MULTI-PLY WATERPROOFING SYSTEM

MULSEAL and MEMBRANE

Description: **MULSEAL**, when sprayed on simultaneously with chopped fiber glass roving reinforcement, produces a tough seamless, watertight envelope around the entire foundation wall. The resultant membrane coating, when applied by competent contractors, is tough and elastic enough to bridge hairline cracks should any develop in the foundation wall.

Specification: The cured asphalt film complies with ASTM specification D449-79 Type I, meeting requirements of FHA code section 712-1. The **MULTIPLY SYSTEM** also meets or exceeds most local building codes, as well as the Illinois Department of Transportation specification for waterproofing.

Application and Coverage: Spray **MULSEAL** and fiber glass roving, cut up to 3/4 inch lengths simultaneously, using 8 to 10 gallons of **MULSEAL** and 7 to 9 lbs. of roving per 100 sq. ft. Additional quantities of materials shall be applied at juncture of wall and footing forming a cove for added protection. The system shall be applied in such a manner that the blending of **MULSEAL** and roving shall produce a uniform high tensile strength coating.

Allow at least 24 to 48 hours of good drying weather (but in no case more than ten days) before backfilling, which shall be performed carefully to prevent damage to the system.

Preparation of Surfaces: All concrete and masonry surfaces to be coated must be clean, smooth and firm, free from dust, mud, loose mortar, wires, fins and metal projections or any substance which might prevent bonding and placing of continuous film of asphalt.

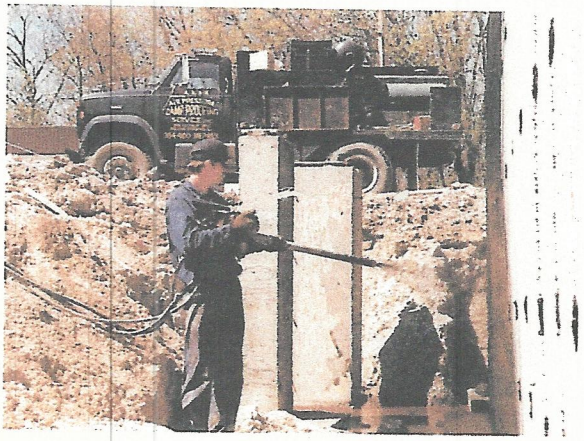
Old masonry walls shall be scraped and cleaned with a wire brush to remove dust and foreign matter. Cracks in walls or walls that have disintegrated or are honey-combed, shall be repaired in accordance with AREA Specifications for repairing deteriorated concrete, or other approved methods.

The list of installations below are examples of the MULSEAL/MULTIPLY DAMPPROOFING/ WATERPROOFING SYSTEM applied by: AIR PRESSURE DAMPPROOFING SERVICE, CHICAGO, ILLINOIS.

Illinois Tollway • Illinois Bell Lab Bldg., Woodridge, IL • Fermi Lab, Batavia, IL • O'Hare Int'l. Airport, Chicago, IL • McDonald's Corp. Campus, Oak Brook, IL • Highland Park Hospital, Highland Park, IL • Holy Family Hospital, DesPlaines, IL • Lake Barrington Shores, Barrington, IL • George Halas Hall, Lake Forest, IL • Hundreds of Banks & Savings & Loans • Thousands of Residential Houses

Air Pressure's specialized equipment and ability to complete most dampproofing/waterproofing jobs within 24 hours of notification allows them to meet the needs of a tight construction schedule.

2/17/88



AIR PRESSURE DAMP-PROOFING SERVICE, INC .

3102 TOLLVIEW DRIVE

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MULTI-PLY SYSTEM

1. PRODUCT NAME MULTI-PLY WATERPROOFING SYSTEM CONSISTING OF MULSEAL AND MEMBRANE.

2. COMPANY

AIR PRESSURE DAMP-PROOFING SERVICE, INC., 3102 TOLLVIEW DR., ROLLING MEADOWS, IL 60008 Phone: 847/394-4100 Fax: 847/394-4102

3. PRODUCTION DESCRIPTION

USE: MULSEAL, when sprayed on simultaneously with chopped fiberglass rovings reinforcement, produces a tough seamless, watertight envelope around the entire foundation wall. The resultant membrane coating, when applied by competent contractors, is tough and elastic enough to bridge hairline cracks should any develop in the foundation wall

LIMITATIONS: MULSEAL can be applied to surfaces at temperatures below freezing (down to 10°F). Upon thawing, it will retain its original properties provided the MULSEAL is kept at ambient temperature above 50°F. do not exceed 180°F while applying.

Composition and Materials: The MULTI-PLY WATERPROOFING SYSTEM consists of MULSEAL and fiberglass rovings.

MULSEAL is a unique emulsified asphalt, specifically designed for application to concrete foundation walls. The fiberglass roving should be cut to random lengths up to ¾" and sprayed simultaneously with the MULSEAL.

4. TECHNICAL DATA

Specifications: If the material is properly stored, handled and applied the cured asphalt film complies with ASTM D449-79 Type I, meeting requirements of FHA code section 712.1. MULSEAL also meets or exceeds most local building codes, as well as the Illinois Department of Transportation specification 503-18. Article 714.16 for dampproofing.

5. INSTALLATION

Storage: MULSEAL must be kept from freezing.

Surface Preparation: All concrete and masonry to be coated must be clean and free of loose mortar, wires, fins and metal projections, or any other substance, which might prevent bonding and placing of a continuous film of MULTI-PLY. Old masonry walls must be scraped and cleaned with a wire brush to remove dust and other foreign matter. Cracks in wall or walls that have disintegrated or are honeycombed must be repaired in accordance with local building codes prior to application of MULTI-PLY.

Application: MULTI-PLY can be applied to green or damp concrete. Optimum results may be obtained if application is made as soon as forms are pulled.

Coverage: MULSEAL and fiberglass roving cut up to ¾" lengths, simultaneously, using 8 to 10 gallons of MULSEAL and 7 to 9 lbs. of roving per 100 square feet. Additional quantities of materials shall be applied at the juncture of a wall and footing forming a cove for added protection. The system shall be applied in such a manner that the blending of MULSEAL and roving shall produce a uniform high tensile strength coating.

Drying Time: MULTI-PLY is fast setting. This unique property protects the coating from being washed off due to sudden showers. The MULTI-PLY system should be applied when surfaces are relatively dry and inclement weather is not anticipated within 2 hours. Wait 24 hours before backfilling. In no case should more than ten days be allowed to pass before backfilling.

Health/Safety/Affects Warnings: This product contains an asphalt emulsion which may be heated for application. DO NOT EAT - short-term illness or death may result. DO NOT CONTACT MATERIAL TO BODY - short-term irritation or chemical burn may result. DO NOT BREATH VAPORS - short-term illness or respiratory irritation may result. DO NOT CONTACT HOT MATERIAL TO BODY - burns may result. Use all chemicals with care: READ MATERIAL SAFETY DATA SHEET BEFORE USING.

6. AVAILABILITY AND COST

Availability: MULTI-PLY SYSTEM is available through Air Pressure Damp-Proofing Service., Inc.

7. WARRANTY

Limitation of Warranties and of Remedies: Air Pressure warrants only that, if all instructions and conditions on product storage, handling, usage and application on this label and on any data sheet on this product are complied with and satisfied, this product shall meet the application specifications stated in Specification section of this label. All other warranties and all guarantees, descriptions and samples are excluded, without limitation. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PURPOSE ARE EXCLUDED. As conditions to the foregoing limited warranty being effective Air Pressure must receive (a) written notice of claim of defective product within six (6) months following date of original application, and (b) it shall be presumed that product has properly performed unless user proves by excavation to subject area that the product was properly applied and that alleged failure is not caused by cracks or dents in coverage.

All remedies against Air Pressure are limited to product replacement or, at Air Pressures election, refund of purchase price for product applied. ALL SPECIAL CONSEQUENTIAL AND INCIDENTAL DAMAGES, INCLUDING THOSE FOR LOST PROFITS, ARE HEREBY EXCLUDED.

8. MAINTENANCE

None required.

9. TECHNICAL SERVICES

Air Pressure dampproofing products are backed by a support staff that is available to provide information and assistance in selection or reviewing your dampproofing or waterproofing requirements.

Air Pressure Damp-Proofing Svc., Inc.
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4-2006M2-1

MULTIPLY SYSTEM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Waterproofing.

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1.02 RELATED WORK

A. Concrete: Cast-In-Place Concrete.

B. Masonry: Unit Masonry.

1.03 REFERENCES

A. ASTM D244—Testing Emulsified Asphalts.

B. ASTM D466—Testing Films Deposited from Bituminous Emulsions.

C. ASTM D36—Testing Softening Point of Bitumen.

D. ASTM D92—Testing Flash and Fire Points By Cleveland Open Cup.

E. ASTM D5—Testing Penetration of Bituminous Materials.

F. ASTM D113—Testing Ductility of Bituminous Materials.

G. ASTM D6—Testing Loss of Heating of Oil and Asphaltic Compounds.

H. ASTM D4—Testing Bitumen Content.

I. ASTM D2939—Testing Emulsified Bitumens Used as Protective Coatings.

J. ASTM D313—Testing for Coarse Particles In Mixtures of Asphalt and Mineral Matter.

1.04 SYSTEM DESCRIPTION

A. A single component, fluid applied waterproofing membrane for below grade concrete or masonry foundation walls.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver to the site in clean unopened containers with labels intact and legible.

B. Store off the ground and protect from precipitation and from freezing.

1.06 ENVIRONMENTAL REQUIREMENTS

A. Apply only when surface temperature is 10°F or greater.

B. Apply only when surfaces are relatively dry and are expected to remain dry for two hours following the application.

C. Will retain its original properties upon thawing, provided the MULSEAL is stored at ambient temperature above 50°F and not applied at a temperature exceeding 180°F.

PART 2 PRODUCTS

2.01 MATERIALS

A. If the material is properly stored, handled and applied, cured asphalt film shall comply with ASTM D449-79 Type I, meeting requirements of FHA code section 712-1. The MULSEAL emulsion also meets or exceeds most local building codes, as well as the Illinois Department of Transportation specification 503-11, Article 714.16 for dampproofing.

TECHNICAL DATA ON MULSEAL EMULSION			
	Min.	Max.	ASTM Test Method
Residue by Distillation	60	65	D-244
Viscosity SSF. 77°F	20	80	D-244
Freeze Recovery, Adhesion and Re-emulsification	(No lifting or re-emulsification)		D-466
Rain Resistance	(Fully coated exclusive of pinholes and sharp edges of aggregate)		D-466

CHARACTERISTICS OF RESIDUE FROM DISTILLATION			
	Min.	Max.	ASTM Test Method
Softening point (Ring & Ball) °F	115	145	D-36
Flash Point (C.O.C.) °F	450	—	D-92
Penetration 34°F, 200g, 60 sec	.5	—	D-5
77°F, 100g, 5 sec	50	100	D-5
115°F, 50g, 5 sec	100	—	D-5
Ductility (77°F, 5 cm/min) cm	30	—	D-113
% Loss of Heating 163°C, 50g, 5 Hrs.	—	2	D-6
Penetration of residue from loss on heating test (77°F, 100g, 5 sec) as % of orig.	50	—	D-5
Solubility in 1,1,1 Trichloroethylene	95	—	D-4
Ash % (based on residue from distillation)	—	1	D-2939
Coarse particles retained on a 200 mesh—Sieve (as % of bitumen insoluble in CS_2)	—	12	D-313

B. The fiber glass roving should be a standard fiber type glass cut in random lengths up to 3/4" and sprayed simultaneously with the MULSEAL.

PART 3 EXECUTION

3.01 EXAMINATION

A. All concrete masonry to be coated must be clean, smooth, and firm, free of dust, mud, loose mortar, wire, fins, and metal projections or any other substance which might prevent bonding and placement of a continuous film of MULTIPLY.

3.02 PREPARATION

A. Old masonry walls shall be scraped and cleaned with a wire brush to remove dust and other foreign matter.

B. Cracks in walls, that have disintegrated or are honeycombed shall be repaired in accordance with local building codes.

3.03 APPLICATION

A. Spray MULSEAL and Fiber Glass Roving cut-up to 3/4" lengths, simultaneously, using 8 to 10 gallons of MULSEAL nad 7 to 9" of roving per 100 sq. ft.

B. Additional quantities of materials shall be applied at the juncture of a wall and footing forming a cover for added protection.

C. The system shall be applied in such a manner that the blending of MULSEAL and roving shall produce a uniform high tensile strength coatings.

D. The finished job must present a uniform coating, free from voids or holes in the coating.

E. Drying Time: Allow at least 24 to 48 hours of good drying weather (but in no case more than ten (10) days before backfilling, which shall be performed so as to not damage monolithic coating of MULTIPLY.

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MULTI-PLY WATERPROOFING SYSTEM

FIBERGLASS REINFORCED ASPHALT EMULSION SPRAY APPLIED WATERPROOFING

1) FUNCTION OF THE ASPHALT EMULSION

Asphalt Emulsion is the component that offers moisture protection. A thicker film means more moisture protection. A better grade of asphalt also means more moisture protection.

2) FUNCTION OF CHOPPED FIBERGLASS ROVINGS

Fiberglass is used to provide additional body to the mixture. This allows for a film thickness 2-1/2 to 3 times thicker than standard dampproofing.
Fiberglass also serves as reinforcement (like wire mesh in a concrete slab) resulting in a more durable film than standard dampproofing.

3) CORRECT MIXTURE

In order for the fiberglass to provide additional thickness and reinforcement, the fiberglass must be thoroughly saturated with asphalt (a wet application). If the mixture is applied dry (fluffy looking), the desired moisture protection will not be achieved.
Specialized spray equipment, which mixes asphalt and chopped Fiberglass rovings at the nozzle, is the most effective method of producing a thoroughly saturated mixture.

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MULTI-PLY WATERPROOFING SYSTEM
WARRANTY

WARRANTY:

Air Pressure Damp-Proofing Service, Inc. warrants the foundation walls to be free of water leakage or seepage through the areas coated with the Multi-Ply System for a period of two years six months (2-1/2 years) from date of application. Air Pressure's responsibility shall be limited to the cost of repairing the defective area of the Multi-Ply System.

LIMITATIONS:

This Warranty does not apply and Air Pressure Damp-Proofing Service shall not have responsibility for leakage or seepage of water resulting from:

1. Cracks or defects greater than 1/16", including structural defects in the walls, footings or foundation of the structure.
2. Honeycomb, construction joints, cold joints.
3. Intrusions into or alterations of the waterproofed walls after installation of the Multi-Ply System (e.g. openings for sewer pipes, water service, etc.).
4. Improper grading. (Grading which does not slope away from the structure sufficiently to drain water away from the structure or grading that is not complete).
5. Structures lacking gutters and downspouts.
6. Walls that are "pushed in" by excavator.
7. Mortared beam pockets.

AIR PRESSURE SHALL NOT BE LIABLE FOR DAMAGE TO THE STRUCTURE OR ITS CONTENTS.

DANIEL R. BLACK
VICE-PRESIDENT
DRB:gs