



Quality People. Building Solutions.

Comfort Systems USA (Arkansas), Inc.

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LittleRock, AR 72231

Phone 501-834-3320

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Date: 9/1/2025

Return Request: 9/15/2025

Project: Hot Springs National Park – Rehabilitate Bathhouses – Maurice Bathhouse

Supplier: Coleman Industrial Construction

Manufacturer: Varies

Submittal: HVAC Equipment Insulation

Submittal Number: 230716.001

Spec Section: 230716

Drawing # and Installation Location: MP1.0 through MP1.3, and MP4.0

ARCHITECT

Strata Architecture

1701 Oak Street, Suite 100

Kansas City, Missouri 64108

(816)474-0900

GENERAL CONTRACTOR

Tepa, LLC

2345 Grand Blvd, Suite 700

Kansas City, Missouri 64108

(816)708-1110

ENGINEER

IMEG Corp.

1600 Baltimore Street, Suite 300

Kansas City, Missouri 64108

(816)842-8437

MECHANICAL SUBCONTRACTOR

Comfort Systems USA (Arkansas), Inc.

9924 Landers Road

North Little Rock, Arkansas 72117

(501)834-3320

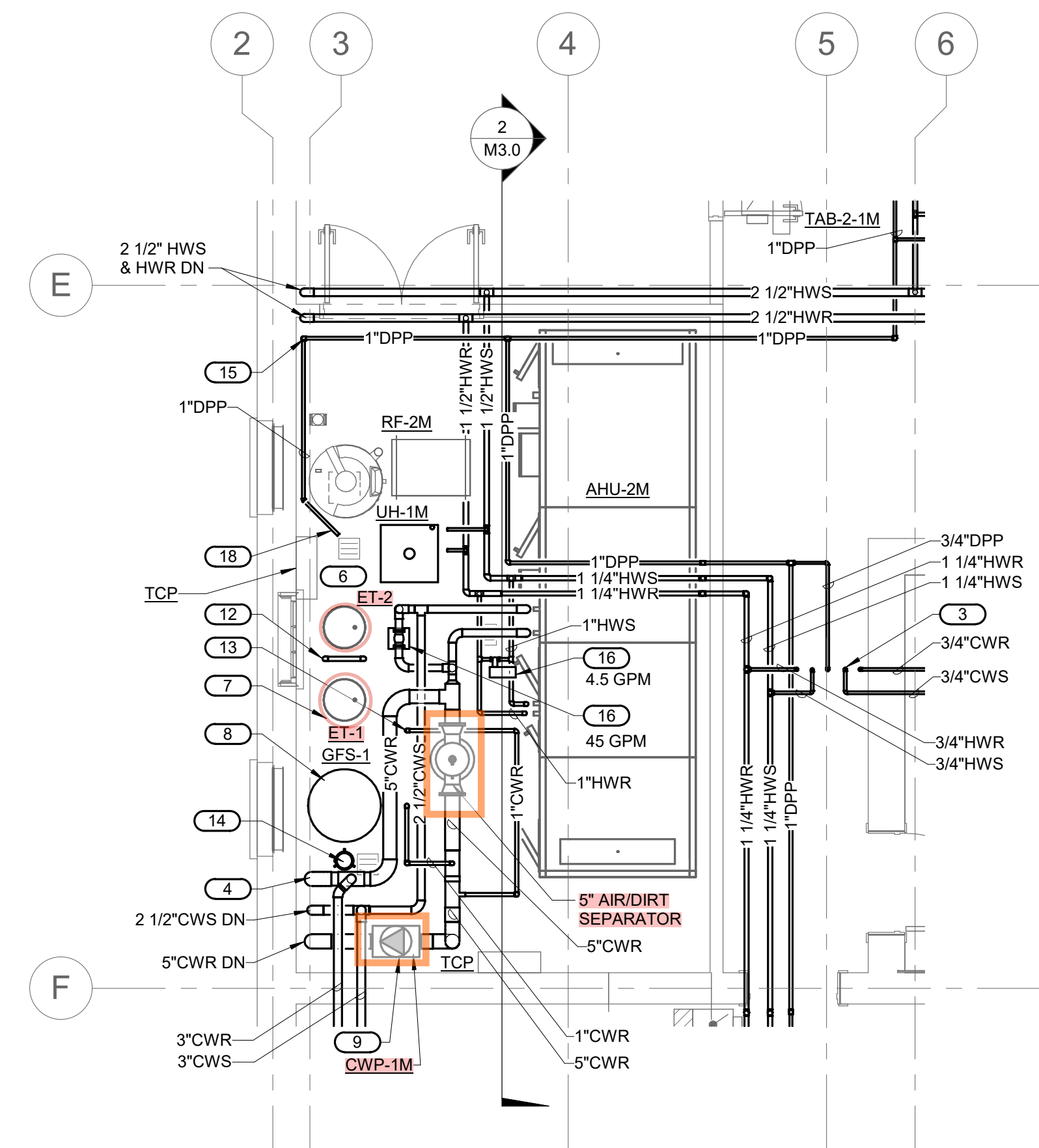
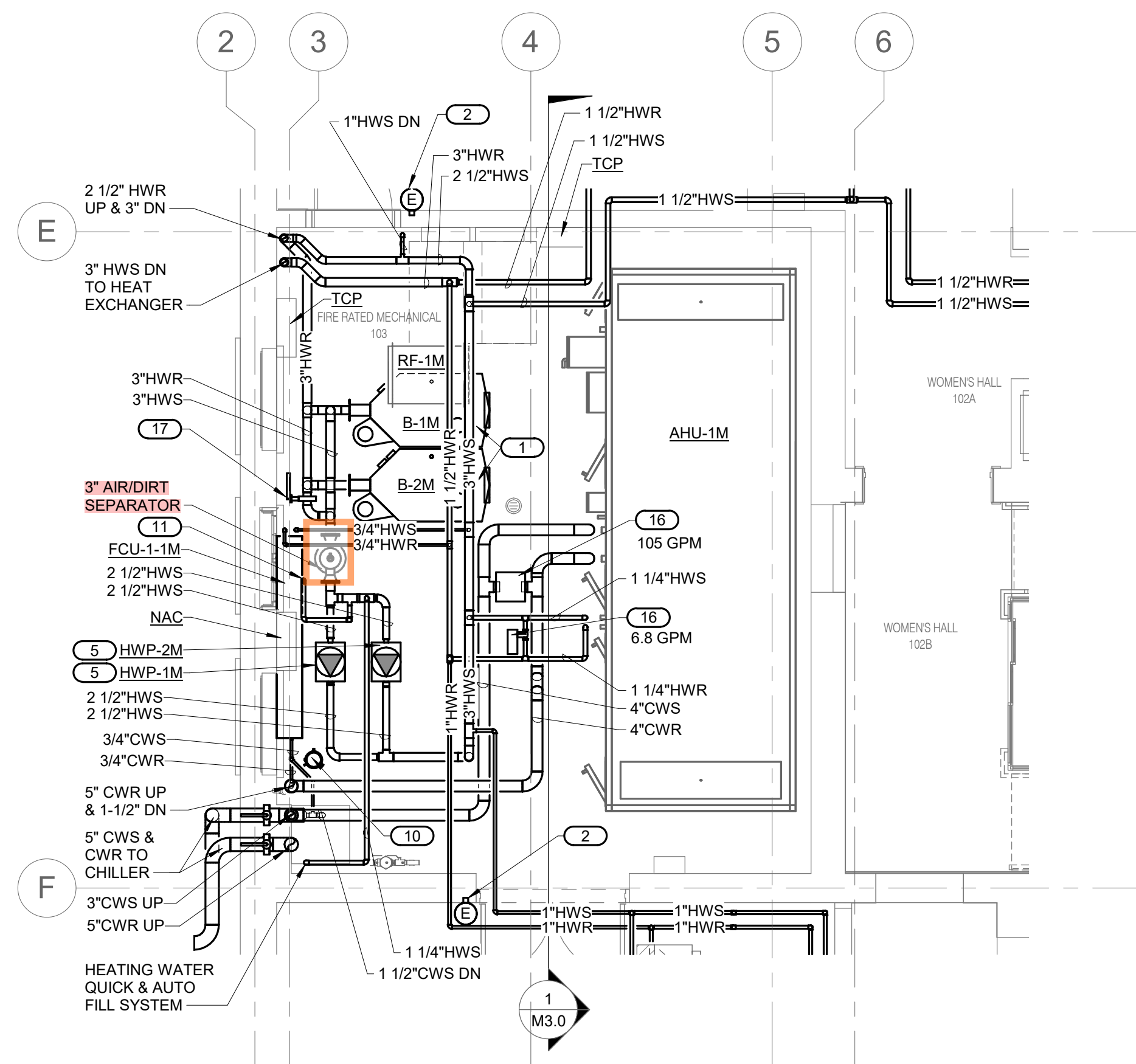
Comments:

CSUSA PROJECT NO.

25-7065

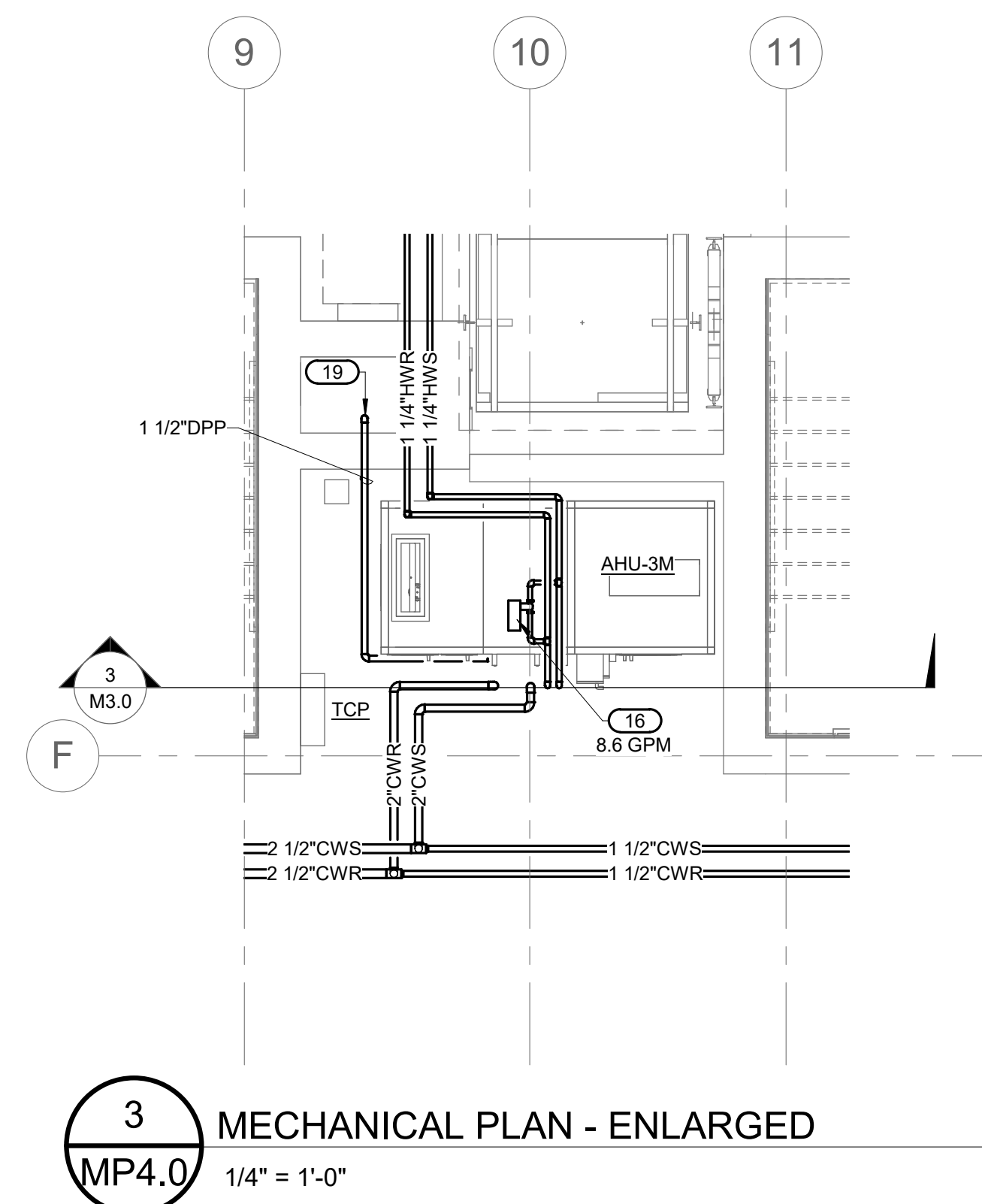
joe@comfortar.com

9924 Landers Road
No. LittleRock, AR 72117



- SHEET NOTES:**
1. ROUTING OF TERMINAL EQUIPMENT AND PIPING SHALL BE VERY CAREFULLY COORDINATED WITH EXISTING CONDITIONS, PRESERVATION ZONES AND HISTORIC NATURE OF BUILDING TO CONFORM WITH THE SECRETARY OF THE INTERIOR'S REHABILITATION REQUIREMENTS AND PRESERVATION BRIEFS RELATED TO MEP DESIGN AND INSTALLATION .

- KEYNOTES:**
1. HIGH EFFICIENCY HOT WATER CONDENSING BOILER. MOUNT ON 4" MIN. HIGH HOUSEKEEPING PAD. EXTEND COMBUSTION AIR AND BOILER FLUE DUCTS THROUGH EXTERIOR WALL.
 2. BOILER EMERGENCY SHUTDOWN PUSH BUTTON.
 3. 3/4" HWS, HWR AND 1" CWS, CWR UP TO FCU ABOVE.
 4. CHILLED WATER RETURN DOWN TO AHU-1M AND FAN COIL UNITS.
 5. SPLIT COUPLED IN-LINE PUMP.
 6. HEATING WATER EXPANSION TANK MOUNTED ON 4" HIGH CONCRETE HOUSEKEEPING PAD.
 7. CHILLED WATER EXPANSION TANK MOUNTED ON 4" HIGH CONCRETE HOUSEKEEPING PAD.
 8. CHILLED WATER GLYCOL FILL SYSTEM MOUNTED ON 4" HIGH CONCRETE HOUSEKEEPING PAD.
 9. COIL MOUNTED SPLIT COUPLED IN-LINE CHILLED WATER PUMP.
 10. HEATING WATER POT CHEMICAL FEEDER.
 11. 1-1/4" HWS UP TO EXPANSION TANK.
 12. 1-1/4" HWS DN & UP TO CONNECT TO ET-2.
 13. 1" CWR DN TO ET-1.
 14. CHILLED WATER POT CHEMICAL FEEDER.
 15. DROP DDP DN AND ROUTE TO FLOOR SINK.
 16. MAIN FLOW AND AUTO BYPASS VALVE. SEE PLANS FOR GPM.
 17. BOILER BYPASS CONTROL VALVE.
 18. ROUTE DPP ALONG FLOOR TO FLOOR SINK.
 19. ROUTE DPP DN IN CHASE TO BASEMENT.



A/E FIRMS	DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
PRIME/ARCH: STRATA ARCHITECTURE 1701 GAY STREET, SUITE 100 KANSAS CITY, MO T: 816-474-0900	CADD:	01 MP4.0	MAURICE BATHHOUSE MECHANICAL PIPING - ENLARGED PLANS	626 180065
MEP/ENG: IHGG CORP. 1600 BALTIMORE STREET, SUITE 300 KANSAS CITY, MO T: 816-842-8437	TECH. REVIEW:			PMIS/PKG NO. 318674
	DATE: 10.27.2023		REHABILITATE BATHHOUSES HOT SPRINGS NATIONAL PARK	SHEET 149 OF 286

1001 Swift Ave
North Kansas City MO.
64116



Phone: (816)741-8383
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August 14, 2025

Comfort Systems
9924 Landers Rd
North Little Rock, AR 72117

Mr. Joe Loomis

Mechanical Insulation Submittal for **Maurice Bathhouse Renovation** in Hot Springs, AR

Specification# 23 07 16 HVAC Equipment Insulation

The following items will be insulated with Johns Manville Pipe & Tank Wrap insulation with ASJ+ vapor barrier jacket.

Item# 1: Heating Water and Chilled Water Air Separators-----2" Thick

The following items will be insulated with Armacell Armaflex sheet insulation. All joints will be sealed with Armacell 520 adhesive. All equipment insulation will receive 2 coats of Armaflex WB Finish.

Item# 1: Chilled Water Pumps-----1" Thick

Item# 2: Chilled Water Air Separators and Expansion Tanks-----1" Thick

Thank you,

Melissa Miller
mmiller@cickc.com
Cell (501) 288-4433

DESCRIPTION

Micro-Flex large-diameter pipe and tank wrap is a 2.5 pcf (40.1 kg/m³) density product made from high-temperature, semi-rigid fiberglass blanket bonded to a flexible facing. Shipped in roll form, Micro-Flex's unique fiber orientation gives it increased compressive strength and permits close installation on round surfaces without reducing the thickness of insulation resulting in a loss of insulating efficiency. Both All Purpose (AP) and FSK facings can be installed indoors & outdoors depending on the application. Micro-Flex does require a weather barrier cladding such as aluminum jacketing or polyvinyl chloride (PVC) jacketing to protect it from the elements when installed outdoors. The ease of fit is particularly helpful on retrofit installations where existing insulation may result in nonstandard outside diameters.

USES

Micro-Flex large-diameter pipe and tank wrap is ideally suited for application on rounded shapes such as pipes, tanks, ducts, vessels and other similar round and irregular shapes. For applications requiring a vapor seal, all joints and facing penetrations must be sealed.

AVAILABLE TYPES AND SIZES OF ROLLS

Micro-Flex is available in 3-foot (0.92 m) or 4-foot (1.22 m) wide rolls in either AP or FSK facings. For roll lengths, thicknesses and the amount of material per roll, please reach out to your account specialist.

ADVANTAGES

Easy to Apply. For most applications, only a ruler, knife, 3- or 4-inch (76 mm or 102 mm) wide AP or FSK pressure-sensitive tape and stapler are required.

Flexible & Compression-resistant. The unique fiber manufacturing process results in interconnected glass fibers, creating a continuous insulation mat. There are no segments that are prone to delaminate and fall out during handling and fabrication.

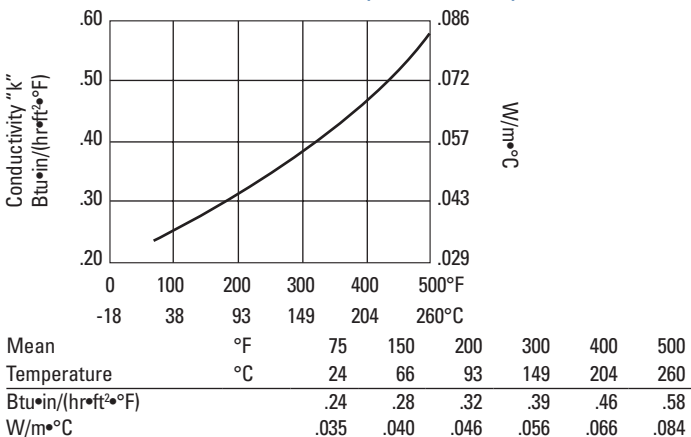
Conforms Around Various Diameters and Shapes. Due to the solid mass of fibers rather than cut-and-glued segments, even small diameter vessels can be wrapped without the worry of the "stop-sign effect."

Low Thermal Conductivity. The unique, uniform fiber orientation and a variety of thicknesses provide a dependable thermal conductivity ("k") of .24 Btu•in/(hr•ft²•°F) at 75°F mean temperature (.035 W/m•°C at 24°C).

Superior Strength. The unique fiber manufacturing process results in a highly durable product that exhibits excellent handling properties during shipping and installation.

Operating Temperature Limits: 0°F to 850°F (-18°C to 454°C)*

THEMAL CONDUCTIVITY "K" (ASTM C 518)



Shot-Free Glass Fibers. Due to the advanced fiber-manufacturing process and latest advances in binder technology, Micro-Flex can stand up to the rigors of heavy vibration.

Long Lasting. The continuous fiber blanket remains intact compared to the 4-inch (102 mm) wide strips of conventional pipe and tank insulation, which tend to loosen or fall out over time when the adhesive dries out.

SPECIFICATION COMPLIANCE

ASTM C1393, Type IIIA, IIIB, Category 2
 ASTM E84, FHC 25/50

INSTALLATION

When applying, simply determine the circumference of the piece being insulated (remember to add twice the thickness of insulation being used to the diameter). Add 2 to 4 inches (51 mm to 102 mm) for lap seam and cut to length. Remove 2 to 4 inches (51 mm to 102 mm) of glass to provide for the lap. Care should be taken to not cut through the facing. Lap seams should be stapled with outward-clinching staples placed on maximum 4-inch (102 mm) centers. For vapor retarder applications, the staples must be coated with a vapor retarder mastic for a complete vapor seal. All longitudinal and circumferential joints should be sealed with a 3- or 4-inch (76 mm or 102 mm) wide pressure-sensitive tape. For some applications, banding may be required for additional securement.

*A sufficient thickness of properly installed insulation must be used to prevent insulation surface temperature from exceeding 150°F (66°C). A minimum 1½-inch (38 mm) thickness of insulation is required for operating temperatures above 350°F (177°C).

Note: For additional application or installation recommendations, please consult Johns Manville.

PHYSICAL PROPERTIES

Property	Value	ASTM Test Method
Maximum Use Temperature	850°F (454°C)	C 411
Density	2.5 pcf (40.1 kg/m ³)	C 303
Compressive Resistance	25 psf (1,197 Pa)	C 165
Surface Burning Characteristics		E 84
Flame Spread	25 or Less	
Smoke Developed	50 or Less	
Facing Temperature Limit	150°F (66°C)	C 1136
Water Vapor Permeance	0.02 Perms	E 96

DATA SHEET

MICRO-FLEX STRETCH-OUT CHART (I-P UNITS)

Approximate length in inches to cut rolls to fit large pipes and ducts.

Nominal Pipe Size (in.*)	Pipe Outside Diameter (in.*)	Thickness (in.)						
		1	1½	2	2½	3	3½	4
10	10 ¾	40 ¾	44 ⅞	47 ¾	50 ½	53 ¾	56 ½	59 ¾
12	12 ¾	47	50 ½	53 ¾	56 ½	59 ¾	62 ⅞	66
14	14	50 ¾	53 ¾	56 ¾	59 ¾	62 ⅞	66	69 ¼
16	16	57 ¼	60 ⅞	63 ¼	66	69 ¼	72 ⅞	75 ¼
18	18	63 ¾	66 ½	69 ¾	72 ½	75 ¼	78 ¾	81 ½
20	20	70	72 ½	75 ¾	78 ¾	81 ½	84 ¾	87 ⅞
22	22	76	78 ¾	82	84 ¾	87 ⅞	91 ⅞	94 ¼
24	24	82 ¾	85 ⅞	88 ¼	91 ⅞	94 ¾	97 ¾	100 ¾
26	26	88 ¾	91 ½	94 ¾	97 ¾	100 ¾	103 ½	106 ¾
28	28	95	97 ¾	101	103 ½	106 ¾	109 ¾	113
30	30	101 ¾	103 ¾	107	109 ¾	113	116 ⅞	119 ¼

*These dimensions do not include a lap. You must ADD 2 to 4 inches for lap.

EXAMPLE:

To use Micro-Flex large-diameter pipe and tank wrap instead of 20-inch x 2-inch (500 mm x 51 mm) pipe covering:

1. Cut piece 78 ¾ inches (1991 mm) long (75 ¾ inches [1915 mm] plus 3 inches [76 mm] for lap).
2. Strip off 3 inches (76 mm) of the fiberglass leaving the jacket intact.
3. Physically apply to the pipe the first section cut of any size to verify dimensional fit.
4. You now have a section that will cover a 3-foot (0.92 m) section of 20-inch (500 mm) pipe.

In order to determine the length for pipe sizes not in the table:

1. Add twice the thickness of the insulation to the outside diameter of the pipe.
2. Multiply this value by 3.14.
3. Add 2 to 4 inches (51 mm to 102 mm) for a lap.

MICRO-FLEX STRETCH-OUT CHART (SI UNITS)

Approximate length in mm to cut rolls to fit large pipes and ducts.

Nominal Pipe Size (mm*)	Pipe Outside Diameter (mm*)	Thickness (mm)						
		25	38	51	64	76	89	102
250	273	1014	1104	1184	1253	1333	1412	1492
300	324	1174	1263	1343	1412	1490	1572	1651
350	356	1273	1343	1422	1492	1571	1651	1731
400	406	1432	1502	1581	1651	1731	1802	1881
450	457	1591	1661	1740	1802	1881	1960	2039
500	508	1751	1812	1891	1960	2039	2118	2198
550	559	1901	1970	2049	2118	2198	2277	2356
600	610	2059	2128	2208	2277	2356	2435	2514
650	660	2217	2287	2366	2435	2514	2587	2666
700	711	2376	2445	2524	2587	2666	2745	2824
750	762	2534	2597	2676	2745	2824	2903	2982

*These dimensions do not include a lap. You must ADD 51 mm to 102 mm for lap.

RECYCLED CONTENT



717 17th St.
Denver, CO 80202
800-654-3103
www.JM.com

North American Sales Offices, Insulation Systems

Eastern Region

P.O. Box 158
Defiance, OH 43512
(800) 334-2399
Fax: (419) 784-7866

Western Region and Canada

P.O. Box 5108
Denver, CO 80217
(800) 368-4431
Fax: (303) 978-4661

Technical specifications as shown in this literature are intended to be used as general guidelines only. Please refer to the Safety Data Sheet and product label prior to using this product. The physical and chemical properties of Micro-Flex listed herein represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Any references to numerical flame spread or smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.

All Johns Manville products are sold subject to Johns Manville's standard Terms and Conditions, which includes a Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville standard Terms and Conditions or for information on other Johns Manville thermal insulation and systems, visit www.jm.com/terms-conditions or call (800) 654-3103.



Technical Data Sheet

3M™ Venture Tape™ Facing Tape 1540CW

Product Description

3M™ Venture Tape™ 1540CW is a kraft/scrim/foil (ASJ) laminate coated with a cold weather acrylic pressure sensitive adhesive.

Product Features

- Cold weather adhesive performs well over a wide temperature range
- Mold inhibitor helps maintain adhesive strength and effectiveness
- High puncture and tear resistance ensures long life and durability.
- Conforms well to curved and irregular surfaces

Technical Information Note

The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Typical Physical Properties

Property	Values	Additional Information
Backing	ASJ	
Adhesive Type	Acrylic	
Liner	Release Liner	
Color	White	
Backing Thickness (mm)	0.16 mm	View ^
Test Method: ASTM D3652		
Total Tape Thickness (mil)	7.5 mil	View ^
Test Method: ASTM D3652		
Total Tape Thickness (mm)	0.19 mm	View ^

Test Method: ASTM D3652

Backing Thickness	6.5 mil	View ^
Test Method: ASTM D3652		
Water Vapor Transmission	0.02 Perms	View ^
Test Method: ASTM E96		

Typical Performance Characteristics

Property	Values	Additional Information
Tensile Strength	70.1 N/cm	View ^
Test Method: ASTM D3759		
180° Peel Adhesion	Exceeds the strength o f tape backing oz/in	View ^
Test Method: ASTM D3330		
Notes: 12 in/min (300 mm/min)		
Tensile Strength (lb/in)	40 lb/in	View ^
Test Method: ASTM D3759		
Elongation at Break (%)	2 %	View ^
Test Method: ASTM D3759		
Long Term Temperature Resistance	116 °C	
Minimum Long Term Temperature Resistance	-40 °C	
Long Term Temperature Resistance	240 °F	
Minimum Long Term Temperature Resistance	-40 °F	

Certifications/Standards

Property	Values	Additional Information
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Certifications	- UL723 Classified (15/10 Flame/Smoke Rating) [UL file #R10984] - CAN/ULC Classified (15/10 Flame/Smoke Rating) [UL file #R10984]
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Codes & Test Standards	Meets ASTM C1136, Type 1, II, III, IV. *ASTM C1136 testing based in part on third party test data of the product backing
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Storage and Shelf Life

Store in a clean, dry place. Temperature of 40-80°F (4-26°C) and 40 to 50% relative humidity are recommended. To obtain best performance, use this product within 24 months from date of manufacture.

Bottom Matter

3M
Industrial Adhesives and Tapes Division
3M Center, Building 225-3S-06
St. Paul, MN 55144-1000
800-362-3550

Trademarks

3M and Venture Tape are trademarks of 3M Company.

Handling/Application Information

Application Examples

- Closure system on ASJ faced duct piping systems
- Vapor seal on ASJ faced ductboard and pipe insulation

References

Property	Values
3m.com Product Page	https://www.3m.com/3M/en_US/p/d/b40067987/
Safety Data Sheet SDS	https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=1540CW

ISO Statement

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001 standards.

Information

Technical Information: The technical information, guidance, and other statements contained in this document or otherwise provided by 3M are based upon records, tests, or experience that 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and technical skills sufficient to assess and apply their own informed judgment to the information. No license under any 3M or third party intellectual property rights is granted or implied with this information.

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ENERGY SAVING SOLUTIONS

AP ArmaFlex AP ArmaFlex FS Sheet and Roll Insulation

The original, fiber-free, flexible elastomeric pipe, valve and duct insulation for reliable protection against condensation, mold and energy loss. AP ArmaFlex® FS is PVC free.

- // Closed-cell structure provides excellent condensation control
- // Built-in vapor barrier eliminates need for additional vapor retarder
- // 25/50 rated for use in air plenums up to:
 - 1" thickness in AP ArmaFlex
 - 1-1/2" and 2" thickness in AP ArmaFlex FS
- // Thickness up to 2" with R-value up to R-8

www.armacell.us



 **armacell**[®]
ArmaFlex[®]

TECHNICAL DATA – AP ARMAFLEX® AND AP ARMAFLEX® FS SHEET AND ROLL INSULATION

Description

Black flexible closed-cell elastomeric thermal insulation in sheet and roll form

Specification Compliance

ASTM C 534, Type II — Sheet Grade 1	ASTM G21/C1338	MIL-C-3133C (MIL STD 670B)	UL 94 5V-A, V-0, File E55798
ASTM C 1534	CAN/ULC-S102 ①	Grade SBE 3 ②	
ASTM D 1056, 2C1	City of New York Approval MEA 107-89M	NFPA 90A, 90B	
ASTM E 84, UL723	MIL-P-15280J, FORM S ②	UL 181	

Approvals, Certifications, Compliances

- 3rd party certified by FM Approvals through 1" thickness per FM 4924.
 - GREENGUARD Gold Certified.
 - Manufactured without CFCs, HFCs, HCFCs, PBDEs, or Formaldehyde.
 - Made with EPA registered Microban® antimicrobial product protection.
 - All Armacell facilities in North America are ISO 9001 certified.
- Conforms to ASHRAE 90.1 Energy Standards
 - Conforms to building codes: International Mechanical Code, IMC, International Energy Conservation Code, IECC, International Residential Code, IRC, Title 24 California Building Energy Efficiency Standards.
 - AP ArmaFlex FS meets the living building challenge requirements. Red list compliant.

Typical Properties

Specifications	Values			Test Method
	AP ArmaFlex Through 1" (NBR/PVC based)	AP ArmaFlex FS 1-1/2" and 2" (EPDM based)	AP ArmaFlex 1-1/2" and 2" (NBR/PVC based)	
Thermal Conductivity: Btu • in/h • ft² • °F (W/mK)				
75°F Mean Temperature [24°C]	0.245 [0.0353]	0.28 [0.040]	0.245 [0.0353]	ASTM C 177 or C 518
100°F Mean Temperature [38°C]	0.257 [0.037]	0.289 [0.041]	0.257 [0.037]	
Water Vapor Permeability: Perm-in. [Kg/[s • m • Pa]]	0.05 [0.725 x 10 ⁻¹³]	0.08 [1.16 x 10 ⁻¹³]	0.05 [0.725 x 10 ⁻¹³]	ASTM E 96, Procedure A
Flame Spread and Smoke Developed Index:	25/50 rated	25/50 rated	Does not pass	ASTM E 84, UL 723 CAN/ULC-S102 ①
Water Absorption, % by Volume:	0.2 %	0.2 %	0.2 %	ASTM C 209 or ASTM C 1763
Mold Growth:	Passed	Passed	Passed	UL181
Fungi Resistance:				ASTM G21/C1338
Maximum Use Temperature	220°F [105°C] ③	300°F [149°C] ④	220°F [105°C] ③	ASTM C534
Minimum Use Temperature ⑤	-297°F [-183°C] ⑥	-297°F [-183°C] ⑥	-297°F [-183°C] ⑥	ASTM C534
Ozone Resistance:	GOOD	GOOD	GOOD	Ozone Chamber Test

① AP ArmaFlex meets CAN/ULC-S102 through 1" thickness.

② AP ArmaFlex meets MIL-P-15280J, FORM S and MIL-C-3133C (MIL STD 670B) Grade SBE through 1" thickness.

③ AP ArmaFlex and AP ArmaFlex FS Sheet and Roll Insulation withstand temperature of 250°F (121°C) when tested according to ASTM C 411. "Test Method for Surface Performance of High-Temperature Insulations." At this temperature, AP ArmaFlex Sheet and Roll Insulation shows no evidence of flaming, glowing, smoldering, delamination, melting or insulation collapse. Although this insulation will withstand high temperatures, continuous use temperature should be limited to 220°F (105°C).

④ AP ArmaFlex FS is formulated with EPDM rubber giving it a higher upper use temperature than AP ArmaFlex.

⑤ At temperatures below -20°F (-29°C), elastomeric insulation starts to become less flexible. However, this characteristic does not affect thermal efficiency and resistance to water vapor permeability of ArmaFlex insulation.

⑥ For applications of -40°F to -297°F (-40°C to -183°C), contact Armacell.



TECHNICAL DATA – AP ARMAFLEX® AND AP ARMAFLEX® FS SHEET AND ROLL INSULATION



R-Value	R-1.0	R-1.5	R-2.1	R-3.1	R-4.2	R-6	R-8
Thickness:	1/4" (6 mm)	3/8" (10 mm)	1/2" (13 mm)	3/4" (19 mm)	1" (25 mm)	1-1/2" (38 mm)	2" (50 mm)

Sound Absorption Coefficients Frequency	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	NRC	SAA
Thickness Nom. 1" (25 mm)	0.01	0.13	0.39	0.69	0.29	0.26	0.40	0.38
Thickness Nom. 1-1/2" (38 mm)	0.07	0.26	0.92	0.31	0.49	0.53	0.50	0.49
Thickness Nom. 2" (50 mm)	0.14	0.62	0.44	0.43	0.51	0.45	0.50	0.51

Sizes

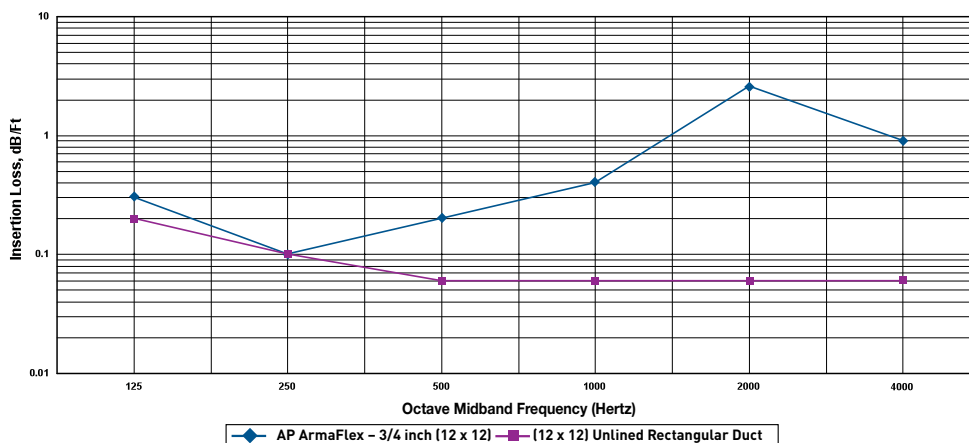
Sheet: Width x Length	36" x 48" (.915 m x 1.22 m)
Thickness (nominal)	1/8", 1/4", 3/8", 1/2", 3/4", 1", 1-1/2" & 2" (3, 6, 10, 13, 19, 25, 38 & 50 mm)
Roll: Width	48" wide (1.22m)
Thickness (nominal) x Length	1/4" x 140' (6 mm x 42.6 mm) 1" x 35' (25mm x 10.7m) 3/8" x 100' (10mm x 30.5m) 1-1/2" x 25' (38mm x 7.6m) 1/2" x 70' (13mm x 21.4m) 2" x 18' (50mm x 5.4m) 3/4" x 50' (19mm x 15.2m)

Outdoor Use	Painting with WB Finish or other protective jacketing is required to prevent damage to the insulation in exterior applications and to comply with the insulation protection sections of the International Energy Conservation Code (IECC) and ASHRAE 90.1.
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Sound Transmission Class (STC)

	Thickness	STC Class
AP ArmaFlex	Nom. 1/2" (13 mm)	25
AP ArmaFlex	Nom. 1" (25 mm)	25

Acoustics: Insertion Loss



GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit ul.com/gg.

Microban antimicrobial product protection is limited to the product itself and is not designed to protect the users of these products from disease causing microorganisms, or as a substitute for normal cleaning and hygiene practices. Microban International, Ltd. makes neither direct nor implied health claims for the products containing Microban® antimicrobial product protection. Data, photomicrographs and information presented are based on standard laboratory tests and are provided for comparative purposes to substantiate antimicrobial activity for non-public health uses. Microban is a registered trademark of Microban International, Ltd.

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© Armacell, 2020. AP ArmaFlex is a trademark of the Armacell Group
AP ArmaFlex and AP ArmaFlex FS | Sheet and Roll Insulation TDS | 112020 | NA| EN-A | 015

ABOUT ARMACELL

As the inventors of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. With 3,135 employees and 24 production plants in 16 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for high-tech and lightweight applications and next generation aerogel blanket technology.

For more information, please visit:
www.armacell.us
800-866-5638



SOLUTIONS FOR ENERGY SAVINGS

ArmaFlex[®]

520 Adhesive

A air-drying contact adhesive specifically designed for use with ArmaFlex Insulation Products.

- // Formulated for ArmaFlex Insulations
- // Air-drying contact adhesive
- // Years of on-the-job performance
- // Meets MIL-A-24179A and Amend-2

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 **armacell[®]**
ArmaFlex[®]

TECHNICAL DATA – ArmaFlex® 520 ADHESIVE

Description

A special air-drying contact adhesive that is required for joining the seams and butt joints of ArmaFlex Pipe and Sheet Insulations as well as adhering ArmaFlex to ducts, tanks, chillers and other equipment / vessels.

Specification Compliance

MIL-A-24179A Type II, Class 1	ASTM G21/C1338
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Approvals, Certifications, Compliances

- All Armacell facilities in North America are ISO 9001 certified.

Typical Properties

Specifications	Values
Color	Greenish yellow
Net Weight	6.9 pounds per gallon (828 g/l)
Composition	Synthetic rubber base with synthetic resins and fillers added; hydrocarbon- and ketone-type solvents.
Volatile Organic Compounds (VOC) Content	615 g/l
Solids Content	Approximately 19% by weight
Coverage	200 sq ft (5 m ² /l) per gallon max, single coat (depending upon porosity of materials bonded and air temperature)
Shelf Life	1-1/2 years in original sealed container; Store in a well ventilated area with storage temperature 60° F to 80° F (16° C to 27° C).
Maximum Service Temperature	250°F (120°C) — ArmaFlex Pipe Insulation seams and joints 180°F (82°C) — Full bonding sheet insulation
Minimum Service Temperature ¹	-58° F (-50 °C)
Tack Time	1-5 minutes depending on ambient conditions
Bond Time	Immediate
Full Cure Time	36 hours
Container Sizes	Half-pint and pint brush-top cans and pint, quart, and gallon containers
Wet Flash Point	-15 °F [-26 °C] [TOC]
Flame Spread and Smoke Developed Index	25/50 rated
	ASTM E 84

¹ For applications of below -58°F (-50°C), contact Armacell technical team.

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ArmaFlex | 520 Adhesive TDS | 112022 | NA| EN-A | 083

ABOUT ARMACELL

As the inventors of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. With 3,100 employees and 26 production plants in 18 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for high-tech and lightweight applications and next generation aerogel blanket technology.

For more information, please visit:
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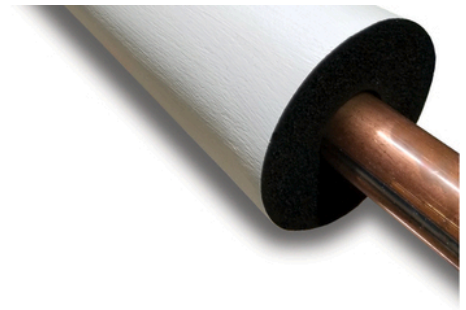
PROTECTION SUITABLE FOR
INDOORS AND OUT

ArmaFlex WB Finish

A durable coating for use over ArmaFlex insulation for protection against UV, weather, and ozone damage or where a clean, white finish is desired.

- // Formulated for cold weather flexibility to resist cracking
- // Water-based, 100% acrylic is fast drying without solvent fumes
- // Outdoor surfaces should be recoated every 2-4 years

www.armacell.com



armacell[®]
ArmaFlex[®]

TECHNICAL DATA - ARMAFLEX WB FINISH

Brief description	White, water-based, 100% acrylic flexible coating. Tinting possible for indoor use only, 4 ounces of tint per gallon of WB Finish. Do not recommend tinting for outdoor applications.	
Property	Value / Assessment	Standard / Test method
Other technical features		
Application conditions	Brush, roller or spray. An airless spray unit with 200 to 3000 PSI capabilities. Apply at temperatures above 50°F (10°C) and when no freezing temperatures are expected for 24 hours. Four hours minimum for application of second coat, at least 24 hours to dry completely.	
Coverage	200 - 400 sq. ft. (37 sq. m.) per gallon per single brush coat, depending on temperature and substrate.	
Shelf life	One year in original sealed container. Storage temperature 60° to 80°F (16° to 27°C). Keep from freezing.	
Solids content	Approximately 65% by weight and 53% by volume. Viscosity 95 - 120 KU	
¹ Tested in the dry state.		
² Not flammable; water-based		

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Accessories | WB Finish | TDS | 022025 | en-US

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