

Roof Survey Evaluation Report Copper Canyon High School



9126 West Camelback Road
Glendale, Arizona 85305

Prepared For:

Tolleson Union High School District
9801 West Van Buren Street
Tolleson, Arizona 85353

RedTree CONSULTING
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June 3, 2015
RTC # 2015-13004

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June 3, 2015

Mr. Richard Oros
Executive Director of Facilities Management

Mr. Oros,

This report contains Red Tree Consulting's (RTC) initial findings and recommendations concerning the Copper Canyon High School located in Glendale, Arizona. If you have any questions or concerns regarding the content of this report, please do not hesitate to contact us at your convenience.

INTRODUCTION

The High School consists of several structures (See Overlay # 1). RTC was asked to survey the roof and surrounding structures at Building's # 300, 500 (lower roofs only), 800, 1000, 1100, 1200 and 1400.



Overlay # 1: Building Identification Overlay of Copper Canyon High School.

INVESTIGATION AND OBSERVATIONS

RTC visually inspected the requested roofs and surrounding structures, documented the existing conditions with photographs and field notes. All recommendations were based on the visual observations and reports provided by others. RTC did not perform any destructive or invasive testing at the time of this report.

REFERENCED STANDARDS

2012 International Building Code (IBC)
National Roofing Contractors Association – Roofing Manual

ROOF SYSTEMS

According to visual observations and statements made by facility staff, all roof systems investigated are built-up roofs (BUR) installed on wood sheathing constructed in 2005 (See Figure #1 for a typical BUR system). Note: Assembly diagrams below are for illustration purposes only, existing construction may vary as related to structural systems and substrates. The maintenance staff stated all roof systems investigated have on-going water intrusions into the interior of the buildings.

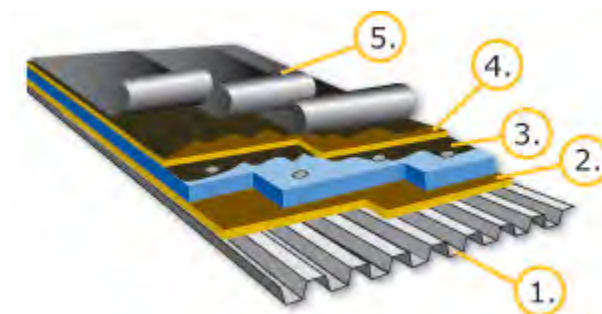


Figure # 2 Key:

- 1 - Structural Substrate**
- 2 - Fiberboard**
- 3 - Foam Insulation**
- 4 - Fiberboard**
- 5 - 3, 4, or 5 multi-ply BUR system**

Figure # 1: Typical Bituminous Roofing System: Built of Roof (BUR) cross section.

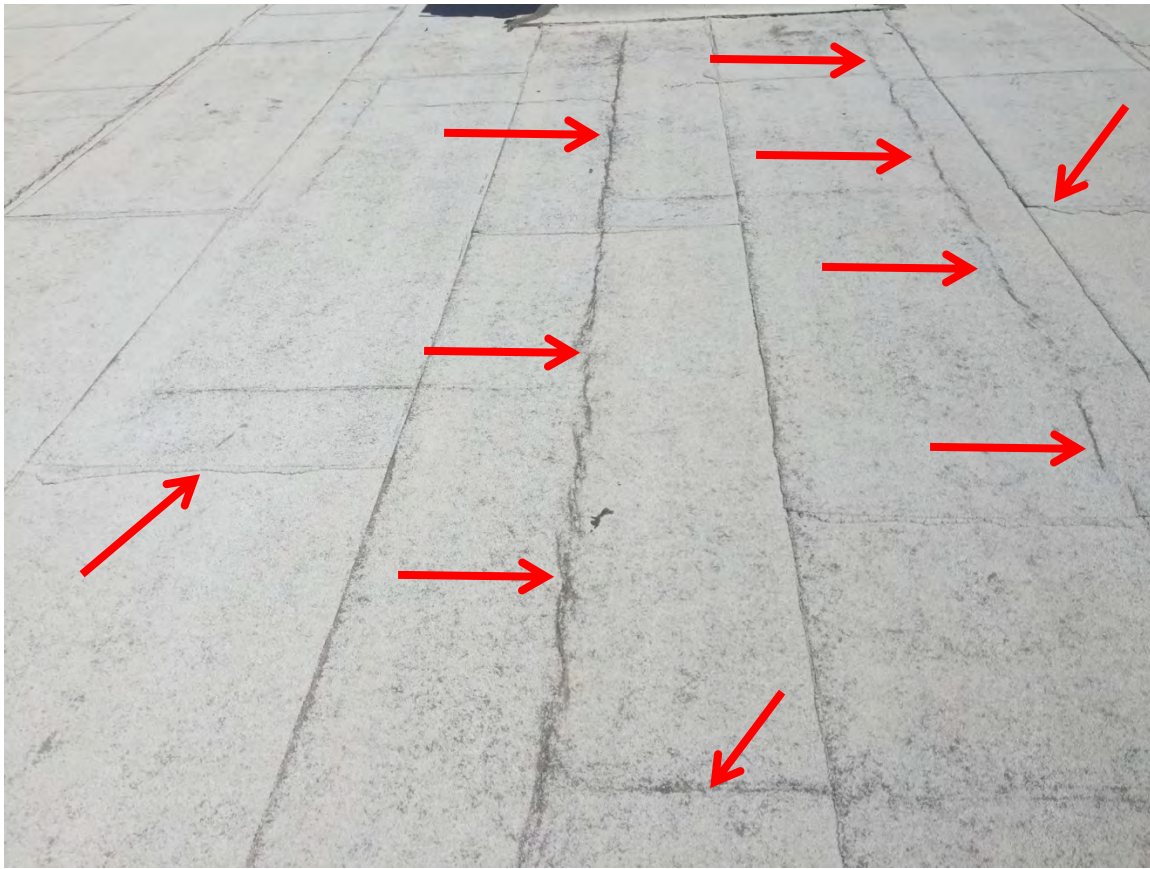
INVESTIGATION



The highlighted buildings indicate the roofs and surrounding structures inspected. The identified BUR roof systems above were constructed generally in the same time frame using the same product materials and workmanship practices. The roof systems are no longer covered within the contractor labor or material product manufacturer warranty as they have since expired (APPENDIX 1).



Overview photograph of the existing BUR roof system at Building # 1000, this roof system and its conditions are typical at Building's # 300, 500, 800, 1100, 1200 and 1400.



Red Arrows identifying buckling of the BUR cap sheet. This buckling causes a tear in the cap sheet and will allow moisture into the interior of the system. This condition is typical of the roof systems at Building # 300, 500, 800, 1000, 1100, 1200 and 1400. In 2012, TUHSD had destructive testing done at Building # 1000 and 1200 (APPENDIX 2). The destructive testing performed by WRECORP removed the roof plys to expose the insulation board. WRECORP observed that the fastener spacing and placement in the insulation board was incorrect in several observed areas. This condition is causing the widespread buckling condition throughout the identified roof systems.



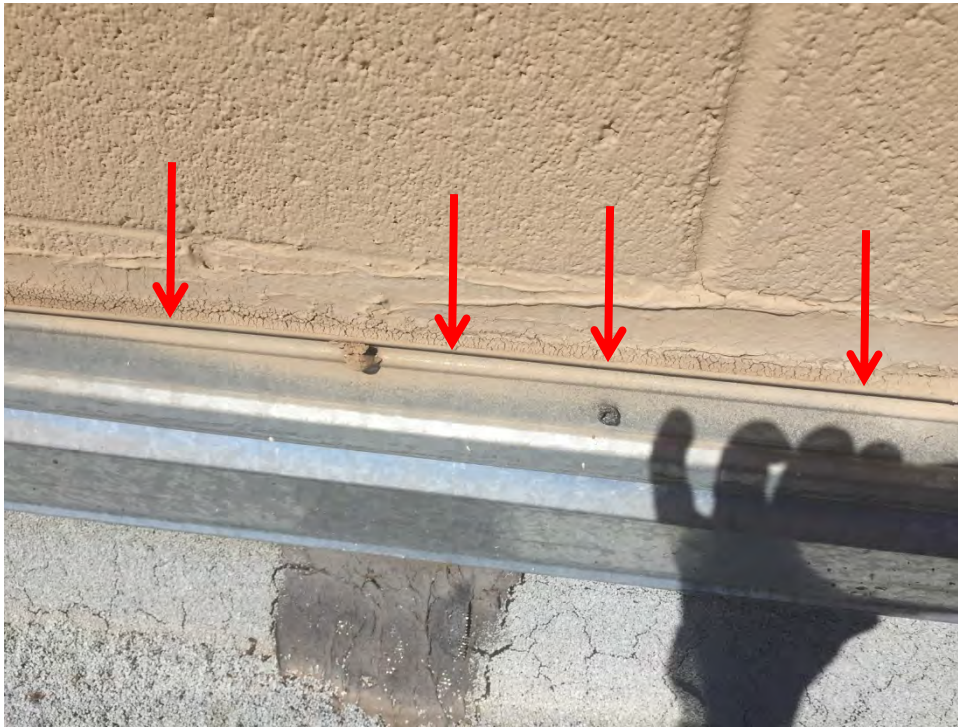
Overview photograph of buckling at the cap sheet that was patched incorrectly with roofing plastic. The plastic has shrunk and the crack has reopened.



The red circle is identifying alligatoring¹. Over time, constant sun exposure weakens the asphalt and causes it to dry out. As it dries out in the sun, it becomes brittle and cracks. Once it cracks, it no longer is functioning as the top layer in the weatherproofing system. This condition is typical and found throughout the roof systems of the school. RTC observed this in several areas below the Reglet² and isolated areas throughout the roof field.

¹ Alligatoring is a characteristic in asphalt, which occurs during aging. Exposed asphalt inherently over time loses volatile oils, in conjunction with oxidation caused by UV exposure and creates a pattern of cracks. These cracks resemble alligator hide.

² Reglet flashing is installed between a wall (or the back side of a parapet wall) and a roof. The Reglet flashing is combined with counter flashings to avoid leaks in one of the most crucial areas of a roof, which is a ninety-degree edge.



The red arrows are identifying cracked and deteriorated sealant at the Reglet to masonry wall intersection. This condition is most likely allowing moisture behind the Reglet and below the roof system. This condition is typical throughout the roof systems.



The cap sheet at the mechanical curbs have alligatored and cracked. The cracking and alligatored extends into the three (3) course at the corner. This is a typical condition observed throughout the roof systems.



Area of ponding³ in front of the primary and overflow scuppers. This condition was noted at isolated locations and not typical throughout.

³ When storm water is unable to drain, water will pool in the low areas. Over time, with each passing storm, the weight of the storm water will deflect the structural system beyond the structures bending point, thus allowing a bigger puddle to form. As a bigger puddle forms more weight is applied to the structural system causing more bending, allowing an even bigger puddle, then more weight, until the structure fails.



Roof scupper three (3) course repair has alligatored, cracked and shrunk allowing the fiber tape to become exposed (red arrows). This repair is no longer performing as intended. This condition was noted at isolated locations and not typical throughout.

DISCUSSION & RECOMMENDATIONS

The BUR cap sheet has buckled and cracked in several areas throughout the roofs inspected. This buckling and tearing, as concluded by the destructive testing completed by others, is caused by the gaps between the insulation boards. In addition to the buckling identified throughout the roof systems, the existing cap sheet oils have dried out that has created several areas of alligatoring, a condition often due to ultra violet radiation and subsequent embrittlement of the roof membrane. The alligatoring has produced cracks through the surface bitumen, once the crack splits it allows moisture into the roofing system.

School facility staff has attempted several isolated repairs to correct ongoing water intrusions. However, almost all of the repair areas observed have already failed.

Based on the survey and the items documented herein RTC believes there are several different options for roof replacement or roof renovations. However, we believe there are two (2) reasonable options for corrective measures, with OPTION A being the preferred recommendation.

- OPTION A is to install a cover board and DUROLAST fully adhered polyvinyl chloride (PVC) membrane over the existing BUR roof system. This option includes preparation of the existing buckles and refastening of the existing insulation board.
- OPTION B is to remove the existing bituminous roofing systems down to the deck and install either a new bituminous or a fully adhered PVC roof system following all manufacturers' recommendations and industry standards.

OPTION A

OPTION A when installed per the DUROLAST specifications and details then inspected by a DUROLAST quality assurance technician this will include a no dollar limit (NDL) warranty for both materials and labor for a twenty (20) year period. This warranty will also feature no exclusions for ponded water, biological or algae attack and shall also include the first fifteen (15) years of consequential damage coverage for up to twenty (20) million dollars.

A licensed, bonded and insured roofing contractor to:

- Provide a product manufacturer to engage third party testing firm to conduct roof pull test to verify tensile integrity and compliance with all wind uplift requirements. Areas with loose cap sheet can be repaired and refastened to the deck as necessary to meet all wind uplift requirements.
- Roof surface preparation to includes but not limited to cleaning, cutting and then fastening down existing buckles.
- Remove and dispose of all base flashings.
- Overlay entire existing system with a ¼" fire rated hard board (DensDeck). Mechanical fasten board at a rate of sixteen (16) fasteners per four (4) by eight (8) foot sheet. Fasteners to be installed per manufacturer recommendations. The fastening of the new ¼" hard board will also penetrate the existing fiberboard, which will meet those standards and will prevent any cupping.

- Install new fully adhered Durolast polyvinyl chloride single ply system over the new DensDeck (hardboard).

OPTION B

If a tear off is preferred in lieu of OPTION A, several roofing systems would accommodate the existing structure. However, we are recommending two (2) roof systems based on the existing conditions, labeled 1B and 2B as outlined below.

1B) Remove the existing bituminous roof system down to the existing roof deck and replace with a new fully adhered poly vinyl (PVC) roof system.

OR

2B) Remove the existing bituminous roof system down to the existing roof deck and replace with a new bituminous roof system.

Either roof system would provide a manufacturer product warranty, along with a contractor's installation warranty; contract length and terms would be dependent on the type of roof product installed. Below is a brief benefit summary of the PVC and MB roof systems below.

PVC Benefits:

- The PVC roofing membrane is made by a process of heat welding seam technology, that not only allows for virtually one single piece of PVC roofing to cover an entire roof's surface and eliminate seams and joints, but also provides excellent flexibility. This makes PVC roofing applicable to practically any shaped surface.
- Installation process is relatively quick and simple.
- The material itself is extremely durable, and has high resistance to punctures and impact, as well as fire propagation and flame exposure resistance.
- PVC roofing also has good tolerance for thermal movement because of its flexibility, and is exceptionally tough against contamination and rooftop soiling.
- PVC roofing is virtually maintenance free, as it is both waterproof and dirt resistant.
- Typically woven with fabrics such as glass fiber and polyester, the PVC roofing membrane can provide up to 80% solar reflectivity, thereby reducing heat island effects and cooling costs.
- PVC roofing is aesthetically appealing, and suitable to both old and new structures.
- Roof life expectancy of twenty (20) years.
- Twenty (20) year product manufacturer warranty.

Bituminous Roofing Benefits:

- Proven track record of performance.
- Superior waterproofing characteristics.
- Broad range of application methods.
- Wide choice of top-surfacing, including "Cool Roofing" options.
- With insulation, provides an even, better performing building component.
- High tensile strength.
- Available as part of a fire, wind, and/or hail rated roofing system.
- Competitive life-cycle cost.
- Available with flame-free and VOC-free installation.
- Roof life expectancy of ten (10) to fifteen (15) years.
- Ten (10) or fifteen (15) year product manufacturer warranty.

OPTION A COST SUMMARY (COVER BOARD & NEW PVC)

Below is the OPTION A preliminary cost estimate for budgeting purposes. The estimated length of the renovation including the permitting process, contractor scheduling and the installation of the cover board and fully adhered 50mil polyvinyl chloride membrane will take approximately ten (10) weeks, weather permitting.

Scope of Work Summary	Estimated Cost
• Install cover board and new PVC roof system at BLDG # 300 (includes all associated patio BUR's)	\$ 116,950.00
• Install cover board and new PVC roof system at BLDG # 500 (includes all associated patio BUR's)	\$ 207,000.00
• Install cover board and new PVC roof system at BLDG # 800 (includes all associated patio BUR's)	\$ 72,300.00
• Install cover board and new PVC roof system at BLDG # 1000 (includes all associated patio BUR's)	\$ 127,800.00
• Install cover board and new PVC roof system at BLDG # 1100 (includes all associated patio BUR's)	\$ 44,500.00
• Install cover board and new PVC roof system at BLDG # 1200 (includes all associated patio BUR's)	\$ 127,800.00
• Install cover board and new PVC roof system at BLDG # 1400 (includes all associated patio BUR's)	\$ 71,700.00
• A/E Design & Construction Administration Fees	\$ 21,062.00
• Permitting	\$ 4,500.00
TOTAL :	\$ 793,612.00

OPTION 1B COST SUMMARY (PVC)

Below is the OPTION 1B preliminary cost estimate for budgeting purposes. The estimated length of the renovation including the permitting process, contractor scheduling, removal of the existing roof system and the installation of the new PVC roof system will take approximately ten (10) weeks, weather permitting.

Scope of Work	Estimated Cost
• Remove existing roof system and install new PVC roof system at BLDG # 300 / 500 / 800/ 1000 / 1100 / 1200 / 1400	\$ 1,591,742.78
• A/E Design & Construction Administration Fees	\$ 21,062.00
• Permitting	\$ 4,500.00
TOTAL :	\$ 1,617,499.36

OPTION 2B COST SUMMARY (BUR)

Below is the OPTION 2B preliminary cost estimate for budgeting purposes. The estimated length of the renovation including the permitting process, contractor scheduling, removal of the existing roof system and the installation of the new BUR roof system will take approximately ten (10) weeks, weather permitting.

Scope of Work	Estimated Cost
• Remove existing roof system and install new BUR roof system at BLDG # 300 / 500 / 800/ 1000 / 1100 / 1200 / 1400	\$ 823,664.59
• A/E Design & Construction Administration Fees	\$ 21,062.00
• Permitting	\$ 4,500.00
TOTAL :	\$ 849,226.59

EXECUTIVE SUMMARY

The existing roof system(s) have multiple areas where it has failed creating water intrusions into the interior of the building. The destructive testing completed by others confirms that the existing insulation board fasteners were improperly spaced and located. The UV degradation of the cap sheet is visible throughout the roofs where the oils from the roof ply have dried out and in some locations created an alligator condition. The alligator condition and the drying out of the oils have led to cracking and embrittlement of the roof ply.

Continuing to perform isolated roofing repairs to the existing roof systems is no longer sufficiently correcting the ongoing water intrusions. The roofing systems are in need of renovation to correct the existing conditions. There are two recommended renovation options, OPTION A and OPTION B. Either option will correct the problematic roofing conditions but OPTION A is the preferred recommendation. OPTION A is a substantial cost savings when compared to OPTION B and includes a no dollar limit (NDL) warranty of twenty (20) years for labor and material. This warranty has no exclusions for ponded water, biological or algaecide attack and will also include the first fifteen (15) years of consequential damage coverage for up to twenty (20) million dollars.

Below is a cost summary of the recommended renovation OPTION A contained herein.

OPTION A	Total Cost (EST.)
PVC Overlay	\$ 768,050.00
A/E & C/A FEES	\$ 21,062.00
Permitting	\$ 4,500.00
TOTAL:	\$ 793,612.00

RTC has based the recommendations and findings in this report upon all information available at the time this report was drafted. RTC reserves the right to alter any recommendations in this report should new information be made known or available during demolition or reconstruction of the project.

Any and all recommendations in this report are provided to the current Owner of this property and are specific only to the property listed in this report. Prior to commencement of any work, a comprehensive asbestos survey, including a written report, should be available and located on the school property.

Thank you for allowing Red Tree Consulting the opportunity to provide you with these professional consulting services. Please do not hesitate to contact us at your convenience with any questions or concerns you may have.

Sincerely,



Michael L. Crow,
Managing Partner
Ph 602.989.2433
mcrow@redtreeco.com

APPENDIX 1



PROGRESSIVE ROOFING



LIMITED WARRANTY

Owner: Tolleson USD
9419 W. Van Buren St
Tolleson, AZ 85353

Project: Tolleson HS #4 @ Copper Canyon
9126 W. Camelback Rd.
Glendale, AZ

Warranty Period: 11/01/05-10/31/07

Warranty No: 5101-3-226

Scope: Built up Roofing

For the warranty period indicated above, Progressive Roofing warrants to the owner that Progressive Roofing will, subject to the Terms, Conditions, Limitations, Definitions set forth below, repair any leak caused by a defect in the roofing system or in the workmanship performed by Progressive Roofing.

Terms, Conditions, Limitations, and Definitions

- The roofing system is limited to mean roof membrane, insulation and accessories, which were provided and installed by Progressive Roofing.
- Progressive Roofing shall have no obligation under this warranty until Progressive Roofing has received payment in full for all materials, supplies, services, warranty cost and other cost which are included in, or incidental to, the roofing system. In the event a leak should occur in the roofing system: (a) The Owner must give written notice to Progressive Roofing within five (5) days of any occurrence of a leak. By so notifying Progressive Roofing, the Owner authorizes Progressive Roofing or its designee to investigate the cause of the leak. (b) If upon investigation, Progressive Roofing determines that the leak is caused by a defect in the system or in the workmanship performed by Progressive Roofing, the Owner's sole and exclusive remedy and Progressive Roofing's liability shall be limited to the repair of the leak. (c) Should the investigation reveal that the leak is caused by something other than causes set forth in (b) above; investigation and repair cost will be paid by the Owner. Failure by Owner to pay for these costs shall render this roofing system warranty null and void. If the cause of the leak is determined by Progressive Roofing to be outside the scope of this warranty, Progressive Roofing shall advise the Owner of the type and/or extent of repairs required to be made at the Owner's expense which, if the Owner properly makes, will permit this warranty to remain in effect for the unexpired portion of its term. Failure by the Owner to make these repairs in a reasonable manner and within a reasonable time shall render this warranty null and void.
- No alterations shall be made to the roofing system. Progressive Roofing must perform all repairs and tenant improvements for the duration of the warranty period. Failure of the Owner to pay all invoices for repairs and tenant improvements shall render this warranty null and void.
- Progressive Roofing shall have no obligation under this 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, winds in excess of 50 MPH, hurricanes, tornadoes, wind gust exceeding Force 7 on the Beaufort Scale, hail, lightning, earthquakes, atomic radiation, insects, or animals; (b) Failure of the Owner to use reasonable care in maintaining the roof, said maintenance to include, but not limited to those items listed above; (c) Deterioration or failure of building components, including, but not limited to, the roof substrate, walls, mortar, HVAC units, etc.; (d) Condensation of infiltration of moisture in, through, or around the walls, coping rooftop hardware or equipment, building structure or underlying or surrounding materials; (e) Any acid, oil, animal fat, or harmful chemical which comes in contact with the roofing system, which damages the system, or which impairs the system's ability to resist leaks; (f) Damage caused by insects and other vermin; (g) Damage to roof system resulting from traffic, storage or movement of materials or equipment, lack of positive drainage and building design or construction; (h) Failure to give proper notice as set forth in paragraph 3(a) above.
- During the term of this warranty, Progressive Roofing, its designated representative or employees, shall have free access to the roof during regular business hours.
- Progressive Roofing'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 warranty.
- This warranty shall be transferable subject to Progressive Roofing's inspection, written approval and receipt of warranty transfer fee, if applicable.

Mark E. Farrell, Vice President

November 14, 2005

Date

PROGRESSIVE SERVICES, INC. D.B.A. PROGRESSIVE ROOFING

HOME OFFICE
23 N. 35TH AVENUE
PHOENIX, AZ 85009
(602) 278-4900

FAX (602) 278-6896
ESTIMATING FAX (602) 278-8014

047565 C-42 (AZ) 073961 L-42 (AZ)

4222 W. JEREMY PLACE
TUCSON, AZ 85741
(520) 744-6707

FAX (520) 744-3770
ESTIMATING FAX (800) 844-8321

082768 C-05 (AZ) 082792 BE (AZ)

13195 TOWNSEND-WINONA RD
FLAGSTAFF, AZ 86004
(520) 714-0688

FAX (520) 714-0677
ESTIMATING FAX (800) 844-8321

577294 C-39 (CA) 082793 AE (AZ)

3953 W. OQUEENDO RD
LAS VEGAS, NV 89118
(702) 798-3973

FAX (702) 798-3954
ESTIMATING FAX (800) 844-8321

034331 G5-21 (NM) 22625 C-15A (NV)



*"Quality You Can Trust Since 1886...
From North America's Largest Roofing Manufacturer"*

*Guarantee Services
1361 Alps Road
Building 11-2
Wayne, NJ 07470
(800) 766-3411, Option #2*

February 23, 2006

TOLLESON UHSO
9419 N. VAN BUREN STREET
TOLLESON, AZ 85353

Re: TOLLESON 1-5 @ COPPER CANYON- PERFORMING ARTS CTR
9126 W. CAMELBACK ROAD
GLENDALE, AZ 85307
Guarantee #: G2005-00008326

Dear TOLLESON UHSO:

Thank you for choosing a GAF Materials Corporation GAFGLAS DIAMOND PLEDGE:10 Guarantee for your roofing system. We believe that you've made the best and safest choice to protect your property for years to come.

We've enclosed the following items in this package:

- Your Guarantee - please keep this in your files. You'll need it in the unlikely event that there is a problem with your roof, or if you should sell the property.
- Well Roof™ Advantage Information Sheet - we can help you extend your Diamond Pledge Guarantee coverage length for an additional 25% at no charge! This sheet gives you a quick explanation of the Well Roof program, requirements, and benefits. Contact us for more details!
- Roofing Solutions Reference Manual - explains the importance of regular roof maintenance, and can help you get started on setting up a roof maintenance program. Remember, regular inspections and maintenance are a requirement of any roofing system guarantee. After you've had a chance to read the manual, we suggest that you set up a time to discuss a maintenance program with Progressive Roofing Company, the GAF Master Select Commercial Roofing Contractor that installed your new roofing system.
- Scheduled Maintenance Checklists Booklet - provides you with suggested inspection checklists that you and your contractor can use for the life of your guarantee - and beyond.
- Stop Sign - attach this sign to the main point of entry to your roof system. It helps remind other trades that may need to access the roof about the importance of being careful with your investment. Your contractor can provide you with more if needed.

Remember, if you ever have any questions or concerns regarding your roofing system, we're here to help you at (800) 766-3411, Option #2 - or contact us at the e-mail address below. And thanks for choosing GAF!

Cordially,

Guarantee Services

E-mail: wguarantee@gaf.com

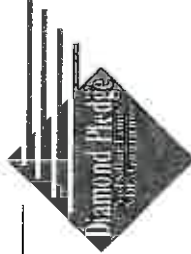
cc: Project File



No. GEWE4358-0304

DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N



TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS
 OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353
 NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD 100
 ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307
 SPECIFICATION: 104M AREA OF ROOF: 141.00 SQUARES
 TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET
 APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX, AZ
 DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, preflashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges

6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsoco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of \$500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does NOT cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornadoes, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of \$500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a \$300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory, in NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to, interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470

By: 
Authorized Signature



No. GEWE4359-0304



DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS
 OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353
 NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD. 200
 ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307
 SPECIFICATION: ID4M AREA OF ROOF: 166.00 SQUARES
 TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET
 APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX, AZ
 DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, prefabricated accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

This is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Murods or Lexsoco flashings are used, they are covered by this guarantee only for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of \$500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does NOT cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornadoes, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of \$500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a \$300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED. INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION

1361 ALPS ROAD

WAYNE, NJ 07470

By: *August Kuning*

Authorized Signature

August 19, 2004

Date

COMTS587A



No. GEWE4360-0304

DIAMOND PLEDGE™ ROOF GUARANTEE



Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD. 300

ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: 104M AREA OF ROOF: 173.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY, L PHOENIX, AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, prefinished accessories, coated edge metal, and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsoco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of \$500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does NOT cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornadoes, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or the moset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g. base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of \$500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a \$300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete.

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to, intender or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470

By: *Elizabeth Kennedy*
Authorized Signature

Date

August 19, 2004



No. GEWE4361-0304

DIAMOND PLEDGE™ ROOF GUARANTEE



Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD. 500

ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: 104M AREA OF ROOF: 526.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX, AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, prefashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Spills not caused by structural failure or movement of cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends, as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Micors or Lexsoco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: The roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of \$500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does NOT cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornadoes, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, ceilings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of \$500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a \$300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory, in NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to, inflation or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470

By: 
Authorized Signature Date



No. GEWE 4362-0304



DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS
 OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353
 NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD 800
 ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307
 SPECIFICATION: 104M AREA OF ROOF: 129.00 SQUARES
 TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET
 APPLIED BY: PROGRESSIVE ROOFING COMPANY, I, PHOENIX, AZ
 DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, prefashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Spalls not caused by structural failure or movement of or cracks in substrate, roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below.

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. **NOTE:** the roofing contractor is **NOT** an agent of GAFMC; notice to the roofing contractor is **NOT** notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of \$500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does **NOT** cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornadoes, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g. base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. **NOTE:** Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of \$500. This Guarantee is **NOT** otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a \$300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete.

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. IN NO EVENT SHALL GAFMC BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION

1361 ALPS ROAD

WAYNE NJ 07470

By: *Anthony Kenneth*
Authorized Signature

Date

August 19, 2004

CEMT587A

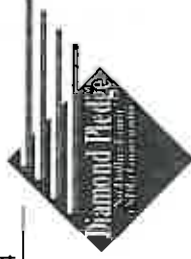


GAF
MATERIALS
CORPORATION

Nc. GEWE4363-0304

DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N



TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS
OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85355
NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON 3LD, 900
ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307
SPECIFICATION: 104M AREA OF ROOF: 258.00 SQUARES
TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET
APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX, AZ
DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner, of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, prefashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges

6. Spills not caused by structural failure or movement of cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsoco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of \$500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does NOT cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornadoes, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of \$500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a \$300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory, in NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470

By: *Elizabeth Kennedy*
Authorized Signature

Date

August 19, 2004



No. GEWE4364-0304

DIAMOND PLEDGE™ ROOF GUARANTEE



Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD 1100

ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: 104M AREA OF ROOF: 85.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX, AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, prefabricated accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Micors or Lexsoco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is **NOT** an agent of GAFMC; notice to the roofing contractor is **NOT** notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of \$500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does **NOT** cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornadoes, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of \$500. This Guarantee is **NOT** otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a \$300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to, intarior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION

1361 ALPS ROAD

WAYNE, NJ 07470

By:  Authorized Signature

Date:

August 19, 2004



DIAMOND PLEDGE™ ROOF GUARANTEE

No. GEWE-4365-0304



Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD, 1200

ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: 104M AREA OF ROOF: 130.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY, PHOENIX, AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, prefashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Spills not caused by structural failure or movement of or cracks in substrate, roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Murobs or Lexsoco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of \$500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does NOT cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornadoes, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of \$500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a \$300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470

By: *Therese J. Korman*
Authorized Signature

Date

August 19, 2004

COMTS587A



DIAMOND PLEDGE™ ROOF GUARANTEE

No. GEWE4366-0304



Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS
 OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353
 NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL, COPPER CANYON BLD, 1300
 ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307
 SPECIFICATION: 104M AREA OF ROOF: 192.00 SQUARES
 TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET
 APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX, AZ
 DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, prefabricated accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Micurbs or Lexsoco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is **NOT** an agent of GAFMC; notice to the roofing contractor is **NOT** notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of \$500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does **NOT** cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornadoes, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of \$500. This Guarantee is **NOT** otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a \$300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470

By: *[Signature]*
Authorized Signature

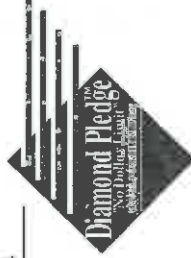
Date

August 19, 2004

COMTS587A



No. GEWE-4367-0304



DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD. 1400

ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: 104M AREA OF ROOF: 116.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX, AZ

DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, prefabricated accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Spills not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mcurbs or Lexsoco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of \$500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does NOT cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornadoes, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of \$500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a \$300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION

1361 ALPS ROAD

WAYNE NJ 07470

By: *Blayne Kenneth*

Unauthorized Signature



No. GEWE-4368-0304



DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS
 OWNER: TOLLESON UNIFIED HIGH SCHOOL DISTRICT, TOLLESON, AZ 85353
 NAME AND TYPE OF BUILDING: TOLLESON HIGH SCHOOL COPPER CANYON BLD, 1500
 ADDRESS OF BUILDING: 9126 WEST CAMELBACK ROAD, GLENDALE, AZ 85307
 SPECIFICATION: 104M AREA OF ROOF: 21.00 SQUARES
 TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET
 APPLIED BY: PROGRESSIVE ROOFING COMPANY, L PHOENIX, AZ
 DATE OF COMPLETION: 07/27/2004 EXPIRATION DATE: 07/27/2014

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner, of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, prefashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Spills not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

This is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Murofs or Lexsoco flashings are used, they are covered by this guarantee only for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of \$500. This Guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does NOT cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornadoes, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or insulation; (b) improper installation or failure of any non-GAFMC building materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of \$500. This Guarantee is NOT otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a \$300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to, interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470

By: *[Signature]*
Authorized Signature

Date

August 19, 2004

Cont#5687A



No. G2005-00008326



DIAMOND PLEDGE™ ROOF GUARANTEE

Eligible for Extension: N
EZ Maintenance: N

TYPE OF GUARANTEE: GAFGLAS DIAMOND PLEDGE PERIOD OF COVERAGE: 10 YEARS

OWNER: TOLLESON UHSO, TOLLESON, AZ 85353

NAME AND TYPE OF BUILDING: TOLLESON 1-5 @ COPPER CANYON- PERFORMING ARTS CTR

ADDRESS OF BUILDING: 9126 W. CAMELBACK ROAD, GLENDALE, AZ 85307

SPECIFICATION: I04M AREA OF ROOF: 192.00 SQUARES

TYPE OF FLASHING: N/A LENGTH OF FLASHING: N/A LINEAL FEET

APPLIED BY: PROGRESSIVE ROOFING COMPANY / PHOENIX, AZ

DATE OF COMPLETION: 02/01/2006 EXPIRATION DATE: 02/01/2016

THE GUARANTEE

GAF MATERIALS CORPORATION ("GAFMC") guarantees to you, the original owner of the building described above, that GAFMC will repair leaks through the GAFMC roofing membrane, base flashing, insulation, expansion joint covers, prefashed accessories, coated edge metal and coating (the "GAFMC Roofing Materials") resulting from the causes listed below while this guarantee is in effect.

Scope Of Coverage - Leaks Caused by:

1. Natural deterioration of the GAFMC Roofing Materials
2. Blisters
3. Bare Spots
4. Fish-mouths
5. Ridges
6. Splits not caused by structural failure or movement of or cracks in substrate roof base or non-GAFMC insulation over which the GAFMC Roofing Materials are applied
7. Buckles and wrinkles
8. Workmanship in applying the GAFMC Roofing Materials
9. Slippage of membrane or base flashing

There is no dollar limit on covered repairs. Leaks caused by any materials other than those listed above, such as the roof deck, insulation, or any other materials used in the construction of the roof system, are not covered.

GUARANTEE PERIOD

This guarantee ends as of the date listed above. Note: Some systems require the use of specialized accessories in the roofing system. Where Mowbrs or Lexsoco flashings are used, they are covered by this guarantee **only** for the first 10 years. If the guarantee extension box is checked above, your guarantee can be extended by following the steps explained below.

ELIMINATOR™ ADVANTAGE

In addition to the repair of leaks as detailed above, if a Stratavent® Eliminator™ perforated venting base sheet is installed directly over isocyanurate insulation, GAFMC will also make repairs to eliminate blisters that occur between the Stratavent® Eliminator™ perforated venting base sheet and the isocyanurate insulation even if these blisters do not result in leaks.

EZ MAINTENANCE OPTION

Smooth surfaced built up and modified roof systems require reapplication of roof coating on average every three to five years in accordance with normal good roofing practice and to assure that this guarantee remains in full force. Roof systems coated with one coat of BMCA MB Plus or BMCA Surface Seal require coating only once every seven years for the guarantee to remain in full force and effect. Roof systems coated with two coats of BMCA MB Plus or BMCA Surface Seal require coating only once every ten years for the guarantee to remain in full force and effect.

OWNER'S RESPONSIBILITIES

In the event of a leak through the GAFMC Roofing Materials, you must notify the GAFMC Contractor Services Department, 1361 Alps Road, Bldg. 11-2, Wayne, New Jersey 07470 in writing about the leak within 30 days after its discovery or GAFMC will have no responsibility for any repairs. **NOTE: the roofing contractor is NOT an agent of GAFMC; notice to the roofing contractor is NOT notice to GAFMC.**

By notifying GAFMC, you authorize GAFMC to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this Guarantee, you agree to pay an investigation cost of \$500. This Guarantee will be cancelled if you fail to pay this cost within 30 days or receipt of an invoice for it. You must perform regular inspections and maintenance and keep records of this work. Any equipment or material that impedes any inspection must be removed at your expense so that GAFMC can perform inspections. You must make repairs to the building or roof components not covered under the guarantee that are identified by GAFMC during an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. This guarantee will be cancelled if you fail to do so in a timely manner.

You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAFMC Roofing Materials.

EXCLUSIONS FROM COVERAGE

This Guarantee does **NOT** cover conditions other than leaks or leaks caused by:

1. Lack of roof maintenance.
2. Unusual weather conditions or natural disasters including, but not limited to, windstorms, hail, floods, hurricanes, lightning, tornadoes, and earthquakes.
3. Damage to the roof constructed of the GAFMC Roofing Materials due to: (a) movement or cracking of the roof deck or building; (b) improper installation or failure of any non-GAFMC insulation or materials; (c) infiltration or condensation of moisture through or around the walls, copings, building structure or surrounding materials; or (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil.
4. Traffic of any nature on the roof.
5. Changes in the use of the building unless approved in writing in advance by GAFMC.
6. For any asphaltic or thermoset (EPDM) roofing system, conditions that prevent positive drainage or result from ponding water.
7. Any repairs, modifications or additions to the GAFMC Roofing Materials after the roof is completed, unless approved by GAFMC in writing in advance.
8. Any condition (e.g., base flashing height or lack of counter-flashing) that is not in accordance with GAFMC's Application and Specifications Manual unless specifically accepted by GAFMC in writing.

No representative, employee or agent of GAFMC has the authority to assume any additional liability or responsibility for GAFMC unless approved in writing by an authorized Contractor Services Manager. GAFMC shall not be responsible for or liable for any change or amendment to the GAFMC roof specifications in regard to the construction of the roof described above unless the change and/or amendment to the specifications is approved in writing by an authorized GAFMC Contractor Services Manager. **NOTE: Any inspections made by GAFMC are limited to a surface inspection only, are for GAFMC's sole benefit, and do not constitute a waiver of any of the terms and conditions of this guarantee.**

ASSIGNABILITY, GUARANTEE EXTENSION

You may assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing within 30 days after ownership transfer; 2) you make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials; and 3) you pay an assignment fee of \$500. This Guarantee is **NOT** otherwise assignable, directly or indirectly.

Your guarantee may be eligible for extension for up to five years depending on the specification. You must 1) notify GAFMC in writing 6 months before or up to 12 months after the expiration date that you wish to extend the guarantee; 2) pay a \$300 inspection fee and 3) make any repairs to the GAFMC Roofing Materials or other roofing or building components that are identified by GAFMC after an inspection as necessary to preserve the integrity of the GAFMC Roofing Materials. An approved roofer must then properly apply the appropriate BMCA liquid membrane to your roof, and notify GAFMC that it is complete.

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAFMC, whether any claim against it is based upon negligence, breach of warranty or any other theory. In NO event shall GAFMC be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to, interior or exterior damages and mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this Guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This Guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: This Guarantee becomes effective only when all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the Guarantee charge has been paid to GAF Materials Corporation.

GAF MATERIALS CORPORATION
1361 ALPS ROAD
WAYNE, NJ 07470

By: 
Authorized Signature

APPENDIX 2



Richard Oros
Facility Director
Tolleson Union High School District
9801 W. Van Buren St.
Tolleson, AZ 85353

Project: Copper Canyon High School, 9126 W. Camelback Rd. Tolleson, AZ 85305

Inspection Date: September 3, 2012

Inspectors: Jerry Brown, Randy Surls, Ernie Duran

Industry Standards: National Roofing Contractors Association.

WRECORP was retained to inspect the installation of the roof system at Copper Canyon High School. This report contains WRECORP's preliminary opinions on the existing conditions found at the time of the investigation.

All opinions, conclusions and/or recommendations within this report are subject to change in the event that any additional information is discovered or brought to the attention of WRECORP.

Summary of Conditions

- The two buildings investigated are typical of all buildings on campus with this type of roof system.
- Buckling and fracturing of membrane is typical and systemic.
- Gaps in the insulation are typical and systemic.
- Gaps in the insulation are causing the membrane to buckle and fracture.
- The air conditioning of the buildings could be felt blowing up through the gaps in the insulation. This condition was typical and systemic.
- Positioning of the insulation boards not being on top of a flute is typical and systemic.
- Incorrect fastening pattern is typical and systemic.
- The insulation board is the size and type specified but does not meet the minimum thickness to span the flute size on this type of metal deck.
- Roofing system must be installed perpendicular to the insulation board.

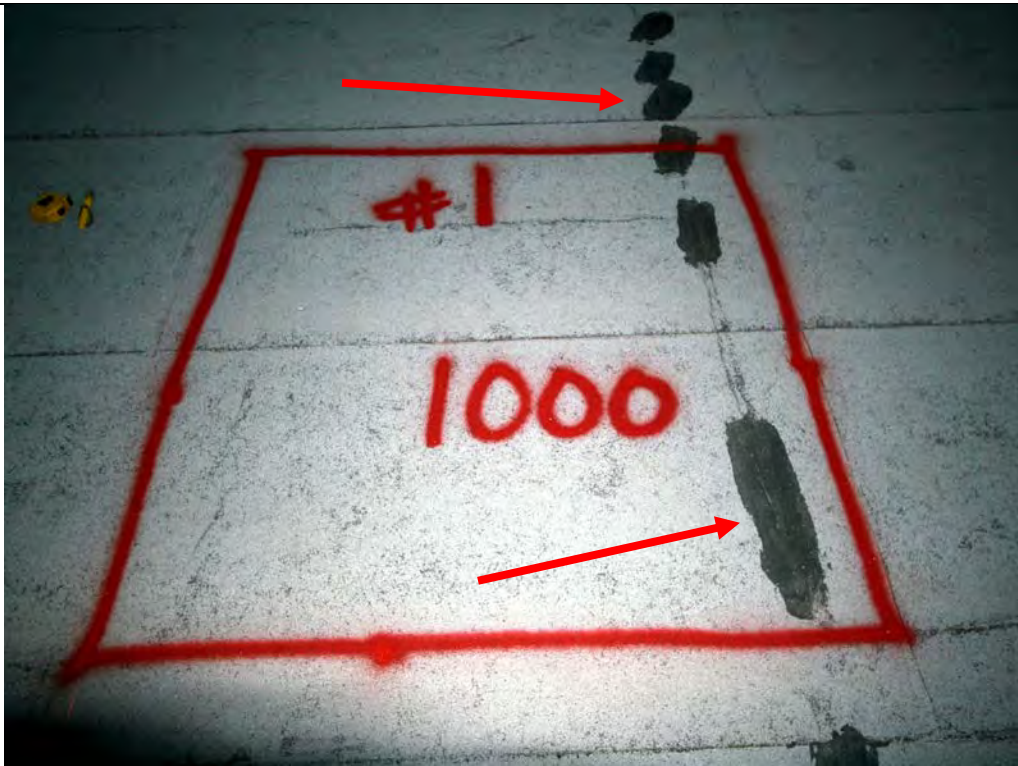


Copper Canyon High

Photo 1

Date: 9/3/12

Description: Bldg. 1000 identification

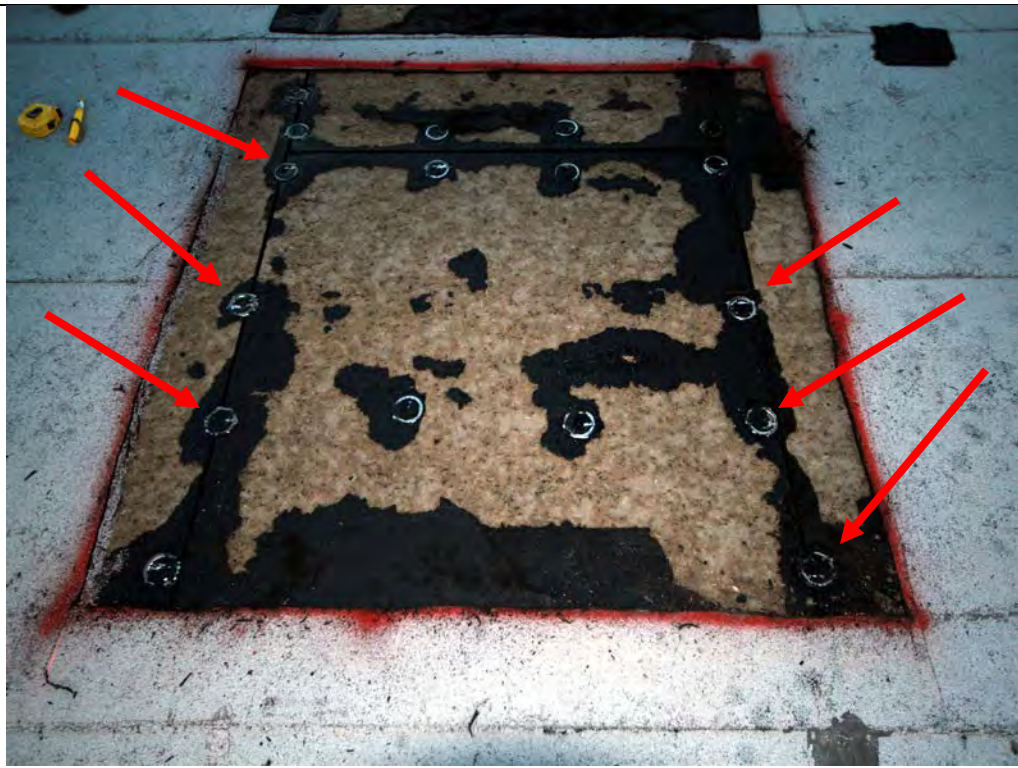


Copper Canyon High

Photo 2

Date: 9/3/12

Description: Bldg. 1000 test sample #1

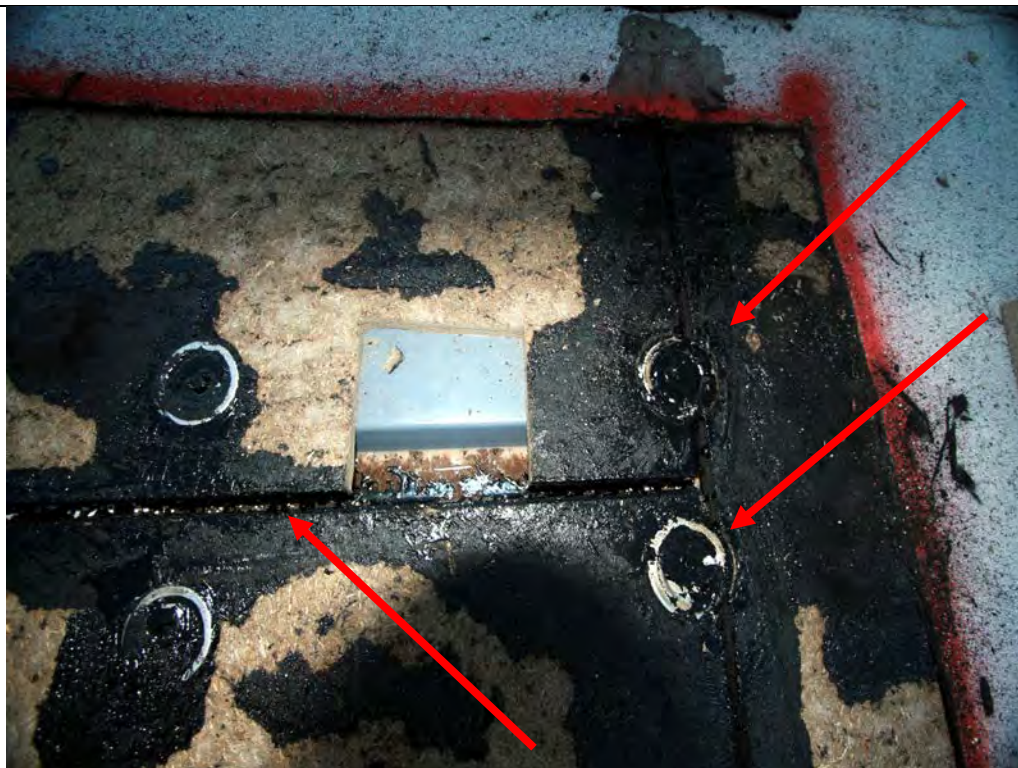


Copper Canyon High

Photo 3

Date: 9/3/12

Description: Bldg. 1000 fasteners and plates installed at incorrect locations. The arrows show that the fasteners were used to try to secure two separate boards.



Copper Canyon High

Photo 4

Date: 9/3/12

Description: Bldg. 1000 close up view of fastener spacing and location along with large gap at joints.



Copper Canyon High

Photo 5

Date: 9/3/12

Description: Bldg. 1000 red dots show where fastener spacing should have been located to be in compliance.



Copper Canyon High

Photo 6

Date: 9/3/12

Description: Bldg. 1000 3" plates were used (in compliance) but spacing and location are not in compliance. Large gap at insulation joint.



Copper Canyon High

Photo 7

Date: 9/3/12

Description: Bldg. 1000 marking paint was used to mark typical buckling of membrane.

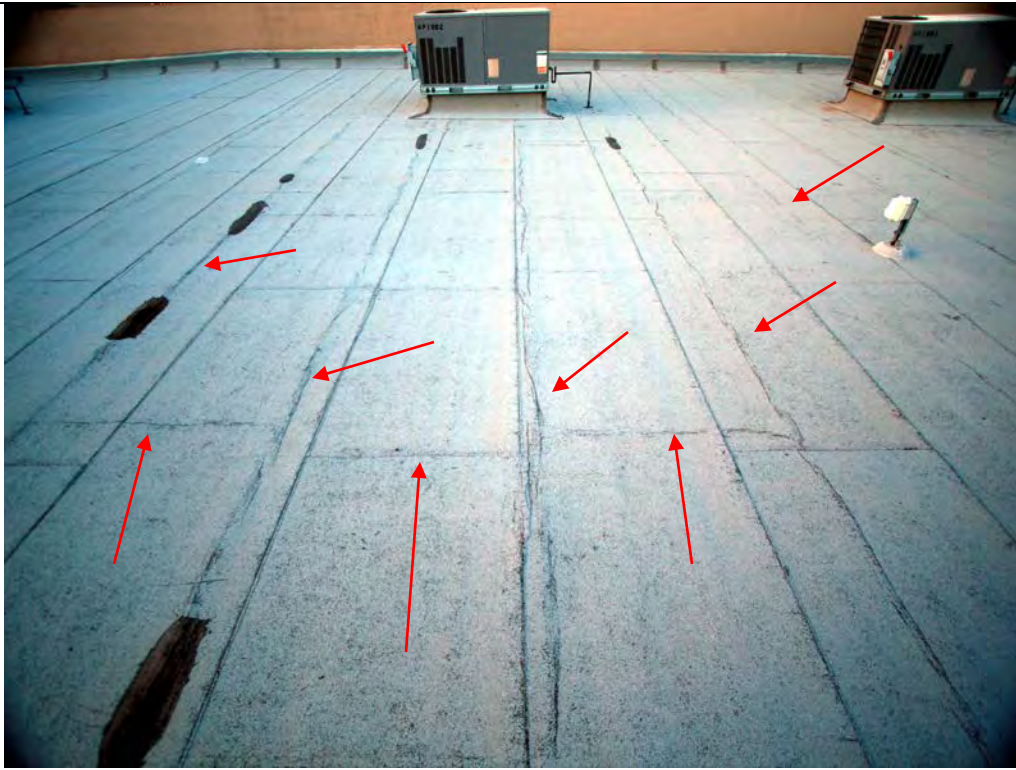


Copper Canyon High

Photo 8

Date: 9/3/12

Description: Bldg. 1000 marking paint marking typical buckling.



Copper Canyon High

Photo 9

Date: 9/3/12

Description: Bldg. 1000 arrow indicate typical membrane buckling that is fracturing.



Copper Canyon High

Photo 10

Date: 9/3/12

Description: Bldg. 1000 arrow indicate typical membrane buckling that is fracturing.



Copper Canyon High

Photo 11

Date: 9/3/12

Description: Bldg. 1000 ponding due to scuppers not being sumped.

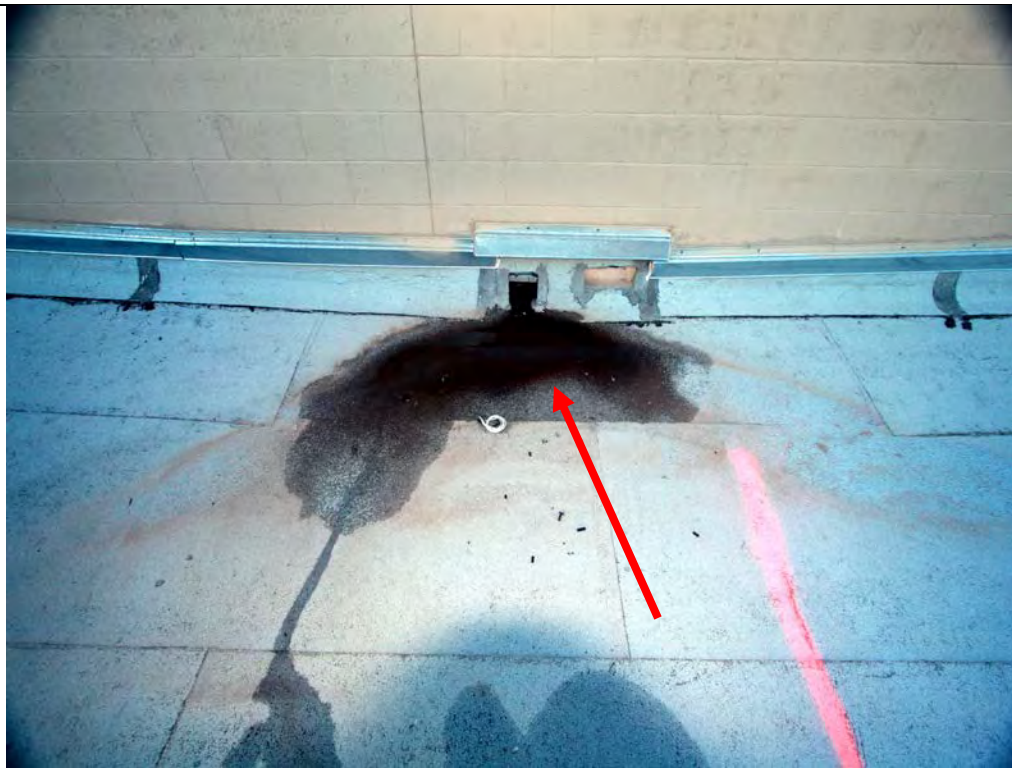


Copper Canyon High

Photo 12

Date: 9/3/12

Description: Bldg. 1000 ponding due to scuppers not being sumped.



Copper Canyon High

Photo 13

Date: 9/3/12

Description: Bldg. 1000 ponding due to scuppers not being sumped.



Copper Canyon High

Photo 14

Date: 9/3/12

Description: Bldg. 1000 ponding due to scuppers not being sumped.



Copper Canyon High

Photo 15

Date: 9/3/12

Description: Bldg. 1200 identification.

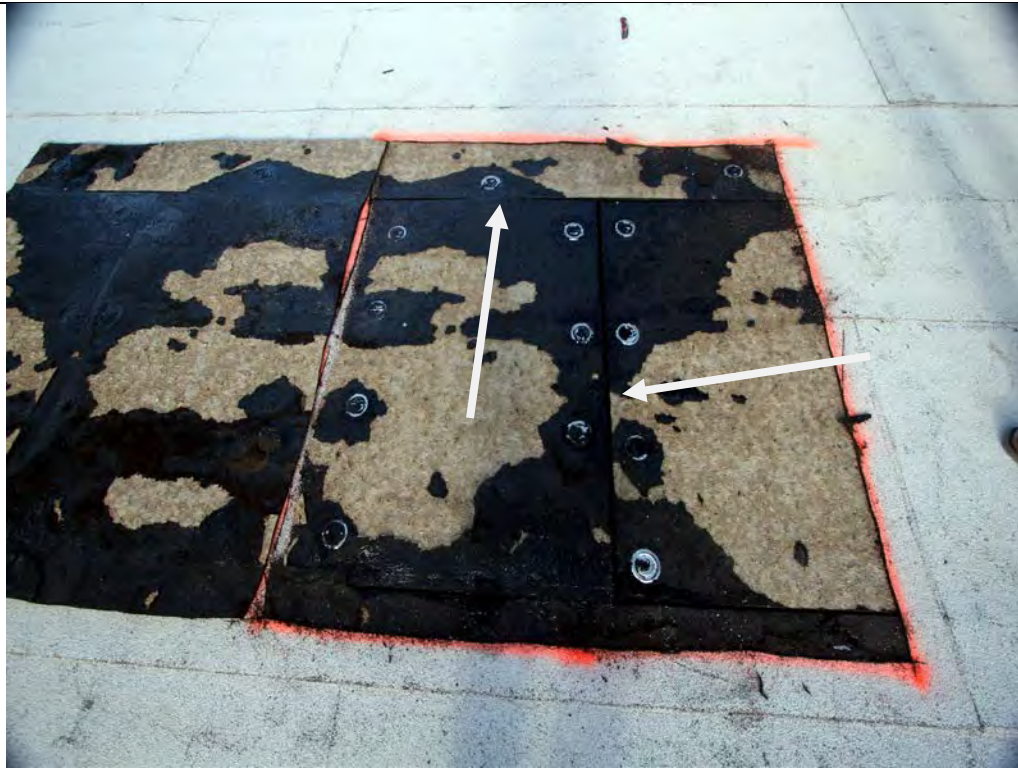


Copper Canyon High

Photo 16

Date: 9/3/12

Description: Bldg. 1200 sample #2 and arrow indicate typical membrane buckling that is fracturing.



Copper Canyon High

Photo 17

Date: 9/3/12

Description: Bldg. 1200 large gaps at insulation joints causing the buckling and fracturing in the above photo 16.



Copper Canyon High

Photo 18

Date: 9/3/12

Description: Bldg. 1200 close up to show large gap between insulation boards.



Copper Canyon High

Photo 19

Date: 9/3/12

Description: Bldg. 1200 incorrect fastener spacing and location.



Copper Canyon High

Photo 20

Date: 9/3/12

Description: Bldg. 1200 incorrect fastener spacing and locations.

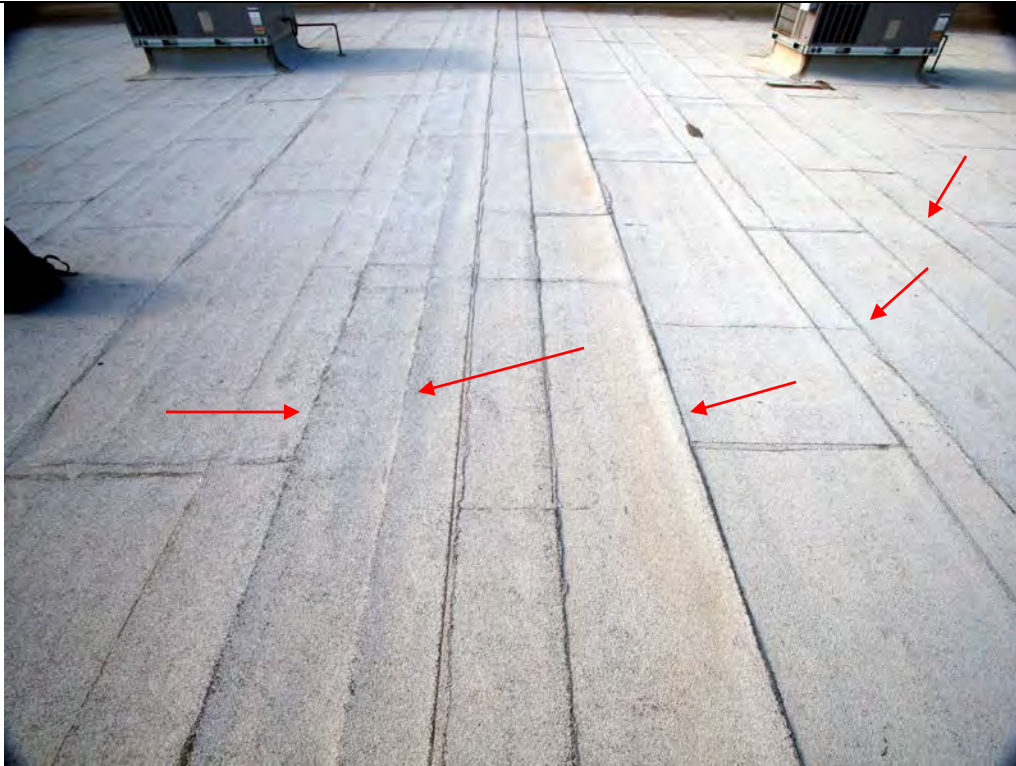


Copper Canyon High

Photo 21

Date: 9/3/12

Description: Bldg. 1200 insulation buckling due to incorrect fastener spacing and location.



Copper Canyon High

Photo 22

Date: 9/3/12

Description: Bldg. 1200 arrow indicate typical membrane buckling that is fracturing.



Copper Canyon High

Photo 23

Date: 9/3/12

Description: Bldg. 1200 arrow indicate typical membrane buckling that is fracturing.



Copper Canyon High

Photo 24

Date: 9/3/12

Description: Bldg. 1200 arrow indicate typical membrane buckling that is fracturing.



Copper Canyon High

Photo 25

Date: 9/3/12

Description: Bldg. 1200 arrow indicate typical membrane buckling that is fracturing.



Copper Canyon High

Photo 26

Date: 9/3/12

Description: Bldg. 1200 arrow indicate typical membrane buckling that is fracturing. From left to right, buckle starting to fracture, membrane is fractured, buckle has yet to fracture.

Conclusion

The inspection found the roof system not to be installed per industry standards and manufacturer's recommendations. The gaps in between the insulation board are the primary cause of the buckling of the membrane. The buckles and fractures are located directly over the gaps in the insulation boards. The roofing system was not run perpendicular to the insulation boards causing buckles, splits, cracks and/or fractures. The fastening patterns do not meet the standards set forth for wind uplift requirements, therefore the roofs are subject to blow offs during high wind conditions.

To correct this condition the roof the roofing system should be torn off down to the insulation board. A new insulation board mechanical fastened over the existing board. Install a new 20 year roof system.

See attached documents for reference and backup information.

Jerry L. Brown, RRO 9/11/2012

Consultant/Inspector Date

- Compressive Strength — It would have sufficient strength to resist damage from roof system construction operations and normal rooftop traffic.

The 10 properties listed would be found in an ideal roof insulation. However, in real-world conditions, no single commercial product currently available has all these ideal properties. Therefore, it is recommended that designers choose materials that have properties best suited to specific project conditions.

1.2 Design Criteria for the Specification of the Installing of Rigid Roof Insulation

The following criteria should be considered by designers of roof assemblies containing rigid roof insulation:

- On steel roof decks, the steel deck flutes' direction, rigid insulation board's orientation and membrane layout should be designed to accommodate the satisfactory anchorage of roof system components and facilitate application of the membrane and installation of temporary tie ins and water cutoff details. Refer to "Tie-ins" and "Water Cutoffs" in the Glossary. However, with built-up roof (BUR) membranes reinforced with organic felt, it is recommended that the insulation application specification call for the insulation to be applied in such a manner that the organic membrane be laid perpendicular to the longer dimension of the top insulation boards. This recommendation stems from the organic felt's tensile strength characteristics — the tensile strength is greater in the machine direction. This will help reduce the possibility of the membrane splitting.
- On steel roof decks, insulation boards should be firmly supported on their longer dimensions, if rectangular, by the bearing surfaces or top flanges of the steel roof deck. The first layer of insulation boards should not cantilever over open steel deck flutes. Otherwise, the insulation and membrane may not be sufficiently supported to provide for long-term, successful performance of the roof system.
- In practice, steel decks may be installed incorrectly, with minor curves or small incremental errors in overlaps. As successive insulation boards are installed on the deck, at some point the insulation edge may begin to fall off at the center of the top flange of the steel deck panels. Unless corrected, some of the insulation panels may be installed incorrectly, with the long dimension of the boards not directly supported by the top flange of the deck panels. When this condition is encountered, additional labor will be required to correct the insulation installation.
- In low-slope membrane roof construction, a double layer of insulation as illustrated is preferred.

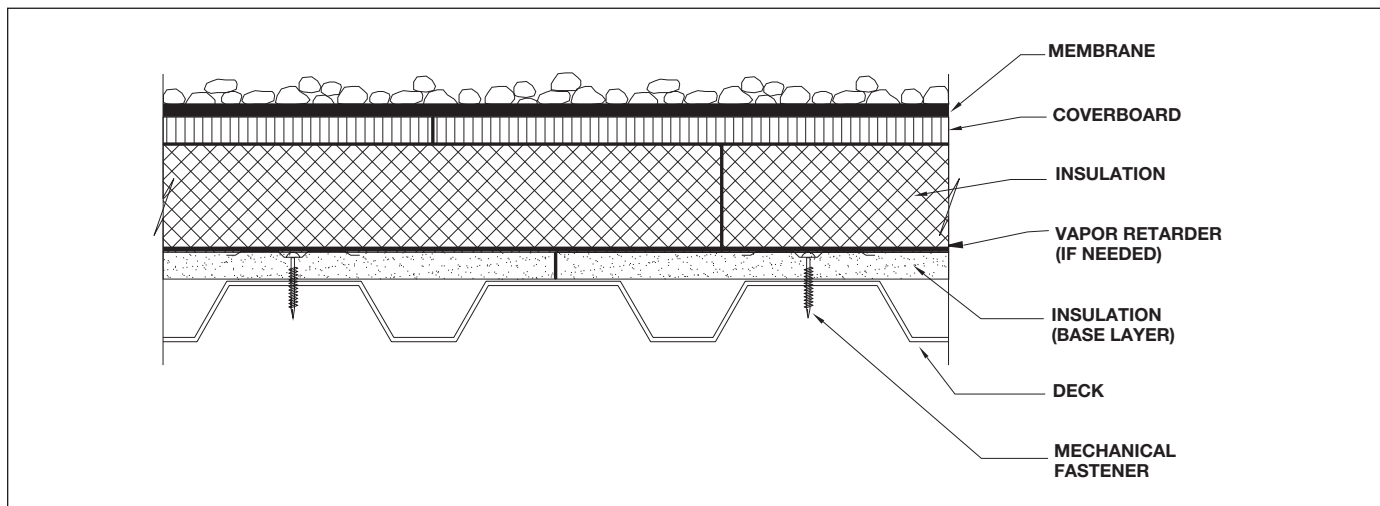
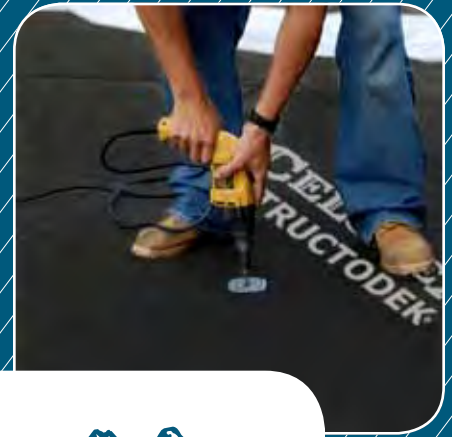
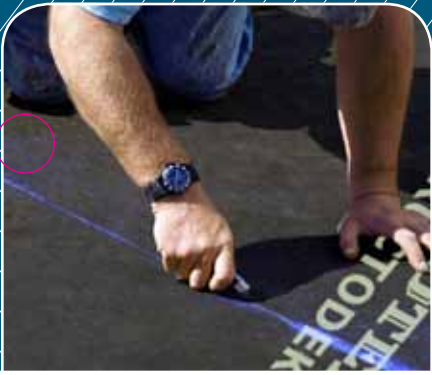


Figure 1: Cross section of a compact "warm" roof assembly. The individual neighboring components are in direct contact with one another. The lower R-value insulation is placed under the vapor retarder, next to the roof deck.

Experience and research reported by James E. Lewis in the paper "Thermal Evaluation of the Effects of Gaps Between Adjacent Roof Insulation Panels" from the *Proceedings of the DOE-ORNL Workshop on Mathematical Modeling of Roofs* has shown that a minimum of two layers of rigid insulation can provide the following benefits to low-slope roof systems:

- *Increased roof system thermal performance.* With double-layer insulation roof systems, it is preferable that only the bottom layer of insulation be mechanically fastened to roof decks that are appropriate for mechanical attachment. The second layer of insulation then can be adhered to the base layer or, if present, to the vapor retarder installed on top of the first layer with hot bitumen or approved adhesive. When a ballasted membrane



CELOTEX™
STRUCTODEK®
 HIGH DENSITY ROOFING FIBERBOARD



PRODUCT OVERVIEW

For more than 85 years, the name CELOTEX has been a standard bearer for quality fiberboard roof insulation. CELOTEX STRUCTODEK is now manufactured by BLUE RIDGE FIBERBOARD, INC., a subsidiary of W. R. MEADOWS. Be assured that BLUE RIDGE will continue the longstanding CELOTEX tradition of delivering a quality product and providing superior service to the low-slope roofing market at a competitive price. STRUCTODEK high density roofing fiberboard has been tested and approved by major systems manufacturers who create today's roofing systems.

STRUCTODEK is available in various thicknesses, coating, and panel sizes to meet your needs. The product offers many benefits, including:

- Classified in UL Class A rated roof systems. See classification details in "Compliances" section.
- Structurally rigid and dimensionally stable board, easily handles heavy foot traffic and wheeled loads.
- Superior adhesion without excess absorption.
- Insulation properties with R-values ranging from 1.3 to 5.0
- Lightweight and easy to install, without the irritating fiberglass dust of glass mat faced gypsum board.
- Easily handles hot asphalt; non-blistering.
- Cuts with an utility knife.
- Offered in coated one-side (C1S), integral coated six sides (C6S), and uncoated (natural).

STRUCTODEK

THE SOLUTION FOR A WIDE VARIETY OF LOW-SLOPE APPLICATIONS AND SYSTEMS.

Applications

- Insulation board
- Cover board
- Re-roof/re-cover board

STRUCTODEK FEATURES

- Water absorption value of ≤7% (7% max per ASTM C 208)
- UL Class A roofing systems classified component. See www.ul.com Certification Directory File No.TGFU.R20803.
- 1-60 and 1-90 systems approval per FM Approvals Standard 4450/4470 (see RoofNav for approvals)
- Reduces asphalt bitumen absorption in coated one-side product
- Maximum protection on all exposed surfaces with an integral coated-six-side treatment
- Compressive Strength, 48 psi @ 15% deformation on 1/2" STRUCTODEK High Density

Thickness (nominal)	1/2"	25/32"	1"	1 1/2"	2"
Board Sizes	4' x 4' 4' x 8'	4' x 4' 4' x 8'	2' x 4' 4' x 4' 4' x 8'	2' x 4' 4' x 4'	2' x 4' 4' x 4'
Boards/Unit	4' x 4' = 90 4' x 8' = 90	4' x 4' = 60 4' x 8' = 60	2' x 4' = 90 4' x 4' = 45 4' x 8' = 45	2' x 4' = 60 4' x 4' = 30	2' x 4' = 46 4' x 4' = 23
Squares/Unit	4' x 4' = 14.40 4' x 8' = 28.80	4' x 4' = 9.60 4' x 8' = 19.20	2' x 4' = 7.20 4' x 4' = 7.20 4' x 8' = 14.40	2' x 4' = 4.80 4' x 4' = 4.80	2' x 4' = 3.68 4' x 4' = 3.68
Weight Per Square Foot (lb/ft ²)	0.700	1.060	1.375	2.100	2.750
Flute Span	1 5/8" (40mm)	2 5/8" (67mm)	2 5/8" (67mm)	4 3/8" (111mm)	4 3/8" (111mm)
R-Value	1.3	1.9	2.5	3.8	5.0

COMPLIANCES

- ASTM C 208, Type II, Grade 1 and 2; ASTM C 209
- FM Approved Class 1 per FM Standard 4450/4470
- CAN/CSA-A247-M86 Insulating Fiberboard Type 1
- Canadian Construction Materials Centre, Listing CCMC #13186-L
- Classified by Underwriters Laboratories, Inc. to US Standard ANSI/UL 790 and Canadian Standard CAN/ULC-S107
- Miami-Dade County, Florida; NOA No. 10-0120.04; Expiration Date 09/18/13
- CAN/ULC-S706 -09 Standard for Wood Fibre Insulating Boards for Buildings, Type II, Class 1 and Class 2



STRUCTODEK AND LEED

STRUCTODEK is an environmentally friendly product that can help a design team earn LEED credits. The use of STRUCTODEK may contribute to the following LEED credits:

- MR Credit 2: Construction Waste Management
- MR Credit 4: Recycled Content
- MR Credit 5: Regional Materials
- MR Credit 6: Rapidly Renewable Materials
- IEQ 4.4: Low-Emitting Materials – Composite Wood and Agrifiber Products

FASTENING PATTERN REQUIREMENTS

For fastening patterns, refer to FM RoofNav and/or membrane manufacturer for specific assembly requirements.

UL “P” ASSEMBLY REQUIREMENTS

Consult UL certification File No. TGFU.R20803 or system manufacturer for more information about specific systems.

SYSTEMS MANUFACTURERS APPROVAL

Additional joint listings from these manufacturers can be found in the current versions of the UL Roofing Materials and Systems Directory and FM Approvals/RoofNav.

AFM Corp.	Garland Co. Inc.	Sarnafil Inc.
Atlas Roofing Corp.	GenFlex Roofing Systems	Seaman Corp. Building Systems
Bitec Inc.	Haartz-Mason Inc.	Siplast Inc.
Bondcote Corp.	Henry Co.	Soprema Inc.
Burkeline Roofing Systems	Hydro Stop Inc.	SPI Inc.
Carlisle SynTec Inc.	Hyload Inc.	Stafast Roofing Products
Centimark Corp.	IB Roof Systems	Stevens Roofing Systems
Conklin Co. Inc.	Imperial Adhesives	Stymo Chem Int. Inc.
Cooley Roofing Systems	Intec/Permaglas	Tamko Roofing
Duro-Last Roofing Inc.	Johns Manville	The Garland Co.
Ecology Roof Systems	Lexcan Industrial Supply Ltd.	Tremco Inc.
Environmental Roofing Systems	Liquid Plastic	Tri Ply
ER Systems	Malarkey Roofing Co.	US Intec Inc.
Firestone Building Products Co.	Mule-Hide Products	US Ply
Flex Membrane International	Performance Roof Systems	Versico Inc.
Flexible Products	Polyethane Systems Inc.	WP Hickman Systems Inc.
GAF Materials Corp.	Polyglass USA	

*Check with specific membrane manufacturer for system warranty approval and required fastening pattern.

ROOFING SYSTEMS APPLICATIONS RECOMMENDATIONS

Single-Ply, Mechanically Attached

Modified Bitumen Cold

BUR Hybrid

Single-Ply, Fully Adhered

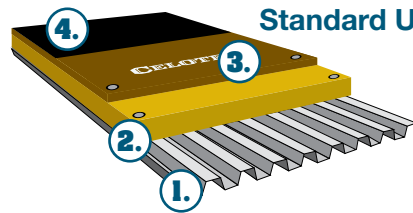
Modified Bitumen Mopped

Self-Adhered

Single-Ply, Ballasted

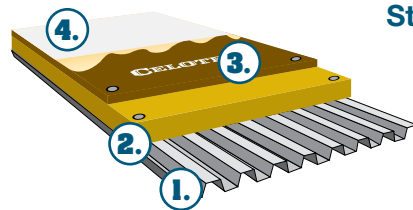
BUR Ply Sheets

Spray Foam (SPUR)



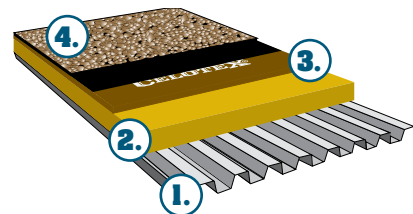
Standard UL Class A/FM 1-90 Mechanically Attached Single-Ply System

1. Metal deck
2. 1 1/2" rigid foam insulation
3. 1/2" STRUCTODEK HD fiberboard roof board
4. Mechanically attached EPDM, TPO, PVC, CSPE single-ply membrane



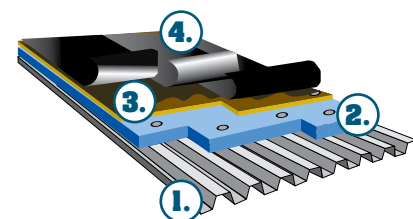
Standard UL Class A/FM 1-90 Fully Adhered Single-Ply System

1. Metal deck
2. 1 1/2" rigid foam insulation
3. 1/2" STRUCTODEK HD fiberboard roof board
4. Fully adhered EPDM, TPO, PVC, CSPE single-ply membrane (solvent and water-based adhesive)



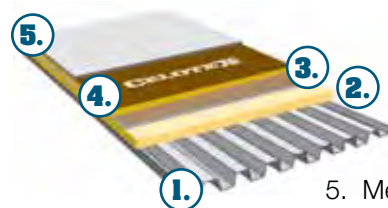
Standard UL Class A/FM 1-90 Single-Ply Ballasted System

1. Metal deck
2. 1 1/2" rigid foam insulation
3. 1/2" STRUCTODEK HD fiberboard roof board
4. Ballasted EPDM, TPO, PVC, CSPE



Standard UL Class A/FM 1-90 Modified Bitumen System Cold/Hot Mopped

1. Metal deck
2. 1 1/2" rigid foam insulation
3. 1/2" STRUCTODEK HD fiberboard roof board
4. SBS, APP cold or hot mopped



Standard UL Class A/FM 1-90 Re-roof, Single-Ply

1. Metal deck
2. Existing insulation
3. Existing roofing assembly
4. 1/2" STRUCTODEK HD fiberboard roof board
5. Mechanically attached, fully adhered, or ballasted single-ply roofing membrane

***Contact Manufacturer for Technical Information / Warnings / Warranty Information**

For further information on SOUNDSTOP, including data sheet, installation procedures, guide specs, and MSDS, visit www.blueridgefiberboard.com.

CUSTOMER SERVICE EASTERN REGION AND CANADA 800-233-8721

CUSTOMER SERVICE WESTERN AND SOUTHWESTERN REGION 800-535-4088

TECHNICAL SUPPORT 800-596-9699

info@blueridgefiberboard.com

www.blueridgefiberboard.com



1/12-10M



NO. 002

Insulation Board

JULY 2012
(Supersedes July 2010)

DESCRIPTION

CELOTEX STRUCTODEK is not only an integral roofing system component; it also makes roofing easier with physical properties that generate structural rigidity and dimensional stability.

The fiberboard composition of STRUCTODEK possesses natural bonding qualities, resulting in superior adhesion capabilities. Adhesive tightly grasps the fibers of STRUCTODEK without causing excess absorption, providing a solid and secure roof system which bonds very well with many asphalt, coal tar, and cold-process adhesive products. The lightweight nature of STRUCTODEK is better than heavier alternatives and will keep the roof load below the specified maximum weight. STRUCTODEK is offered in coated one side (C1S), integral coated six-sides (C6S), and uncoated (natural).

USES

STRUCTODEK can be used as an insulation board, cover board, or re-roof/recover board. STRUCTODEK is a high-density roofing board and is designed for low-slope applications and systems.

SPECIFICATIONS

- ASTM C 208, Type II
- ASTM C 209
- UL Classified to Canadian Std CAN/ULC-S107 and US Std UL 790
- FM Approved Class 1 – FMRC Standard 4450/4470
- CAN/ULC-S706-09 Type II, Classes 1 and 2
- Canadian Evaluation CCMC #13186-L
- NOA 10-0120.04; Miami-Dade County, FL; Expiration date 09/18/13

MASTERFORMAT NUMBER AND TITLE

07 22 16 - Roof Board Insulation

FEATURES/BENEFITS

- Approved in UL Class A rated roof systems.
- Structurally rigid and dimensionally stable board easily handles heavy foot traffic and wheeled loads.
- Superior adhesion without excess absorption.
- Contributes to thermal insulation with R-values ranging from 1.3 to 5.0.
- Lightweight and easy to install, without the irritating fiberglass dust of glass mat faced gypsum board.
- Easily handles hot asphalt, non-blistering.
- Cuts with a standard utility knife.
- Compressive strength exceeds the Canadian standard at 10% deformation for 1/2" thickness.

PRECAUTIONS

Do not expose to open flame or excessive heat. May smoulder if ignited. If ignited, extinguish completely. Do not apply flame directly to material when installing a modified bitumen system. Material must be kept dry at all times; in storage and during application. Apply only as much STRUCTODEK in one day as can be covered by completed roofing system that day. Do not use as an underlayment for shingles. In re-roofing applications, all wet areas in old roof should be cut out and replaced. Before material is installed, remove all loose and protruding gravel. STRUCTODEK must not be used in close proximity to chimneys, heater units, fireplaces, steam pipes, or other surfaces which could provide long-term exposure to excessive heat (maximum 212° F) without adequate thermal protection. Consult appropriate heating appliance manufacturer's instructions before installation.

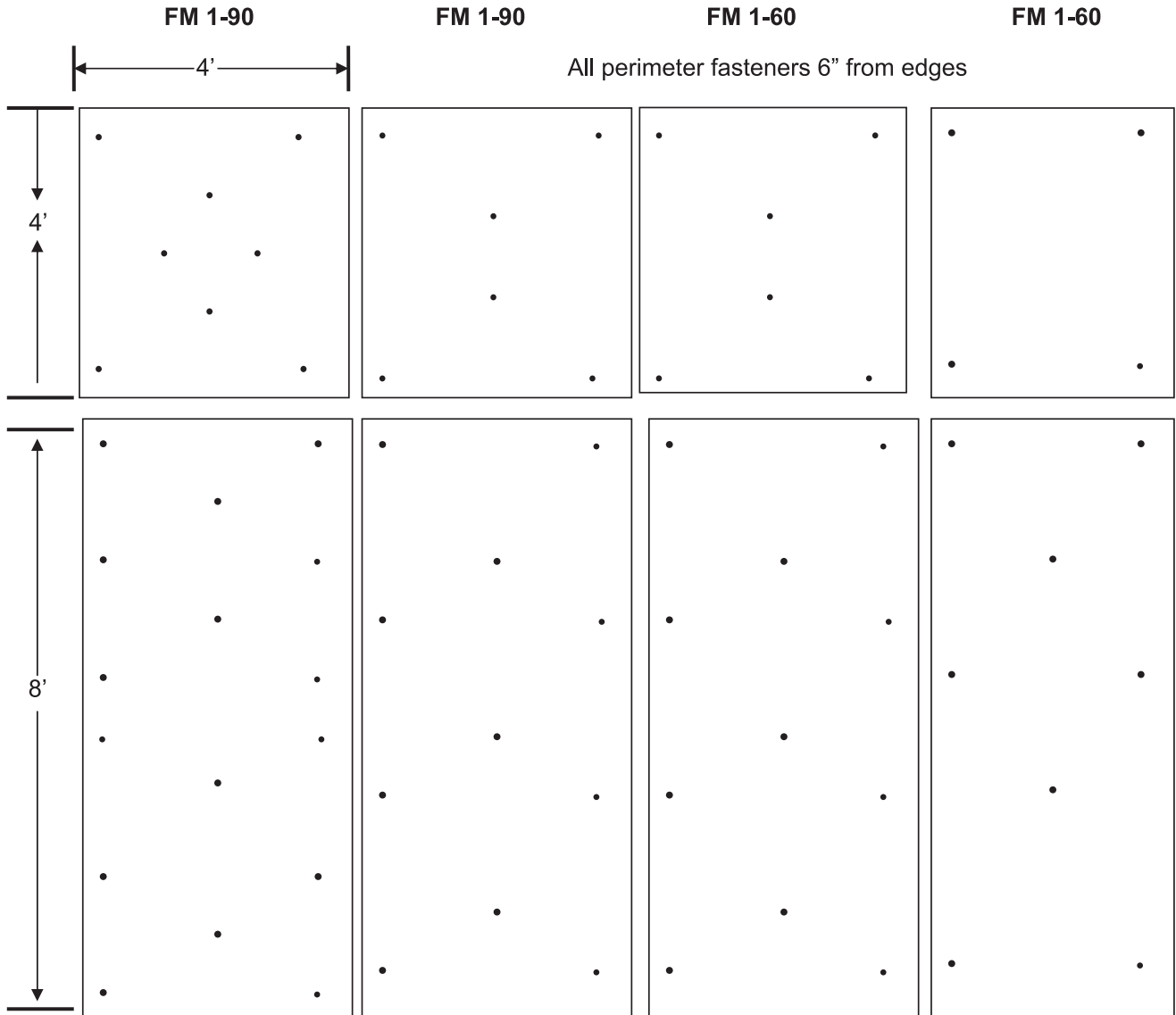
LEED INFORMATION

May help contribute to LEED credits:

- MR Credit 2: Construction Waste Management
- MR Credit 4: Recycled Content
- MR Credit 5: Regional Materials
- MR Credit 6: Rapidly Renewable Materials
- IEQ Credit 4.4: Low-Emitting Materials – Composite Wood and Agrifiber Products

Thickness (nominal)	1/2"	25 / 32"	1"	1-1/2"	2"
Board Sizes	4' x 4'; 4' x 8'	4' x 4'; 4' x 8'	2' x 4'; 4' x 4'; 4' x 8'	2' x 4'; 4' x 4'	2' x 4'; 4' x 4'
Boards/Unit	4' x 4'; 4' x 8' = 90	4' x 4'; 4' x 8' = 60	2' x 4' = 90 4' x 4'; 4' x 8' = 45	2' x 4' = 60 4' x 4' = 30	2' x 4'; 4' x 4' = 46
Squares/Unit	4' x 4' = 15.20; 4' x 8' = 30.10	4' x 4' = 9.60; 4' x 8' = 19.20	2' x 4' = 6.72; 4' x 4' = 7.36; 4' x 8' = 14.72	2' x 4' = 4.48; 4' x 4' = 4.80	2' x 4' = 3.36; 4' x 4' = 6.72
Deflection at specified min. load, max inches	≤0.76" (≤19mm)	No ASTM Data	≤0.42" (≤11mm)	No ASTM Data	≤0.21" (≤5mm)
Flute Span	1 5/8" (40mm)	2-5/8" (67mm)	2-5/8" (67mm)	4-3/8" (111mm)	4-3/8" (111mm)
Compressive Strength 15% Def. ASTM C165	48 psi				

TYPICAL FM APPROVED FASTENING PATTERNS



1 Fastener per 2 sq. ft. Single Ply Roofing System Fully Adhered with 1" or thicker board or any Roofing System with 1/2" thick FM-190 Board

1 Fastener per 3 sq. ft. Built-Up Roofing System with 1" or thicker board

1 Fastener per 3 sq. ft. Single Ply Roofing System Fully Adhered with 1" or thicker board

1 Fastener per 4 sq. ft. Built-Up Roofing System with 1" or thicker board

LIMITED WARRANTY

BLUE RIDGE FIBERBOARD, INC. warrants at the time and place we make shipment, our material will be of good quality and will conform with our published specifications in force on the date of acceptance of the order. Read complete warranty. Copy furnished upon request.

Disclaimer

The information contained herein is included for illustrative purpose only, and to the best of our knowledge, is accurate and reliable. BLUE RIDGE FIBERBOARD, INC. cannot however under any circumstance make any guarantee of results or assume any obligation or liability in connection with the use of this information. As BLUE RIDGE FIBERBOARD, INC. has no control over the use to which others may put its product, it is recommended that the products be tested to determine if suitable for specific application and/or our information is valid in a particular circumstance. Responsibility remains with the architect or engineer, contractor and owner for the design, application and proper installation of each product. Specifier and user shall determine the suitability of products for specific application and assume all responsibilities in connection therewith.