applicator.
- Notice.** In the event any leak should occur in the System, the Owner must give notice in writing or by telephone to Firestone within thirty (30) days of any occurrence of a leak. Written notice may be sent to Firestone at the street address or fax number shown on the reverse side of this Limited Warranty. Evidence of this notice shall be the receipt by Owner of a Firestone Leak Notification Acknowledgement. By so notifying Firestone, the Owner authorizes Firestone or its designee to investigate the cause of the leak.
- Investigation.** If upon investigation, Firestone determines that the leak is not excluded under the Terms, Conditions and Limitations set forth in this Red Shield Roofing System Limited Warranty (the "Limited Warranty"), the Owner's sole and exclusive remedy and Firestone's total liability shall be limited to the repair of the leak. Should the investigation reveal that the leak is excluded under the Terms, Conditions and Limitations, the Owner shall be responsible for payment of the investigation costs. Failure by Owner to pay for these costs shall render this Limited Warranty null and void. Firestone will advise the Owner of the type and/or extent of repairs required to be made at the Owner's expense that will permit this Limited Warranty to remain in effect for the unexpired portion of its term. Failure by the Owner to properly make these repairs in a reasonable manner using a Firestone-licensed applicator and within 60 days shall render this Limited Warranty null and void.
- Disputes.** Any dispute, controversy or claim between the Owner and Firestone concerning this Limited Warranty shall be settled by mediation. In the event that the Owner and Firestone do not resolve the dispute, controversy or claim in mediation, the Owner and Firestone agree that neither party will commence or prosecute any suit, proceeding, or claim other than in the courts of Hamilton County in the state of Indiana or the United States District Court, Southern District of Indiana, Indianapolis Division. Each party irrevocably consents to the jurisdiction and venue of the above-identified courts.
- Payment Required.** Firestone shall have no obligation under this Limited Warranty unless and until Firestone and the licensed applicator have been paid in full for all materials, supplies, services, approved written change orders, warranty costs and other costs which are included in, or incidental to, the System. In the event that repairs not covered by this Limited Warranty are necessary in the future, Firestone reserves the right to suspend this Limited Warranty until such repairs have been completed and the licensed applicator and/or Firestone has been paid in full for such repairs.
Exclusions. Firestone shall have no obligation under this Limited Warranty, or any other liability, now or in the future if a leak or damage is caused by: (a) Natural forces, disasters, or acts of God including, but not limited to, fires, hurricanes, tornadoes, hail, wind-blown debris, lightning, earthquakes, volcanic activity, atomic radiation, insects or animals; (b) Winds of peak gust speed at or in excess of 55 MPH calculated at ten (10) meters above ground using available meteorological data; (c) Act(s), conduct or omission(s) by any person, or act(s) of war, terrorism or vandalism, which damage the System or which impair the System's ability to resist leaks; (d) Failure by the Owner to use reasonable care in maintaining the System, said maintenance to include, but not be limited to, those items listed on the reverse side of this Limited Warranty entitled "Building Envelope Care and Maintenance Guide"; (e) Deterioration or failure of building components, including, but not limited to, the roof substrate, walls, mortar, HVAC units, skylights etc.; (f) Construction generated moisture, condensation or infiltration of moisture in, from, through, or around the walls, copings, rooftop hardware or equipment, skylights, building structure or underlying or surrounding materials; (g) Acid, oil, harmful chemicals, or the reaction between them; (h) Alterations or repairs to the System that are not completed in accordance with Firestone's published specifications, not completed by an approved contractor, and/or not completed with proper notice to Firestone; (i) The design of the roofing system; Firestone does not undertake any analysis of the architecture or engineering required to evaluate what type of System is appropriate for a building and makes no warranty express or implied as to the suitability of its Products for any particular structure; such a determination is the responsibility of the architect, engineer or design professional; (j) Improper selection of materials for the roof assembly or the failure to accurately calculate wind uplift and/or roof loads; (k) Deterioration to metal roofing materials and accessories caused by marine salt water, atmosphere, or by regular spray of either salt or fresh water; or, (l) Change in building use or purpose.
- Transfer.** This Limited Warranty shall be transferable subject to Owner's payment of the current transfer fee set by Firestone.
- Term.** The term of this Limited Warranty shall be for the period set forth above and such term shall not be extended under any circumstances.
- Roof Access.** During the term of this Limited Warranty, Firestone's designated representative or employees shall have free access to the roof during regular business hours. In the event that roof access is limited due to security or other restrictions, Owner shall reimburse Firestone for all reasonable cost incurred during inspection and/or repair of the System that are due to delays associated with said restrictions. Owner shall be responsible for the damage caused by, removal and replacement of any overburdens, superstrata or overlays, either permanent or temporary, excluding accepted stone ballast or pavers, as necessary to expose the system for inspection and/or repair.
- Waiver.** Firestone's failure to enforce any of the terms or conditions stated herein shall not be construed as a waiver of such provision or of any other terms and conditions of this Limited Warranty.
- Governing Law.** This Limited Warranty shall be governed by and construed in accordance with the laws of the State of Indiana without regard to that State's rules on conflict of laws.
- Severability.** If any portion of this Limited Warranty is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions shall nevertheless continue in full force.

FIRESTONE DOES NOT WARRANT PRODUCTS INCORPORATED OR UTILIZED IN THIS INSTALLATION THAT WERE NOT FURNISHED BY FIRESTONE. FIRESTONE SPECIFICALLY DISCLAIMS LIABILITY UNDER ANY THEORY OF LAW ARISING OUT OF THE INSTALLATION OF, PERFORMANCE OF, OR DAMAGES SUSTAINED BY OR CAUSED BY, PRODUCTS NOT FURNISHED BY FIRESTONE.

THIS LIMITED WARRANTY SUPERSEDES AND IS IN LIEU OF ALL OTHER WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND FIRESTONE HEREBY DISCLAIMS ALL SUCH WARRANTIES. THIS LIMITED WARRANTY SHALL BE THE OWNER'S SOLE AND EXCLUSIVE REMEDY AGAINST FIRESTONE, AND FIRESTONE SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL, INCIDENTAL OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR DAMAGES TO THE BUILDING OR ITS CONTENTS OR THE ROOF DECK. THIS LIMITED WARRANTY CANNOT BE AMENDED, ALTERED OR MODIFIED IN ANY WAY EXCEPT IN WRITING SIGNED BY AN AUTHORIZED OFFICER OF FIRESTONE. NO OTHER PERSON HAS ANY AUTHORITY TO BIND FIRESTONE WITH ANY REPRESENTATION OR WARRANTY WHETHER ORAL OR WRITTEN.

FIRESTONE BUILDING PRODUCTS COMPANY, LLC

By:

SAMPLE

Authorized
Signature:

Title:

Firestone

040907

BUILDING ENVELOPE CARE AND MAINTENANCE GUIDE (For Red Shield Warranted Roofing Systems)

Congratulations on your purchase of a Firestone Roofing System! Your roof is a valuable asset that should be properly maintained. **All roofs and roofing systems require periodic inspection and maintenance to perform as designed and to keep your Limited Warranty in full force and effect.**

1. The roof should be inspected at least twice yearly and after any severe storms. A record of all inspection and maintenance activities should be maintained, including a listing of the date and time of each activity as well as the identification of the parties performing the activity.
2. Proper maintenance and good roofing practice require that ponded water (defined as water standing on the roof forty-eight hours after it stops raining) not be allowed on the roof. Roofs should have slope to drain, and all drain areas must remain clean. Bag and remove all debris from the roof since such debris can be quickly swept into drains by rain. This will allow for proper water run-off and avoid overloading the roof.
3. The Firestone Roofing System should not be exposed to acids, solvents, greases, oil, fats, chemicals and the like. If the Firestone Roofing System is in contact with any such materials, these contaminants should be removed immediately and any damaged areas should be inspected by a Firestone Licensed Applicator and repaired if necessary.
4. The Firestone Roofing System is designed to be a waterproofing membrane and not a traffic surface. Roof traffic other than periodic traffic to maintain rooftop equipment and conduct periodic inspections should be prohibited. In any areas where periodic roof traffic may be required to service rooftop equipment or to facilitate inspection of the roof, protective walkways should be installed by a Firestone Licensed Applicator as needed to protect the roof surface from damage.
5. Some Firestone roofing membranes require maintenance of the surface of the membrane:
 - a. **Smooth-surfaced Firestone APP membranes** should be coated with an approved liquid coating, such as Firestone Aluminum Roof Coating or Firestone AcryliTop applied in accordance with Firestone specifications, in order to maximize the service life of the membrane. If this coating is not applied as part of the initial roofing installation, it should be applied within the first five years after the roof is installed to help protect the membrane from surface crazing and cracking. In addition, this coating should be maintained as needed to re-coat any areas that have blistered, peeled or worn through.
 - b. **Granule-surfaced Firestone APP and SBS membranes** do not normally require surface maintenance other than periodic inspection for contaminants, cuts or punctures. If areas of granular loss are discovered during inspection, these areas should be coated with Firestone AcryliTop or other Firestone-approved coating applied in accordance with Firestone specifications.
 - c. **Gravel-surfaced Firestone BUR membranes** do not normally require surface maintenance other than periodic inspection for contaminants or damage. If areas of gravel loss are discovered during inspection, gravel must be reinstalled into hot asphalt to protect the surface of the membrane. Coatings on smooth surface BUR membranes must be maintained as needed to re-coat any areas that have blistered, peeled or worn through.
 - d. **Firestone EPDM and TPO roofing membranes** do not normally require surface maintenance other than periodic inspection for contaminants, cuts or punctures. Occasionally, approved liquid roof coatings, such as Firestone AcryliTop, are applied to the surface of EPDM membranes in order to provide a lighter surface color. Such coatings do not need to be maintained to assure the performance of the underlying EPDM roof membrane, but some maintenance and re-coating may be necessary in order to maintain a uniform surface appearance.
 - e. **Firestone Una-Clad metal roofing panels and trim** do not normally require surface maintenance other than periodic inspection for contaminants or damage. In addition, periodic cleaning of the surface may be required to remove dirt and maintain the aesthetic appearance of the coated metal. Simple washing with plain water using hoses or pressure spray equipment is usually adequate. If cleaning with agents other than water is contemplated, several precautions should be observed: (1) do not use wire brushes, abrasives, or similar cleaning tools which will mechanically abrade the coating surface, and (2) cleaning agents should be tested in an inconspicuous area before use on a large scale.
6. All metal work, including counter-flashings, drains, skylights, equipment curbs and supports, and other Firestone brand rooftop accessories must be properly maintained at all times. Particular attention should be paid to sealants at joints in metal work and flashings. If cracking or shrinkage is observed, the joint sealant should be removed and replaced with new sealant.
7. Any alterations to the roof, including but not limited to roof curbs, pipe penetrations, roof-mounted accessories, and tie-ins to building additions must be performed by a licensed Firestone Licensed Applicator and reported to Firestone. Additional information and reporting forms for roof alterations are available at www.firestonebpc.com.
8. Should you experience a leak:
 - (a) Check for the obvious: clogged roof drains, loose counterflashings, broken skylights, open grills or vents, broken water pipes.
 - (b) Note conditions resulting in leakage. Heavy or light rain, wind direction, temperature and time of day that the leak occurs are all-important clues to tracing roof leaks. Note whether the leak stops shortly after each rain or continues to drip until the roof is dry. If you are prepared with the facts, the diagnosis and repair of the leak can proceed more rapidly.
 - (c) Contact Firestone Warranty Claims at 1-800-830-5612 as soon as possible...but please don't call until you are reasonably sure that the Firestone Roofing System is the cause of the leak.

Firestone feels that the preceding requirements will assist you, the building owner, in maintaining a watertight roof for many years. Your roof is an investment, and maintenance is essential to maximize your return on this important investment.

Firestone
BUILDING PRODUCTS
NOBODY COVERS YOU BETTER™

250 West 96th St., Indianapolis, IN 46260
1-800-428-4442 • 1-317-575-7000 • www.firestonebpc.com

International Offices:

Canada: 2835 Argenta Road, Unit #2 • Mississauga, ON L5N 8G6 • 800-428-4442 • www.firestonebpc.com
Europe: Hermesstraat 2C - 1930 • Zaventem, Brussels, Belgium • +32 2 7114450 • www.firestonebpc.com
Latin America: 8300 NW 53rd Street, Suite #106 • Miami, FL 33166 • 305-471-0117 • www.firestonebpc.com

Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(10): All layers of insulation adhered with approved adhesive.
All General and System Limitations apply.

Vapor Barrier: (Optional) Firestone MB Base M base sheet adhered to primed concrete deck with I.S.O. Twin Pack Insulation Adhesive applied in ½" to ¾" wide ribbons spaced 12" o.c. or one ply of Firestone SBS Poly Torch Base or SBS Glass Torch Base sheet, torch applied.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL or RESISTA Minimum 1.5" thick	N/A	N/A
Middle Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL or RESISTA Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck or SECURROCK Gypsum-Fiber Roof Board Minimum ¼" thick	N/A	N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of vapor barrier or insulation. All insulation shall be adhered to the deck with I.S.O. Twin Pack Insulation Adhesive applied in ½ - ¾" wide ribbons spaced 12 in. o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Base Sheet: One or more plies of Firestone SBS Poly Torch Base, SBS Glass Torch Base, or SBS Glass Torch Base 1.5 sheet is torch adhered to the coverboard.

Ply sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.



Membrane: One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or LiquiGard Membrane Adhesive applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. wide side laps.
Or
One ply of SBS Glass FR Torch, SBS Glass FR Torch Ultrawhite, SBS Torch, SBS Torch Ultrawhite, SBS Premium Torch, SBS Premium Torch Ultrawhite, SBS FR Torch, SBS FR Torch Ultrawhite, SBS Premium FR Torch, SBS Premium FR Torch Ultrawhite torch adhered with minimum 3 in. wide side laps.

Surfacing: (Optional) Install one of the following to obtain required fire classification. Any coating, listed below, used as a surfacing, must be listed within a current NOA.

1. Roof Gravel in Firestone Multi-Purpose MB Cold Adhesive
2. Roof Gravel in a flood coat of approved asphalt
3. Karnak 169 Aluminum Coating

Maximum Design Pressure: -127.5 psf. (See General Limitation #9)



Membrane Type: SBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Concrecel Cellular Lightweight Concrete (Min. 300 psi)

System Type E(23): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: Structural Concrete deck. Minimum 1" Apache Holey Board Polystyrene Insulation panels shall be placed in a minimum ¼" slurry-coat of Concrecel Cellular concrete and allowed to cure overnight. The following day the rigid insulation shall be covered with a minimum 2 ¼" topcoat cast of Concrecel Cellular insulating concrete. Cured with Concrecel Curing Compound applied at a rate of 600ft²/gal.

Base Sheet: One ply of Firestone SBS Smooth, SBS Base, MB Base or MB Base M mechanically fastened to the lightweight deck as described below:

Fastening: OMG CR Base Sheet Fasteners and discs or CR Assembled Base Sheet Fasteners at a 3" side lap 7" o.c. and two rows staggered in the center of the sheet 7" o.c.

Ply Sheet: (Optional) One layer of MB Base, SBS Smooth, SBS Base or one or more plies of Firestone Ply IV, Ply IV (4) M, Ply VI or Ply VI (6) M ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one or more plies of Firestone SBS Glass Torch Base or SBS PolyTorch Base torch adhered.

Membrane: One ply of Firestone SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Smooth, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

OR

(Not with MB Base or MB Base M) One ply of Firestone SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal/square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal/square.

OR

One ply of Firestone SBS Torch, SBS Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS Premium FR Torch or SBS Premium FR Torch UltraWhite torch adhered.

OR

Firestone SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite is fully adhered to the base sheet with Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal/sq.

OR

Firestone SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS Premium, SBS Premium FR or SBS Premium FR UltraWhite adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 25-30 lbs./sq.

OR

SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, BS Premium FR Torch or SBS Premium FR Torch UltraWhite torch adhered.

*Cap sheets are to be applied to approved base/ply sheets.

Maximum Design
Pressure:

-60 psf (See General Limitation #7.)



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Membrane Type: SBS
Deck Type 4: Lightweight Concrete, Non-Insulated
Deck Description: Cellular Lightweight Concrete (Min. 300 psi)
System Type E(19): Base sheet mechanically fastened.

All General and System Limitations Apply.

Deck: 22 ga, type B, vented steel deck shall be secured to each flute alone intermediate supports, spaced a maximum of 5 ft on centers, with ½" washers and #12-24 x 1-1/4" HWH self-drilling screws. Minimum 1" EPS boards shall be placed in a minimum 1/8" slurry-coat of Cellular Lightweight Concrete and allowed to cure overnight. The following day the rigid insulation shall be covered with a minimum 2" topcoat cast of Cellular Lightweight Concrete. *Lightweight Concrete should record a Minimum Characteristic Resistance Force (MCRF) of 176.3 lbf when tested with 1.7" LWC Base-Ply fasteners in accordance with TAS 105.

Base Sheet: One or more plies of Firestone MB Base, SBS Base, SBS Glass Torch Base, SBS Premium Base, SBS PolyBase, SBS Poly Torch Base mechanically fastened to the lightweight deck as described below:

Fastening: Firestone 1.7 in. Assembled LWC Base Ply Fastener spaced 7" o.c. at the 3" wide side laps and 7" o.c. in two staggered rows in the field of the base sheet.

Ply Sheet: (Optional) One or more plies of SBS Base, Ply VI, Ply VI (6) M, SBS PolyBase, MB Base, SBS Smooth, or SBS Premium Base fully bonded with LiquiGard Adhesive at rate of 1.5-2 gal/sq.

OR

One or more plies of SBS Base, Ply VI, Ply VI (6) M, SBS PolyBase, MB Base, SBS Smooth, or SBS Premium Base fully bonded with Multi-Purpose MB Cold Adhesive at rate of 1.5-2 gal/sq.

OR

One or more plies of SBS Base, Ply VI, Ply VI (6) M, SBS PolyBase, MB Base, SBS Smooth, or SBS Premium Base fully adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 2-30 lbs./sq.

OR

One of more plies of SBS Glass Torch Base or SBS Poly Torch Base torched applied.

Membrane: One ply of Firestone SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS Preimum, SBS Premium FR or SBS Premium FR UltraWhite is fully adhered with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal/square. The minimum 3 in. wide side laps are sealed with LiquiGard Membrane Adhesive squeegee applied at a rate of 1.5 – 2.0 gal/square.

OR

Firestone SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS Preimum, SBS Premium FR or SBS Premium FR UltraWhite is fully adhered to the base sheet with Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal/sq.

OR

Firestone SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Smooth, SBS Cap, SBS Cap UltraWhite, SBS Preimum, SBS Premium FR or SBS Premium FR UltraWhite adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 25-30 lbs./sq.

OR

SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, BS Premium FR Torch or SBS Premium FR Torch UltraWhite torch adhered.

*Cap sheets are to be applied to approved base/ply sheets.

Maximum Design
Pressure:

-60 psf (See General Limitation #7.)



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Membrane Type:	APP
Deck Type 4:	Lightweight Concrete, Non-Insulated (See LWC Deck System Limitation)
Deck Description:	Cellular or Aggregate Lightweight Insulating Concrete
System Type E(7):	Base Sheet Mechanically Fastened
All General and System Limitations Apply.	
Base Sheet:	One ply of Firestone MB Base or MB Base M mechanically fastened as described below.
<i>Fastening Options #1:</i>	Firestone 1.7 in. Assembled LWC Base Ply Fastener or ES Products FM-90 fasteners, FM-60 fasteners with FM-30 disks at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet. (Maximum Design Pressure -45, See General Limitation #7.)
<i>Fastening Options #2:</i>	Firestone 1.7 in. Assembled LWC Base Ply Fastener or ES Products FM-90 fasteners, FM-60 fasteners with FM-30 disks at a fastener spacing of 12" o.c. at the 2" wide side laps and 9" o.c. in three equally spaced rows in the field of the base sheet. (Maximum Design Pressure -45, See General Limitation #7.)
<i>Fastening Options #3:</i>	Firestone Two Piece Impact Nail or ES Products Twin Loc-Nail at a fastener spacing of 9" o.c. at the 4" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet. (Maximum Design Pressure -60, See General Limitation #7.)
<i>Fastening Options #4:</i>	Firestone 1.7 in. Assembled LWC Base Ply Fastener or ES Products FM-90 fasteners, FM-60 fasteners with FM-30 disks at a fasteners spacing of 7.5" o.c. at the 3" wide side laps and 7.5" o.c. in two equally spaced rows in the field of the base sheet. (Maximum Design Pressure -75, See General Limitation #7.)
Ply Sheet:	(Optional) One or more plies of APP 160-P heat welded. Or One or more plies of Firestone MB Base, Ply IV , Ply IV (4) M, Ply VI or Ply VI (6) M Ply Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one or more plies of Firestone SBS Glass Torch Base or SBS PolyTorch Base torch adhered.
Membrane:	Firestone APP 180, APP 180-P, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite, heat welded.
Surfacing:	(Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following: <ol style="list-style-type: none"> 1. Gravel or slag at 400 lbs. and 300 lbs. respectively, set in a flood coat of Type III or IV asphalt at 60 lbs./sq. 2. Karnak No. 97, No. 97 AF or No. 169 at an application rate of 1-1/2 to 3 gal./sq.
Maximum Design Pressure:	See Fastening Options Above.

