

Re-roof Project Manual
September 15, 2008

Ultima Bldg.

400 Clematis Street
West Palm Beach, FL 33401



BY
Jack Brown & Associates

**ULTIMA BLDG.
400 Clematis Street
West Palm Beach, FL
33401**

In accordance with the specifications dated 9-15-08
GAF asphalt built-up ponding water roof system over insulation

Building Envelope Consultants, Inc. dba

Jack Brown & Associates
Roof Consultants
6770 Lantana Road Suite 10
Lake Worth, FL 33467
561-434-3155 FAX 561-434-3157
E-mail jba@gate.net www.jbrownassoc.com

Association reserves the right to reject any and all bids and is
not bound to accepting the low bid

**A PRE-BID MEETING WILL BE HELD AT THE SITE ON
XXXXXday, XXXXX XX, 2008 AT 11:00 A.M.**

**All bidders must attend. Specifications will be handed out at this time
and access is limited**

**Bob Brunton
954-520-6490**

BID PROPOSAL FORM

Date; _____ Company Name: _____

**Sealed bids will be received until 2:00 P.M., Friday, XXXXX XX
_____, 2008 by:**

Building Envelope Consultants, Inc. dba

**Jack Brown & Associates
Roof Consultants**

RC29027358

6770 Lantana Road Suite 10

Lake Worth, FL 33467

561-434-3155 FAX 561-434-3157

E-mail jba@gate.net www.jbrownassoc.com

Mark envelope in bold print, **SEALED BID – Ultima Building**

No faxed bids will be accepted. Bids must be on this form.

For the Re-Roofing as per Specifications: **Ultima Building, 400 Clematis Street, West Palm Beach, FL 33401 for NCP Investments LLC, 319 Clematis Street, Suite 400, West Palm Beach, FL 33401.**

Gentlemen;

The undersigned, hereinafter called "Bidder" having visited the site of the project and familiarized itself with the local conditions, nature and extent of the work, and having examined carefully the drawings, specifications, the form of agreement, and other contract documents, proposes to furnish all labor, materials, equipment and other items, facilities and services for the proper execution and completion of the re-roofing, in full accordance with these specifications, prepared by Jack Brown & Associates, and any applicable City, County or State Codes, in accordance with the agreement and all other documents related thereto, and if awarded the contract, to complete the said work within the number of consecutive calendar days stipulated for the following bid price;
Per specifications dated September 15, 2008

GAF roof system over R-13 insulation, with Manufacturer's Twenty-Year NDG Guaranty with no ponding water exclusion. Includes all upper roof areas.

Bid Price:

Bid Amount; _____ Dollars
(\$ _____) (written)
(numerals)

UNIT PRICES:

1. Replace damaged metal decking with matching kind, per sq ft \$ _____
2. Furnish and install new aluminum retro drain, each. \$ _____
3. Add overflow scupper if needed, each \$ _____

Date Contractor can begin work. _____

Number of Calendar Days to complete the building, weather permitting. _____

Liquidated damages of \$200.00 per day shall be levied for each day over agreed upon completion time, subject to weather day credits.

Payment & Performance Bond may be required at additional expense to owner.
Furnish payment and performance bond. Percent of contract amount. (_____ %)

Signed; _____

(Officer of Corporation)

Corporate Seal:

For; _____

Phone: _____

Qualifier's License No. _____

INDEX

Section Description	Pages
Bid Proposal Form	2
Index	1
General Description	4
Work Sequence	3
Owner's Occupancy	1
Insurance	1
Guarantee	1
Mechanical Conditions	2
Temporary Facilities	1
GAF Specification I-1-2-MSM	1
GAF Submittals	8
Satellite Photo	1

Summary of Work

1.01 General Description

A. Furnish all Material, Labor, Equipment, Service and (fluent English speaking) Supervision necessary for the construction of roof project.

B. Contractors duties

1. Except as specifically noted, provide and pay for
 - a. Labor, Materials and Equipment.
 - b. Tools, Construction equipment and machinery.
 - c. Water and electric power required for construction, to be supplied and coordinated with the owner. Other facilities and service necessary for proper execution and completion of the work. Temporary sanitary facilities.
2. Pay legally required sales, consumer and use taxes.
3. Pay legally required impact fees and building permit fees.
4. Enforce strict discipline and good order among employees.
5. Enforce strict use of the premises.
6. Recondition all existing systems, Structures and Finishes damaged during construction process.
7. Submit any suggested changes in writing or drawings to the owners' representative for approval.
8. Remove tear off debris and maintain a clean work area on a daily basis.
9. Pay any legally required testing or engineering related to the permitting and successful completion of the re-roof project. Arrange for all inspections required by city, county, state and authorities having jurisdiction, and deliver certificates of approval to the owner.
10. Contractor shall be responsible for safety at the work site and shall be in compliance with OSHA safety regulations. Contractor shall be responsible for all construction means and methods and shall coordinate procedures and sequences with the Owner.

11. Roofer shall provide documentation certifying that he is qualified to install the specified roofing system and able to obtain any required Manufacturer's Warranties.
12. Roofer and Owner/Management Company shall copy Jack Brown & Associates on all correspondence.
13. Roofer shall not compromise any existing fire resistant assembly.
14. If HVAC equipment must be shut down during the roof system installation, shutdown must be coordinated with the property owner'/manager. If air intakes are in the vicinity of the work area, Roofer will take precautions to prevent objectionable odors or fumes into the building.
15. If burglar alarm or fire detection devices need to be shut down, such interruption of service must be coordinated with the owner/manager.
16. Roof drainage systems must be protected from clogging from roofing debris during working hours, and must be cleared of protection and allowed to perform as designed when crews are not working.
17. Loading of materials and equipment on roof must not exceed the loading limitations of the roof structure.
18. Before work begins, Roofing Contractor shall videotape or photograph and document all site conditions such as exterior sidewalks, landscaping etc., and interior surfaces that might be construed as having been damaged by the roofing operations.
19. Bidders are advised that any omissions of specific details in this Request For Quotation shall not relieve the successful contractor from accomplishing the intent of this bid request, Bidders are solely responsible for determining exact extent of work to be completed including but not limited to dimensions and site location conditions, etc., based on bid specifications and site inspection. Representations herein are of general existing conditions, but neither the Owner or the Consultant assume any responsibility for assessment of existing conditions for bidding purposes or that all representations of existing conditions stated herein are totally accurate. All exceptions to existing conditions, whether or not included on the drawings, which, in the opinion of the Contractor, might affect the total cost of the work shall be taken into consideration and included at the time of submission of the bid. The Contractor shall satisfy himself as to all existing conditions prior to submission of a bid, and the bid shall reflect the

Contractor's cost for completion of the work in general compliance with these specifications and requirements and/or recommendations of the manufacturers specified herein for installation of their specific roofing systems.

20. Where not expressly stated otherwise, all work shall conform to the NRCA Manual of Roofing and Waterproofing, Manufacturer's Published Specifications, Miami/Dade Product Approvals, High Velocity Hurricane sections of the Florida Building Code, FRSA/TRI Installation Manual and the SMACNA Architectural Sheet Metal Manual. If any question should arise pertaining to workmanship or quality of material, the highest quality of workmanship and the best standard of material shall prevail.
21. Added requests for monetary compensation to the Contract Price will be considered only for items for which Unit Prices are submitted or for undiscovered conditions, and under no circumstances will the Owner pay for miscalculations or omissions by the Contractor made during the time of bid preparation.
22. Work sequence of roofing project will be coordinated with the appropriate phase of any mechanical/electrical schedule.
23. Jack Brown & Associates, on behalf of the owner, has the authority to reject work or stop all work should it be deemed that the Contractor is not complying with the specifications, or is failing to protect the property from damage or failing to keep the site clean of debris. Contractor must correct any defective or rejected work in a timely manner prior to proceeding with the Contracted work, whether defective work is observed before or after completion. Defective or non-conforming work shall be corrected during the Contractor's Warranty period.
24. If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, or fails to perform any Work provided for in the Specifications, the Owner may, upon seven (7) days written notice to the Contractor and without prejudice to any remedy he may have, make good such deficiencies or complete the Work in any manner necessary to insure satisfactory results. In such case, the Owner shall issue an appropriate Change Order to the Contractor to the Contractor deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies or completing the specified Work. If the payments due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

25. Prevailing bidder shall provide submittals to be reviewed by Jack Brown & Associates and the Owner. Submittals shall include copy of current Roofers License, Certificates of Liability and Workers Compensation Insurance, sample of the Manufacturer's Guarantee, if any is required, with proof that Contractor is qualified by the Manufacturer, a sample of the Roofing Contractor's guarantee and any shop drawings, tapered insulation layouts and job specific details requested. These items should be available prior to signing of a contract.
26. Working days and hours shall be agreed upon between Owner and Contractor in the final contract documents. Owner agrees to provide Contractor with as liberal hours of operation as are practical, and Contractor agrees to abide by this schedule of operations.
27. Contractor shall hold harmless and indemnify the Owner and Jack Brown and Associates against any and all claims, losses and expenses to the fullest extent of the law, including but not limited to attorney's fees arising or resulting from the performance of the work associated with this project. Such claims shall include any consequences that may arise from any negligent act or omission of Contractor, subcontractor or any person(s) directly or indirectly employed by the Contractor.
28. The Contractor shall comply fully with the provisions of the *Occupational Safety and Health Act* of 1970 applicable to his type work, and shall indemnify and hold the Owner and the Owner's Consultant harmless of and from any and all penalties, fines or expenses which may occur by reason of violation by the Contractor of any of the terms and provisions of said act or standards.

End of Section

1.02 Work Sequence

- A. The contractor shall schedule all work so as to have entire project complete by the end of the contract time. Liquidated damages of \$200.00 per day shall be levied for each day over agreed upon completion time, subject to weather day credits.
- B. Construct work in stages to accommodate the owner's use of the premises during construction period. Coordinate the construction schedule and operations with the Association's representative. The following is a general explanation as to the summary of work and includes references to the work schedule, drawing details, notes and specifications.
- C. The intent of this project is to install a new roof that will meet or exceed the more stringent High Velocity Hurricane Zone sections of the Florida Building Code. Should there be any conflicting information, the most restrictive installation practices and highest quality of materials should be used.**

1. Flat Roof:

- a. Tear off all existing roofing, insulation and flashing to the metal deck. Roofer must take care removing the old roofing mechanical anchors, as the underside surface of the metal roof deck is a finished architectural detail of this structure.
- b. Replace any rusted or damaged metal decking with matching metal decking. Deck replacement must be done in a very neat manner to maintain the appearance from below. Pre-paint replacement deck panels to match the color below. (See unit prices)
- c. Clean and prep roof deck to receive the new roof system. Roofer must make every effort to minimize the amount of dust and debris to enter below the deck.
- d. Install GAF Roofing system, Spec# I-1-2-MSM over R-13 Iso insulation mechanically fastened to the metal deck per Roofer's Engineer's calculations. Roof system shall be installed per Manufacturer's Published Specifications to meet the High Velocity Hurricane Zones Section of the Florida Building Code and Metro Dade Product Approval Notice of Acceptance with all applicable local amendments. Provide GAF 20-year Diamond Pledge NDL Labor and Material Guarantee with **NO** ponding water exclusion.

per Manufacturer's recommendations. Sump insulation to drains and install stainless steel gravel guards around them. If main drain bowl is cracked or damaged, install a new aluminum retro-drain. (See unit prices).

- r. Fabricate and install new stainless steel scupper liners. Seal the outside perimeter of the liners and install a stainless steel escutcheon.
- s. On high flat roof with parapet walls, extend base flashing up over the top of the walls.
- t. The two upper roofs shall have pressure treated wood blocking installed at perimeter walls and edges per RAS 111.
- u. On parapet walls fabricate and install new stainless steel cap flashing with joint covers or splice plates. All miters shall be soldered. Cap metal shall have a continuous cleat on the outside fastened 10-inches on center, the cap metal shall be fastened on the inside with stainless steel screws with neoprene washers. No fasteners will be permitted in the top of the cap flashing.
- v. Install stainless steel eaves drip of sufficient width to cover the wood blocking in excess of two inches. Provide a continuous cleat on the outside edge.
- w. Fabricate and install new stainless steel door threshold to counter flash and protect the base flashing at roof entrance door.
- x. Coat all exposed plastic cement with fibrated aluminum roof coating.
- y. Manually install matching white granules in all asphalt bleed out.
- z. All sheet metal fasteners shall be stainless steel.
- aa. Carefully move and reset satellite dishes. Work around cables so as not to compromise them. Roofer is **NOT** responsible for realignment of the dishes.

End of Section

Owner Occupancy

- A. Owner may occupy the premises during the entire period of construction.
- B. Contractor shall at all times conduct his operations as to insure the least inconvenience to the owner, tenants and general public.
- C. Contractor shall coordinate with the Manager and Owner the schedule for re-roofing in order for the owner to relocate or protect people, personal effects and property (furnishings or equipment) from accidental spillage or intrusion from materials resulting from construction procedures. Contractor is responsible for all material damage to interior and exterior property if relocation or removal is not previously coordinated with Owner and/or Manager.

DRAFT

End of Section

1.04 Insurance

The contractor shall purchase and maintain the following insurance to protect him from claims which may arise out of or result from the contractor's operations under the contract, whether such operations be by himself or by any subcontractor or by anyone directly or indirectly employed by them, or by anyone for whose acts any of them be liable. The association shall be named as an additional insured in all of said insurance policies.

- a. Workmen's Compensation and Employer's Liability.
(Statutory limits)
- b. Comprehensive Automobile Liability Insurance covering owned, hired and non-owned automobiles operated or used by the contractor. Limits of liability will be for \$100,000/300,000 combined single limit-Bodily Injury and \$50,000 combined single limit-Property Damage.
- c. Comprehensive General Liability extended to include;
Blanket Contractual Liability – Box must be checked.
Completed operations/Product Liability
Explosion, collapse, underground (where applicable)
Bodily Injury - \$2,000,000 each occurrence
Property Damage - \$2,000,000 each occurrence
Completed Operations/Product Liability - \$2,000,000 annual aggregate
- d. Contractor and any Subcontractors shall provide Certificates of Insurance naming the Owner as additional insured, with the accord that Owner will be contacted in writing by the insurance company thirty days prior to expiration or cancellation of any policies.
- e. Roofer shall indemnify and hold harmless Association, individual Owners and Consultant, and Consultant's employees from and against any claim, damages, losses, expenses, etc., including any attorneys' fees that may result from the performance of this work.

End of Section

1.05 Guarantee

- a. Roofing contractor shall furnish a written five-year workmanship guarantee covering repairs required to maintain roof, including flashing, in a satisfactory condition, free of leaks and at no expense to the owner. Roofing contractor shall respond within 48 hours upon notification of roof leak.
- b. Provide GAF 20-Year Edge-to-Edge Diamond Pledge NDL Labor and Material Warranty with no ponding water exclusions.

End of Section

1.06 Unit Prices

1.01 Description

- A. Assembly prices are costs for materials and installation that are separate from base bid.
- B. The assemblies described are contingencies and need for which has yet to be determined and will only be initiated by a change order.

1.02 Products

1. Replace damaged metal decking with matching kind, per sq ft. **The metal decking is exposed on the underneath side. New decking must be installed neatly to match the existing as the finished product is an artistic detail of this building.**
2. Furnish and install new aluminum retro drain if necessary, each.
3. Add overflow scupper if needed, each

End of Section

1.07 Mechanical Conditions

1. General

A. Mechanical and Electrical Contractors to be hired and paid by Roofing contractor.

1.01 Description

A. Contractors responsibility

1. Roofing contractor will co-ordinate with a state licensed air conditioning and electrical contractor, to;

- a. Identify each condensing unit, refrigeration piping and electrical system to each unit prior to removal and re-installation.
- b. Provide a documented A/C pre-inspection report to verify the conditions of the air conditioners prior to the commencement of the removal of any units. Verification shall include visual physical condition, start-up, system pressures and amperes reading. All units operating prior to removal shall operate after replacement.
- c. Re-install each condensing unit on a new aluminum I-beam stand, per local code, on four (4) 2"x3/4" HVAC/R vibration pads and secured at each corner with approved "L" brackets for hurricane protection.
- d. Install new dryers as required.
- e. Remove all existing armaflex insulation above the roof line and install new 1/2" wall thickness armaflex insulation from the roof line to the condensing unit.
- f. All electrical connections and disconnects to meet local code requirements.
- g. Provide unit price for new compressor if necessary or desired by individual unit owners.
- h. All A/C stand legs should have lead plumbing stack flashings pre-installed so that pitch pans will not be required. Install a stainless steel clamp at the top of each lead flashing and seal the top with approved caulking. GAF Mweld M-curbs are acceptable.
- i. The implied and stated intent of the drawings and specifications is to establish minimum acceptable standards for materials, equipment and workmanship, and to provide operable systems complete in every

respect.

- j. All air conditioning and electrical materials and workmanship shall comply with all applicable state, federal and local codes and standards as minimum requirements.
- k. All equipment shall be installed in strict conformance with the recommendations of the equipment manufacturer.
- l. The code requirements are strictly a minimum and shall be met without incurring additions to the Contract, Where requirements of the drawings or specifications exceed the code requirements, the work shall be provided in accordance with these drawings of specifications. In the event of conflict or ambiguity between the various codes and manufacturer's specifications, the most stringent requirement shall govern.
- m. Warranty reconnection work for a period of 90 days.

End of Section

1.07 Temporary Sanitary facilities

- A. Provide separate sanitary facilities in compliance with local laws and regulations.
- B. Service, clean and maintain facilities and enclosures.
- C. Existing plumbing facilities shall not be used by construction personnel.
- D. Completely remove temporary facilities when they are no longer required.

End of section

GAF MATERIALS CORPORATION

Roofing System Solutions

Architectural Division
P.O. Box 2845
Port Arthur, TX 77643
1-800-522-9224, ext. 7256



(CFs2) File: GTH-3263

SPECIFICATION: I-1-2-MSM

Date: 7/11/2006

PONDING WATER SPEC

******FLORIDA ONLY******

COMPONENT	TYPE	REQUIRED	ATTACHMENT	RATE OF APPLICATION
DECK	Metal & other insulated decks		Per code	
INSULATION	EnergyGuard™ Polyiso Roof Insulation	One (1) layer	Drill-Tec™ Fasteners and Plates	Per GAFMC requirements or code (the more stringent of the two shall be used)
			Structural Concrete Decks:	
			ASTM D312 Roofing Asphalt, Type III or IV	25 lbs. per 100 sq. ft (1.2 kg/m ²)
			Oly-Bond 500™ Adhesive Fastener	½ to 1 gallon per 100 sq ft depending on substrate, applied in 12" o.c. bands
BASE SHEET	GAFGLAS® Stratavent® Eliminator™ Perforated Base Sheet	One (1) ply	Loose Laid	Dry
PLY SHEET	RUBEROID® Mop Smooth	Two (2) plies	ASTM D312 Roofing Asphalt, Type III or IV	25 lbs. per 100 sq. ft (1.2 kg/m ²) per ply
SURFACE MEMBRANE	GAFGLAS® Mineral Surfaced Cap Sheet Or EnergyCap™ BUR	One (1) ply	ASTM D312 Roofing Asphalt, Type III or IV	25 lbs. per 100 sq. ft (1.2 kg/m ²)
FLASHING SPEC 2X20M or 2XMM	RUBEROID®20 or RUBEROID® Mop Smooth	One (1) ply	ASTM D312 Roofing Asphalt, Type IV	25 lbs. per 100 sq. ft (1.2 kg/m ²)
	RUBEROID® Mop Granule, RUBEROID® Mop 170FR, or RUBEROID® Mop FR	One (1) ply	ASTM D312 Roofing Asphalt, Type IV	25 lbs. per 100 sq. ft (1.2 kg/m ²)
FLASHING SPEC 2X25H or 2XHH	RUBEROID® SBS Heat-Weld™ 25 or RUBEROID® SBS Heat-Weld™ Smooth	One (1) ply	Torch Applied	Fully Adhered
	RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170FR, or RUBEROID® SBS Heat-Weld™ Plus FR	One (1) ply	Torch Applied	Fully Adhered
GUARANTEE	Diamond Pledge™, does not exclude areas of inadequate drainage (ponding water)	Twenty (20) years		GUARANTEE FEE IS APPLICABLE

All GAF®, MWeld®, Topcoat®, Metalastic®, and Leakbuster™ accessories shall be used where applicable

This system shall be installed by a GAF Master or Master Select™ Contractor.

* A structural analysis must be performed by the building owner or designer to determine that the structural deck is capable of carrying the additional load of the standing water combined with the roofing system; a copy must be submitted with the Notice of Award for the project.

Flashing Note: Refer to installation instructions for specific detail requirements.

Note: Each roof has unique requirements and as such may require a specific system configuration and application. This specification is a guideline for products and their application.

RUBEROID® MOP FR



Description

RUBEROID MOP FR membrane is a premium, heavy duty, fire-retarding modified bitumen membrane manufactured to stringent GAF Materials Corporation specifications. Its core is a strong, resilient non-woven polyester mat that is coated with an inherently fire retardant SBS polymer-modified asphalt and surfaced with mineral granules.

Uses

RUBEROID MOP FR is designed for new roofing and reroofing applications where long-term roof system performance is specified.

Advantages

- Guarantees are available for up to 20 years.
- No coating required for Class A ratings from UL and FMRC.
- Cost effective—the installed cost of RUBEROID MOP FR is less than most single-ply systems on the market today.
- Lightweight—installed premium roof designs weigh less than 3 pounds per square foot.
- Resilient—RUBEROID MOP FR's heavy weight polyester mat, core allows it to resist splits and tears due its pliability and elongation characteristics.

Advantages (Continued)

- Durable—specially formulated modified asphalt gives RUBEROID MOP FR lasting performance.
- RUBEROID MOP FR is backed by GAF Materials Corporation, a company with over 100 years in the roofing business.
- Available with black or white granules.

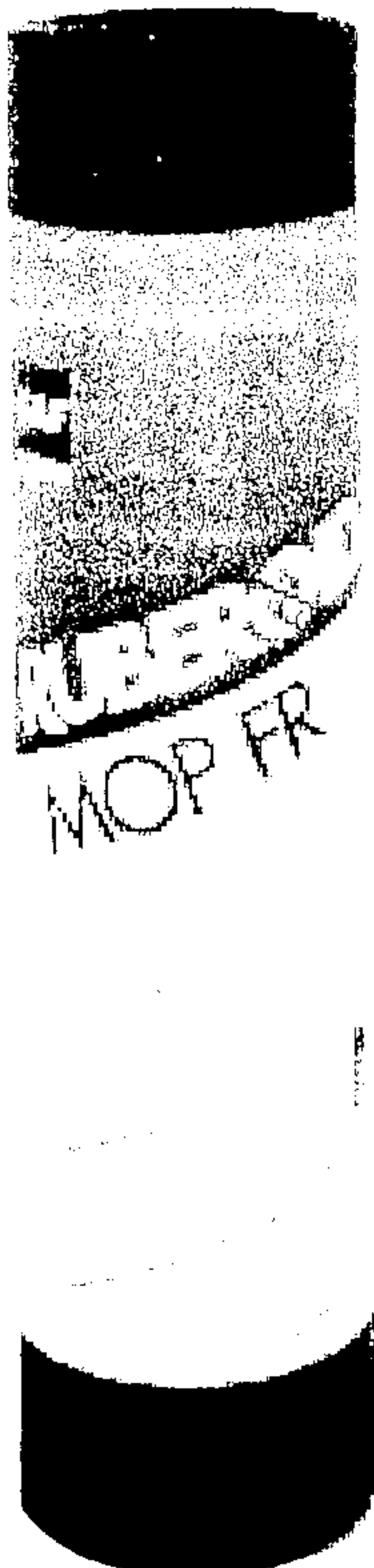
Applicable Standards

- UL, ULC Approved for use in construction of Class A, B, or C roof systems.*
- FM Approved
- BOCA Listed: Report No.359
- SBCCI PST & ESI Listed
- Dade County Product Approval
- New York City MEA 160-91M
- Meets ASTM D-6164, Type II
- Meets CGSB-37-GP-56M

*See GAFMC Application and Specification Manual or UL Directory for specific approval.

Product Data (Approximate)

Roll Size.....	1 square (111 gross sq. ft.) (10.3m ²)
Product Thickness.....	0.160" (4mm)
Reinforcement.....	250 gram polyester mat
Roll Weight.....	102 lbs. (46kg)



Typical Physical Properties

Property	Test Method	Values
Tensile Strength @ 0F (nom.), lbf/in	ASTM D5147	123
Elongation @0F (nom.), %	ASTM D5147	50
Low Temperature Flexibility (max.), F	ASTM D5147	-22
Tear Strength (nom.), lbf	ASTM D5147	123
Dimensional Stability, %	ASTM D5147	<1



GAFGLAS[®]

Mineral Surfaced Cap Sheet

Product Data Sheets

Description

GAFGLAS Mineral Surfaced Cap Sheet is an asphalt-coated glass fiber mat cap sheet surfaced with mineral granules

Uses

GAFGLAS Mineral Surfaced Cap Sheet is used as the surfacing ply in the application of hot applied built-up roofs and as a top ply in base flashing construction.

Advantages

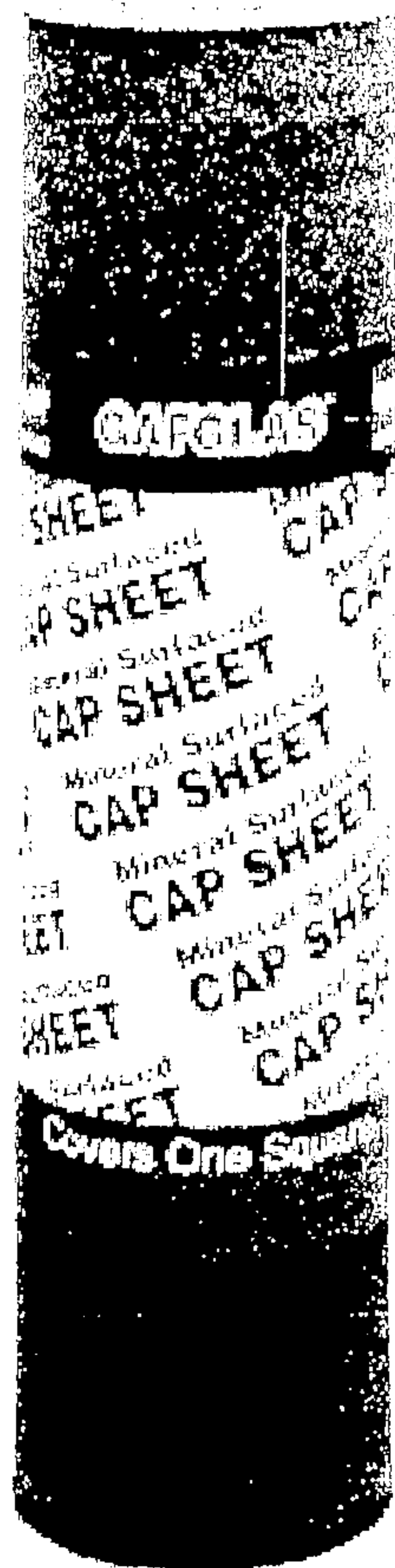
- Durability—glass base resists the effects of moisture on the roof system.
- Granule surface provides an ultra-violet protective surface.
- Code approvals—UL Class A, B, or C membrane constructions are available.
- Aesthetically attractive; requires no additional surface coatings.

Applicable Standards

- UL Approved for use in the construction of Class A, B, or C roofs (Type G3 BUR)
- FM Approved
- Federal Specification SS-R-630D, Type III
- ASTM D-3909
- Dade County Product Approval

Product Data (Approximate)

Roll Size..... 39.4" x 32.6'
 (1.0m x 9.9m)
 Coverage Per Roll.....1 square
 Weight.....76 lbs. (34.6 kg)



RUBEROID® MOP



Product
Data Sheets

Description

RUBEROID MOP membrane is a tough, resilient modified bitumen membrane manufactured to stringent GAF Materials Corporation specifications. Its core is a strong, resilient, non-woven polyester mat that is coated with flexible, SBS polymer-modified asphalt and is either surfaced with mineral granules or is smooth surfaced. *Smooth surfaced mop applied installations must be protected with surfacing.*

Uses

RUBEROID MOP is designed for new roofing and reroofing applications as well as the construction of flashings. RUBEROID MOP is also an ideal product for repairs of built-up roofing membranes or other modified bitumen systems.

Advantages

- Guarantees are available for up to 15 years.
- Cost effective—the installed cost of RUBEROID MOP is less than most single-ply systems on the market today.
- Lightweight—installed roof designs weigh less than 2 pounds per square foot.
- Durable—specially formulated modified asphalt gives RUBEROID MOP lasting performance.

Typical Physical Properties

Property	Test Method	Values
Tensile Strength @ 0F (nom.), lbf/in	ASTM D5147	100
Elongation @0F (nom.), %	ASTM D5147	45
Low Temperature Flexibility (max.), F	ASTM D5147	-22
Tear Strength (nom.), lbf	ASTM D5147	91
Dimensional Stability, %	ASTM D5147	<1

Advantages (Continued)

- Resilient -- RUBEROID MOP'S polyester mat core allows it to resist splits and tears due to its pliability and elongation characteristics.
- RUBEROID MOP membrane is backed by GAF Materials Corporation, a company with over 100 years in the roofing business.
- Available in smooth surfaced or granulated; black, white, burnt sienna blend, cedar blend, slate blend, weathered wood blend.

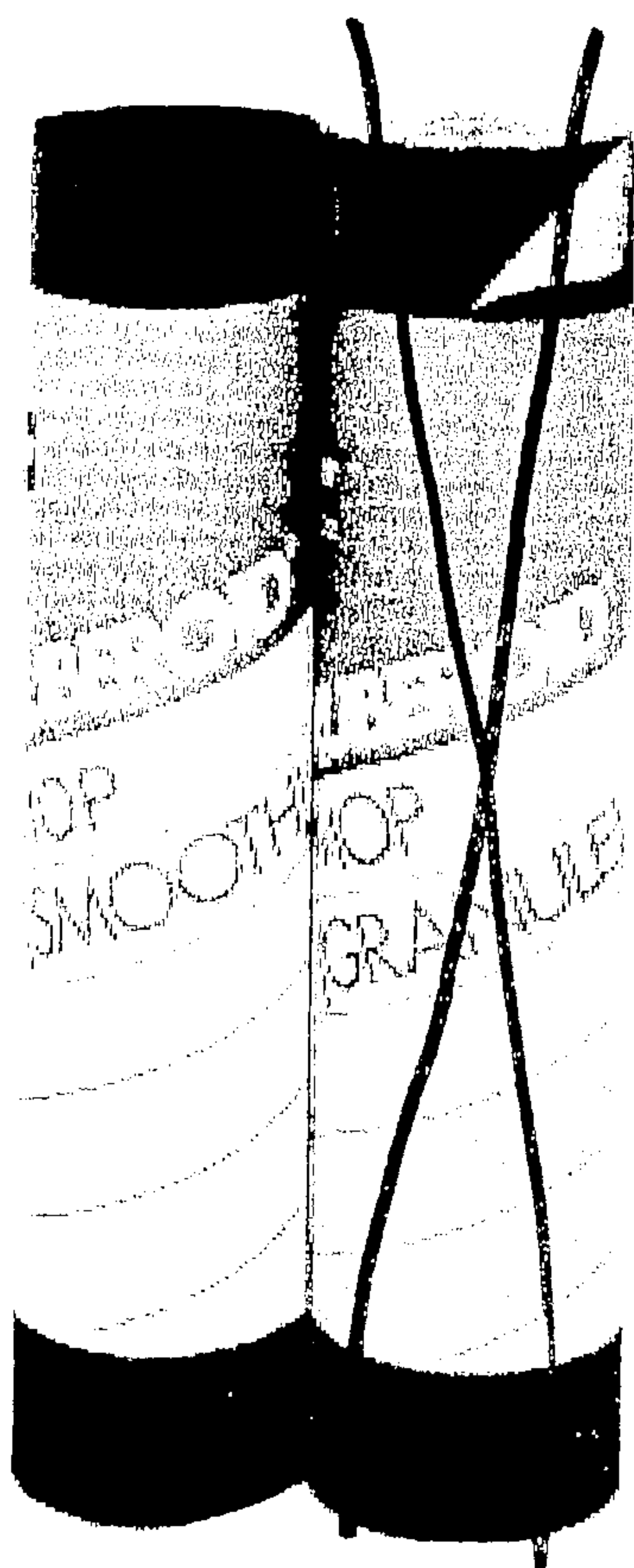
Applicable Standards

- UL, ULC Approved for use in construction of Class A, B, or C roof systems.*
- HUD Material Release No. 1216a
- BOCA Listed: Report No. 359
- SBCCI PST & ESI Listed
- FM Approved
- Dade County Product Approval
- New York City MEA's
81-89—Smooth Surface
99-89—Gravel Surface
- Meets ASTM D-6164, Type I
- Meets CGSB-37-GP-56M

*See GAFMC Application and Specification Manual or UL Directory for specific approval.

Product Data (Approximate)

Roll Size 1 square
(111 gross sq. ft.) (10.3m²)
Product Thickness..... 0.160" (4mm)
Roll Weight (smooth).... 88 lbs. (40kg)
Roll Weight (granule).... 102 lbs. (46kg)



GAFGLAS[®] STRATAVENT[®] Eliminator[™] Base Sheets



Description

GAFGLAS STRATAVENT Base Sheets are premium-grade roofing felts constructed around strong glass fiber mats and high quality asphalt. The bottom of the sheet is granule-surfaced to provide positive venting of any trapped gases under the roof membrane.

STRATAVENT Base Sheets are available for nailable and nonnailable substrates. GAFGLAS STRATAVENT Nailable Base Sheet is mechanically attached to wood, structural wood fiber, poured gypsum, and lightweight insulating concrete decks. GAFGLAS STRATAVENT Perforated Base Sheet is unique in the industry: its patent pending perforated design allows mopping asphalt to flow through to the substrate as the next ply of the roof system is installed. The flow-through asphalt uniformly bonds the STRATAVENT Perforated Base Sheet and the subsequent roof system to the substrate.

Uses

GAFGLAS STRATAVENT Base Sheets are venting base sheets designed to be used in various GAFGLAS built-up and RUBEROID[®] modified bitumen roofing systems. They can be used over both nailable and non-nailable substrates, including certain existing old roof surfaces and isocyanurate foams.

Advantages

- Provides for venting of pressurized gases beneath the roofing membrane
- Fire resistant—for use in UL Class A rated assemblies.
- In recover applications, provides an effective means for separating the new roofing membrane from the existing roof system.
- STRATAVENT Perforated Base Sheet provides consistent, uniform spot-attachment of the roofing membrane.
- Wind uplift-resistant; FMRC Approved up to Class 1-345 (See FM Approval Guide for details)
- Meets requirements for application in all climatic zones.

Applicable Standards

- UL Approved for use in the construction of Class A, B, or C roofs (Type G2 BUR)
- FM Approved
- ASTM D-4897 Type II
- ASTM D-3672 Type II
- Dade County Product Approval

Product Data (Approximate)

Roll Size.....	39.4" x 40.8'
	(10m x 12.4m)
Coverage Per Roll.....	1.25 squares
Roll Weight	
(Perforated).....	80 lbs (36 kg)
(Nailable).....	82 lbs (37 kg)





M-CURB SYSTEM

DESCRIPTION

M-CURB systems are composed of a structural urethane outer shell, bonded to the roof surface. M-CURB is 2" (50 mm) thick urethane rubber sealant.

The urethane sealant, M-THANE, conforms to the shape of any roof penetration through a roof surface to protect the roof system from moisture.

ADVANTAGES

M-CURBS require no flashing and easily bond to most common roofing materials.

The simple bonded construction of M-CURB penetration seals allows quick and reliable installation. Installation requires less time than for conventional metal pans.

The entire system is chemically bonded together without mechanical fasteners.

M-CURB systems are tough and waterproof and can maintain flexibility at -40 F (-40 C). M-CURB systems can withstand temperatures of 200 F (93 C).

COMPONENTS

For identifying various M-CURB system components see Chart 1.

M-CURB kits have a shelf life of approximately one (1) year.

M-CURB "straight", "corner" and "curb" structural urethane shell parts,

1 "Curb" components have either a 5.0" (12.5 cm) or 7.0" (17.5 cm) inside diameter.

2" "Straight" components are either 6" (15 cm) or 12" (31 cm) long.

3" "Corners" form square or rectangular shapes with "straight" components adding 2" (5 cm) to each "straight" component.

M-BOND, a high viscosity urethane adhesive designed to suit rapidly for efficient installation of M-CURB structural components. M-BOND is used to bond the M-CURB components firmly in place to the roof surface.

M-BOND is packaged in cartridges, containing 1/2 gallon of adhesive.

M-THANE consists of a two part (Part A, Resin and Part B, hardener) urethane rubber sealant. M-THANE sealant is designed for self-leveling, horizontal application.

When Part A and Part B are mixed properly, M-THANE cures as a tough, waterproof rubber mass with excellent adhesion and low temperature flexibility. M-THANE sealant forms a 2" (5 cm) deep waterproof rubber seal.

RESTRICTIONS

• Do not apply at temperatures below 40 F (4.4 C).

• Do not apply if rain or other precipitation is expected within four (4) hours.

• Do not install directly over smooth, ungranulated APP modified bitumen

membranes. A granulated layer of APP modified bitumen membrane must be installed around each penetration (6" (15 cm) larger in each direction than the M-CURB) before applying the M-CURB system.

SAFETY WARNINGS

• Avoid contact with eyes, skin or clothing.

• Avoid breathing concentrated vapors. Use only in well ventilated areas.

• Clean skin contamination with rubbing alcohol and wash with soap and water.

• Eye Contact: Flush with water for at least 15 minutes. Contact a physician immediately.

• Do not ingest. Contact a physician immediately and refer to the Material Safety Data Sheet for special instructions.

• Inhalation: no harmful effects are associated from breathing low concentration of vapors. If a respiratory problem develops, remove the person to fresh air.

• Keep out of reach of children.

• Safely dispose of the containers and their contents according to governing laws.

INSTALLATION

For detailed installation procedures see "M-CURB Application Instructions" portion of this brochure.

Chart 1 - Order Information for M-CURB System Components

ITEM #	NAME	CONTENTS PER BOX
4M36L300MW	Kit	2 each, 7.5" curbs, 1 gallon M-THANE (includes Part A Resin and Part B Activator), 1 Stir Paddle and 1 Cartridge of M-BOND
4M36S000MW	5.0" M-CURB Round	6 each, 5.0" curbs and 1 cartridge of M-BOND (6 curbs, 12 pieces)
4M36S001MW	6" M-CURB Straight	8 each, 6" straight components and 1 cartridge of M-BOND
4M36L000MW	7.5" M-CURB Round	4 each, 7.5" curbs and 1 cartridge of M-BOND (4 curbs, 8 pieces)
4M36S000MW	12" M-CURB Straight	8 each, 12" straight components and 1 cartridge of M-BOND
4M36W000MW	M-CURB Corner	8 each, corner components and 1 cartridge of M-BOND
4M36C000MW	M-THANE	2 gallons, with 2 containers of Activator and Mixing Blade
4M36B000MW	M-BOND	1 each cartridge

Prepare bonding surfaces and install M-CURB components before mixing M-THANE.

Bonding surfaces must be clean and free of moisture, dirt, oil and debris. Wire brush metal surfaces that are coated with asphalt or adhesive.

Pour a 1/2 gal M-THANE Part B into each A container. Do not mix portions. Do not dilute with any solvent or other foreign substances. For best results, maintain this product at room temperature twenty-four (24) hours before mixing.

Mix components for three (3) to five (5) minutes with the paddle provided, using a 1/2 gal motor. Mixed product must be a uniform black color with no streaks or unmixed resin.

M-THANE pot life is approximately forty (40) minutes at 70 F (21 C). Cold weather will extend pot life. Hot weather will shorten pot life.

Pour M-THANE into M-CURB components.

TECHNICAL ASSISTANCE

Technical Assistance is available from U.S. Interline through the Technical Service Department at (800) 694-6647 or in Nevada (800) 426-9053.

LIMITED WARRANTY

Seller warrants that, at the time of delivery, the product will meet minimum standards conforming to Seller's specifications hereon. THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Recommendations made by Seller are believed to be reliable, but Seller makes no warranty of results to be obtained. BUYER'S SOLE AND EXCLUSIVE REMEDY, regardless of the theory on which a claim may be based, including, without limitation, negligence, contract, breach of warranty, strict product liability or mis-

representation, IS THE REPLACEMENT OF THIS PRODUCT. In NO event shall Seller be liable for INCIDENTAL, CONSEQUENTIAL, SPECIAL INDIRECT OR PUNITIVE DAMAGES.

One Warranty Card per job, must be completed and mailed within ten (10) days of job completion. Cards are included with each M-Curb item.

ESTIMATING THE AMOUNT OF M-THANE REQUIRED FOR M-CURB SYSTEMS

1. Calculate the approximate volume of the M-CURB system by multiplying the length x width x depth. (Assume M-CURB curbs are not round).

2. Divide the volume figure by 231 (there are 231 cubic inches of rubber in one (1) gallon of M-THANE) to arrive at the number of gallons needed to fill the M-CURB system.

3. Always use a minimum 2" (5 cm) depth. Less than 2" (5 cm) of M-THANE will void the warranty.

Examples #1 through #4 represent the amount of M-THANE required to fill an M-CURB system without penetrations.

To calculate the amount of M-THANE required with penetrations, calculate the volume of the penetrations. For circles calculate volume by multiplying $[3.1416 \times \text{radius}^2 \times \text{center to edge of penetrations} \times \text{depth}]$. Subtract the volume of the penetrations from the total volume without penetrations before dividing the remaining volume by 231.

As a guide, one (1) gallon of M-THANE will fill two (2) seven and one-half inch (7 1/2") M-CURBS or six (6) five inch (5") M-CURBS to a 2" (5 cm) depth.

M-CURB SYSTEM

Top View

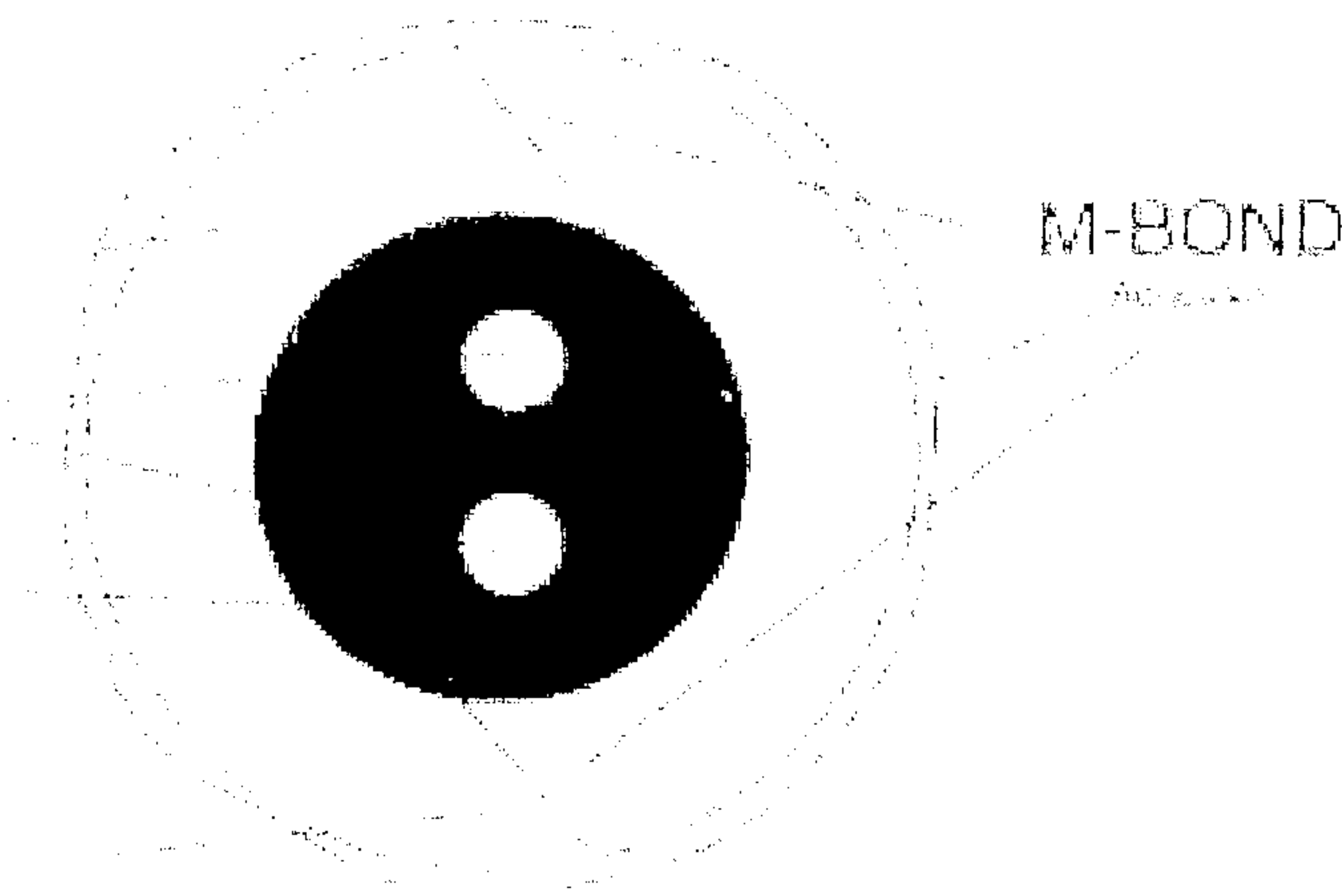
M-CURB

Eight (8) curbs

M-THANE

Two (2) gallons
or one (1) gallon of
M-THANE with
penetrations

See page 10



Side View

M-BOND

ADHESIVE

M-BOND

ADHESIVE

See page 10 for
penetration
calculations

M-CURB

M-THANE

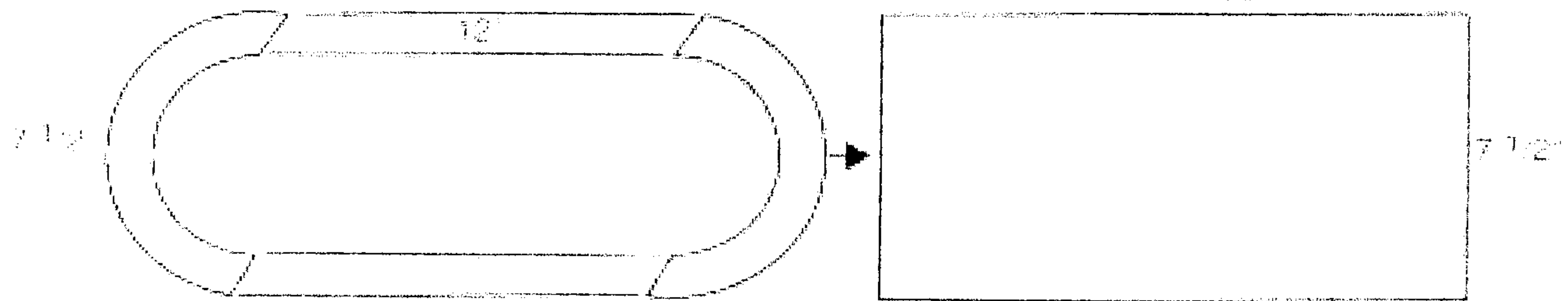
See page 10 for
penetration
calculations



EXAMPLE #1

Two 12' (31 cm) 'straight' components between two 7 1/2' (19 cm) cuts

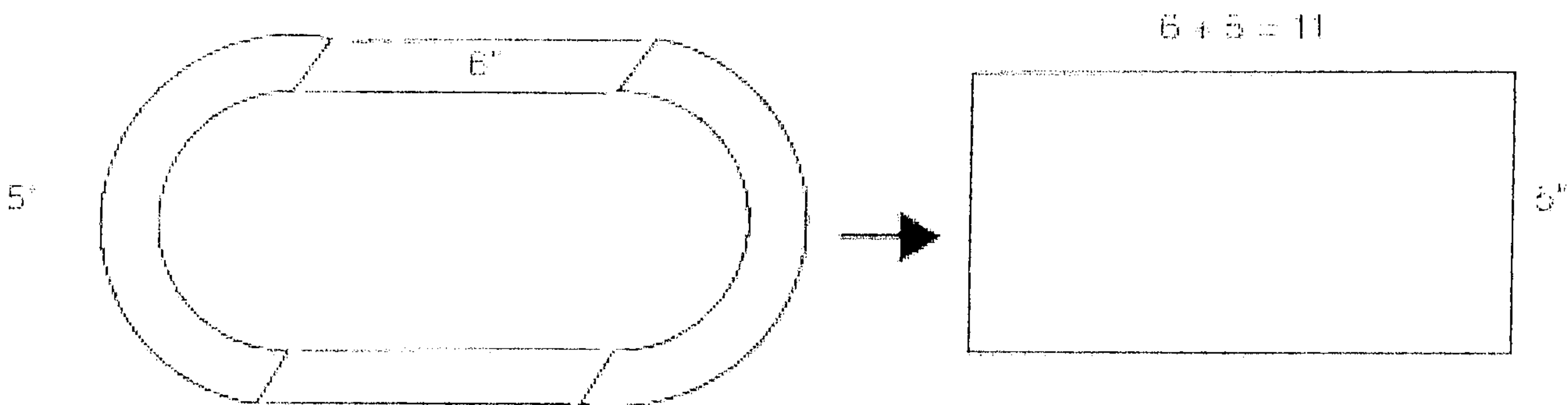
Length [7' + 12' + 7 1/2'] x Width [7 1/2'] x Height [2'] = 285



Divide 285 by 231 = Answer: 1.23 gallons of M-THANE

EXAMPLE #2

Two 6' (15 cm) 'straight' components between two 5' (12 cm) cuts



Length [5' + 6'] x Width [5'] x Height [2'] = 110

Divide 110 by 231 = Answer: 0.476 gallons of M-THANE

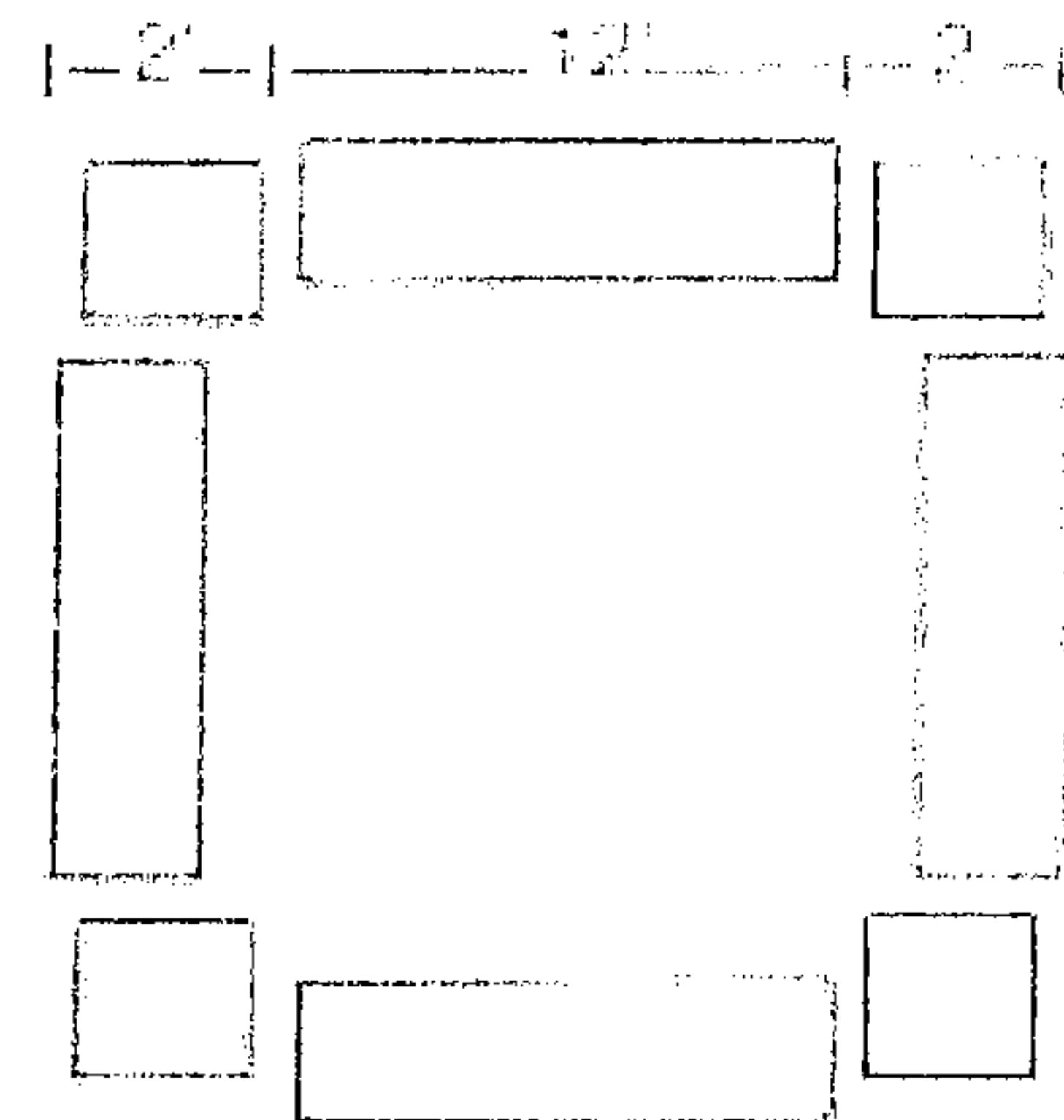
EXAMPLE #3 - Square

Four 12' (31 cm) 'straight' components and four 2' (5 cm) 'corners'

Length [2' + 12' + 2'] x Width [2' + 12' + 2'] x Height [2'] = 512

Divide 512 by 231 = Answer: 2.2 gallons of M-THANE

For a MWeid MPan using the same dimensions, and substituting 4' (10 cm) for the height, the amount of M-THANE required would be 4.4 gallons.



EXAMPLE #4 - Rectangle

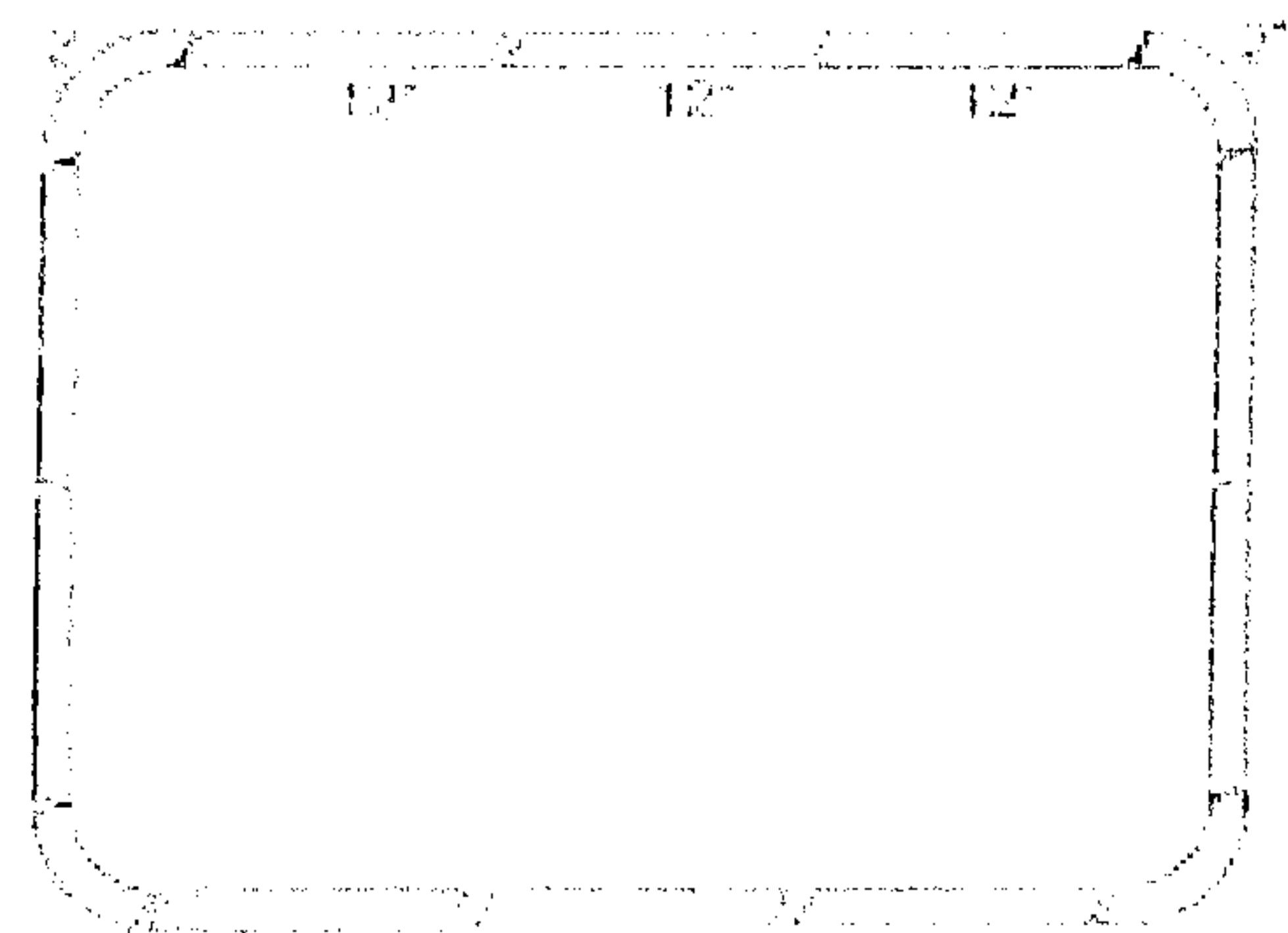
Three 12' (31 cm) straight components and two 2' (5 cm) 'corners' by two 12' (31 cm) straight components and two 2' (5 cm) 'corners'

Note: Precautions must be taken to make sure that the coal surface is level and free from irregularities

Length [2' + 36' + 2'] x Width [2' + 24' + 2'] x Height [2'] = 2,240

Divide 2,240 by 231 = Answer: 9.7 gallons of M-THANE

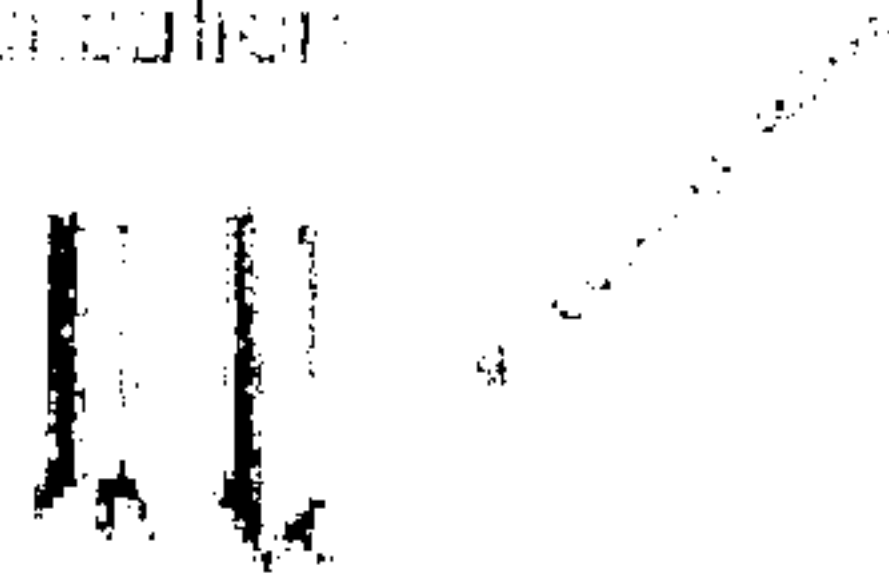
For a MWeid MPan using the same dimensions, and substituting 4' (10 cm) for the height, the amount of M-THANE required would be 20 gallons.





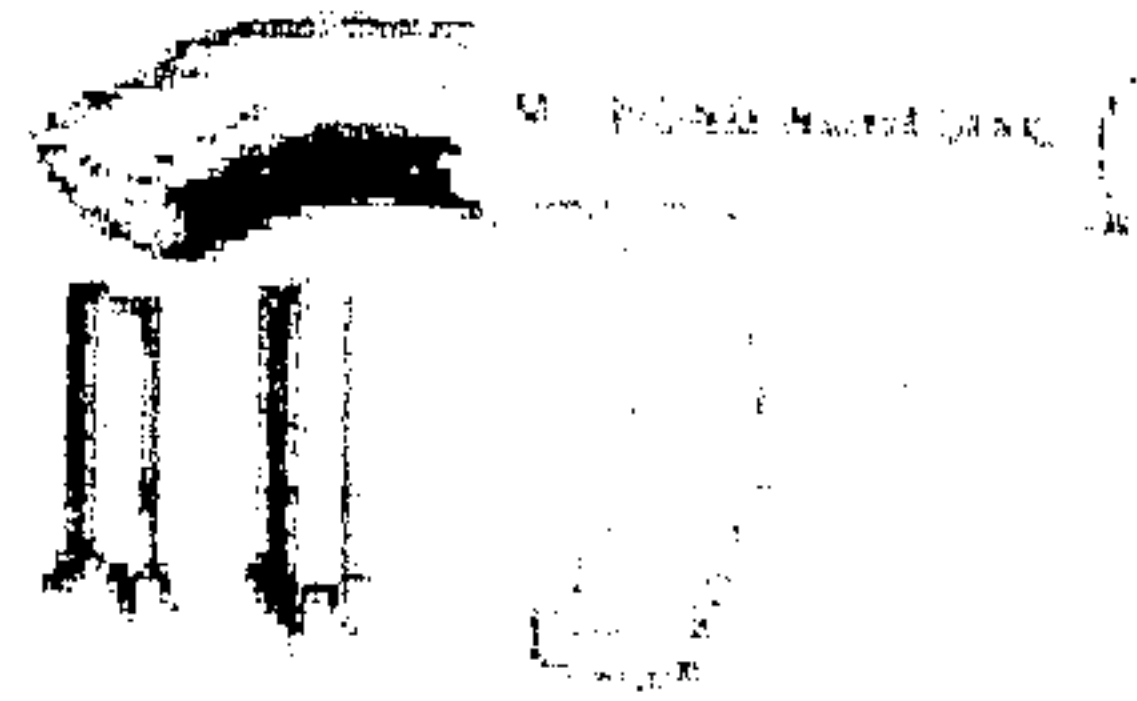
M-CURB application instructions

1. On smooth roof surface apply a granulated layer prior to curb application.



Penetrations must be steel, stainless steel, and dry. Caulk around penetration(s) with special M-BOND adhesive.

2.



Hold section of curb in hand with flat side up and apply continuous bead of M-BOND adhesive sealant near perimeter.

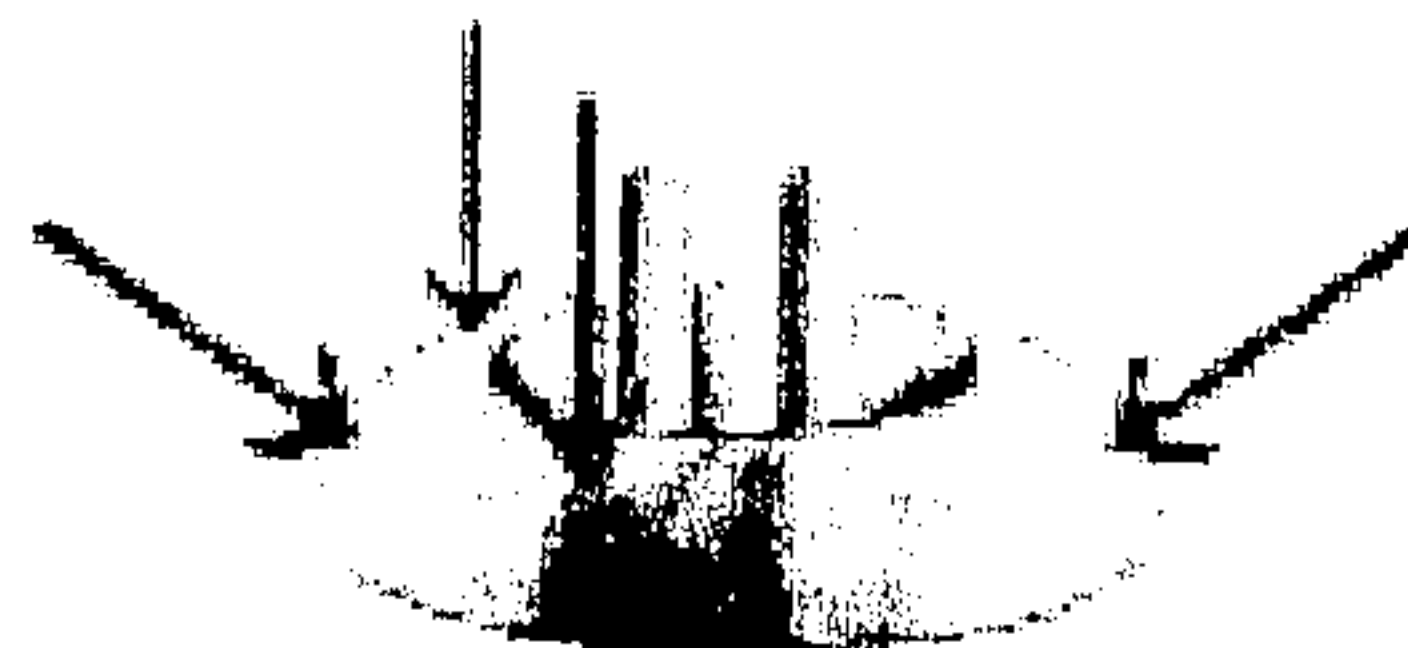


Press heated curb section on clean roof surface to form half circle around penetration(s) and press down firmly to set bond. Maintain 1" minimum distance between penetration and inside of curb.

3.



Hold second section of curb in hand, flat side up, and apply a continuous bead of M-BOND adhesive around perimeter. Apply small bead of adhesive to scarf joints.



Place second section of curb on roof surface to form circle with first section. Press scarf joints together firmly and press both sections down on set bond.

4.

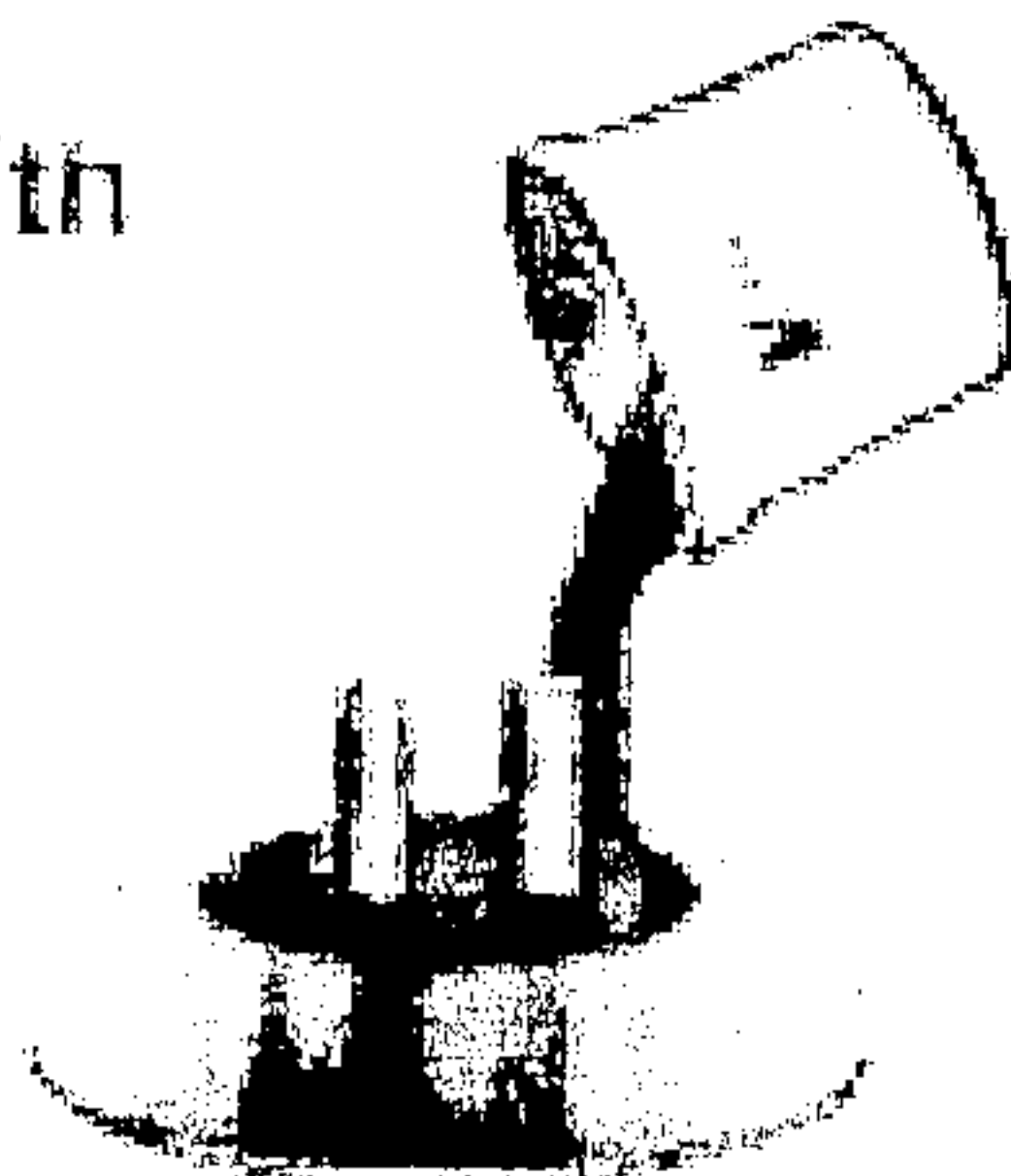


Apply a continuous bead of M-BOND adhesive around outside base of M-CURB. Tool all joints and seams to a smooth finish.

5.

M-CURB now ready to be filled with M-THANE 2-part pourable sealer.

Mix Parts A & B until solid black (typically 3 to 5 minutes). For ease of mixing, store at cool temperatures on hot days and at warm temperatures on cold days. See label for mixing instructions. Pot life after mixing is approximately forty (40) minutes at 70° F (21° C).



Roofing Systems-Building Solutions

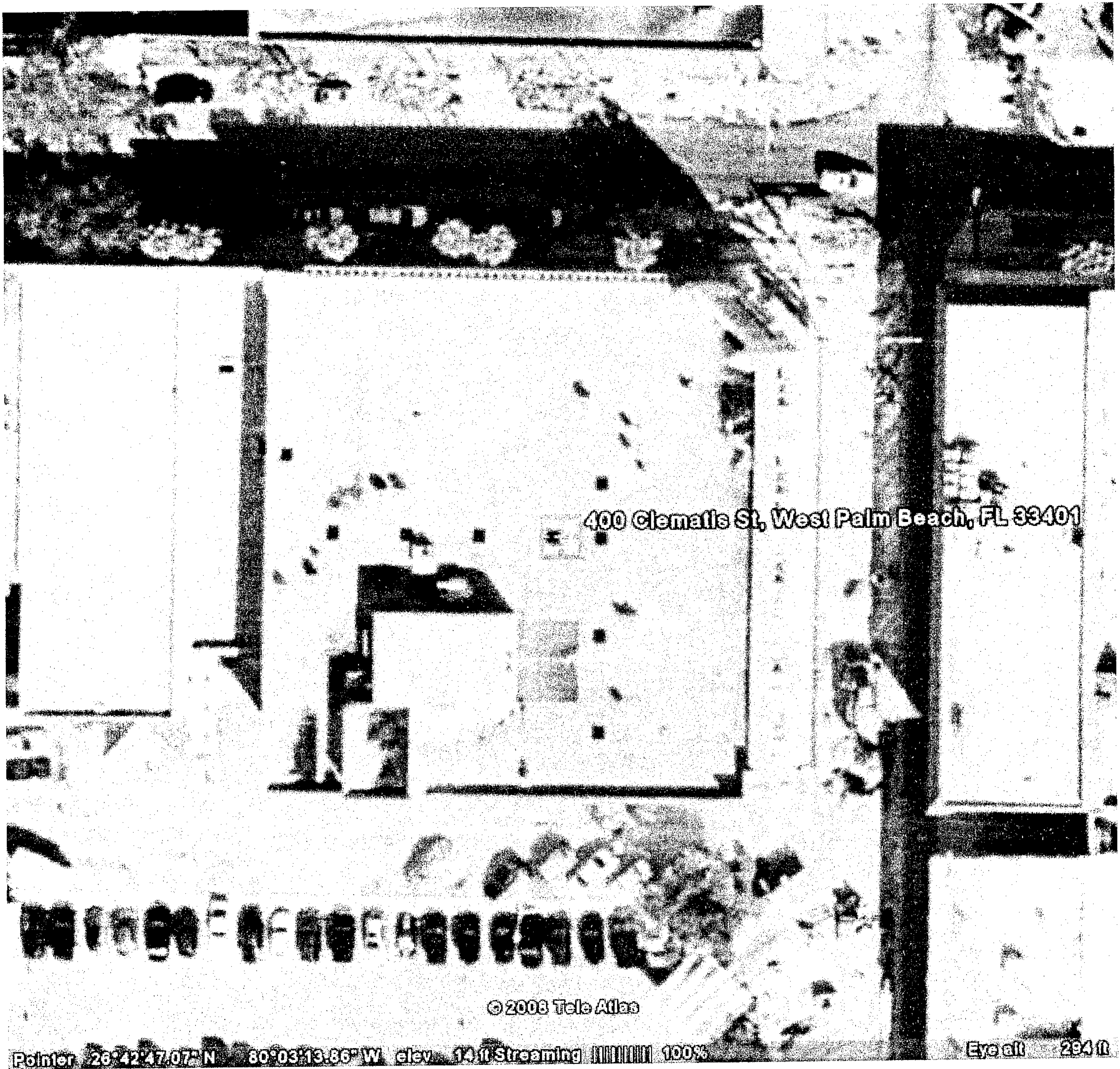
Central Order Line: 1-800-338-9978

Technical Services: 1-800-624-6832

MWeld: 1-800-426-9353

700 Hwy. 365
Nederland, Texas 77627

© MWeld September 1995



400 Clematis St, West Palm Beach, FL 33401

© 2008 Tele Atlas

Pointer 26°42'47.07" N 80°03'13.86" W elev. 14 ft Streaming 100%

Eye alt 294 ft