



Addendum #2

IFB #2021-1223

GENERAL CONTRACTOR FOR THE WALTER I. M. HODGE DEVELOPMENT
ST. CROIX, U. S. VIRGIN ISLANDS

**This, and all addenda, must be acknowledged in your firm's proposal package.
Please print a copy of this page and include it with your proposal package.
If not acknowledged, your proposal will be removed from consideration.**

ACKNOWLEDGMENT OF RECEIPT OF ADDENDA

The undersigned Respondent hereby acknowledges receipt of the following Addenda:

Addendum Number

#2

Dated

5/17/2021

**Acknowledge Receipt
(Please Initial)**

Acknowledged on behalf of:

(Name of Respondent)

By:

(Signature of Authorized Representative)

Name: _____

Title: _____

Date: _____





ADDENDUM #2

Design Clarification Item #1

The Architecture Design Changes and Clarifications letter from Corwil Architects, Inc. is included below. Corwil Architects, Inc.'s corresponding Architectural revision package can be sourced utilizing the link below:

https://mdgny-my.sharepoint.com/:f:/p/jlarounis/EmozwhQfxnZMp_IDzv5C450BI9OR2MyDL36abAQomtifiHg?e=Xk1n2L

Design Clarification Item #2

The Electrical, Plumbing, and Fire Alarm Design Changes and Clarifications letter from JMM Consulting Engineers is included below. JMM Consulting Engineers' corresponding Electrical, Plumbing, and Fire Alarm revision package can be sourced utilizing the link below:

https://mdgny-my.sharepoint.com/:f:/p/jlarounis/EmozwhQfxnZMp_IDzv5C450BI9OR2MyDL36abAQomtifiHg?e=Xk1n2L

Design Clarification Item #3

The Structural Design Changes and Clarifications letter from BNI Structural Engineers is included below. BNI Structural Engineers corresponding Structural revision package can be sourced utilizing the link below:

https://mdgny-my.sharepoint.com/:f:/p/jlarounis/EmozwhQfxnZMp_IDzv5C450BI9OR2MyDL36abAQomtifiHg?e=Xk1n2L

RFI Questions and Answers are included on the following pages.



May 10, 2021

MDG

170 Froehlich Farm Blvd.

Woodbury, NY 11797

Attn: John Larounis



Re: **VIHA – Walter I.M. Hodge**
194AA Estate Smithfield
Frederiksted, St. Croix 00820
U.S. Virgin Islands

Addendum No. 2:

- **A-0.01:** Index of drawings updated to reflect Rev. 1.
- **A-0.03:** Solar water heater system removed from scope as per owner request. Plumbing scope of work item #5 revised to: REPLACE EXISTING HOT WATER HEATER IN EACH RESIDENTIAL UNIT WITH (1) NEW ENERGY EFFICIENT ELECTRIC WATER HEATER PER UNIT.
- **A-2** sheet series:
 - Unit's water heater graphic added back as per MEP coordination.
 - Keynote #24 and solar panel graphics removed as per MEP coordination.
 - Solar panel and water heater combination revised in roof plans.
- **A-3.00 – A-3.10, A-4.00 – 4.02:**
 - Keynote #24 removed as per MEP coordination.
- **A-6** sheet series:
 - Unit's water heater graphic added back as per MEP coordination.
 - Unit Keynote U7 revised to: "NEW ENERGY EFFICIENT ELECTRIC WATER HEATER REFER TO PLUMBING DWGS."
- **A-8.00a:**
 - Clarified Exterior paint requirements.
 - Specified concrete sealer.
 - Clarified waterproofing requirements for areas with concrete sealer flooring.
- **A-8.00b:** Water heater added back to schedule.
- **A-9.00:**
 - Specified basis of design for standing seam metal roofing system.

- Revised roofing details
 - Detail #6 – Solar water heater attachment removed as per MEP coordination.
- **A-9.03:** Waterproofing details provided.
- **A-10.00:**
 - S2 storefront system fire rating requirement removed.
 - Louver attachment detail provided.
- **A-10.00a:**
 - Clarified opening flashing requirements.
 - Specified waterproofing product or approved equal.
- **A-10.03:**
 - Waterproofing details and notes provided.
 - Detail no. 9: added a beam for louver anchoring.
 - Detail no. 11: added louver connection detail.
- **A-11.00:** Detail #4 relocated to sheet A-9.03.
- **D-6** sheet series: Unit demolition key legend # 13 revised to “not used”.
- **LS** sheet series, **A-11.00:** Fire Extinguishers revised to Fire extinguisher cabinets as per owner request.



10251 Sunset Dr.
SUITE 103
MIAMI, FLORIDA 33173

TELEPHONE: (305) 255-1621
FAX: (305) 255-1732
EMAIL: jmmconsulting@bellsouth.net

May 10th, 2021

Reference: Walter I.M. Hodge
194AA Estate Smithfield
Frederiksted, St. Croix 00820

Addendum:

BUILDING DEMOLITION PLANS.

Sheets E-0.01, E-0.02, E, E-0.02, E0.03, E-0.04, E-0.05, E-0.05, E-0.06, E-0.07, E-0.08, E-00.9, E-0.10, and E-0.11.

Revised electrical key- Notes ED8.

The electrical notes on floor plan was reviewed.

Revised electrical Service Location.

ELECTRICAL OVERALL SITE PLAN.

Sheets E-1.00

Revised electrical key- Notes 2" provide New meter center for apartment units power distribution".

BUILDING ELECTRICAL PLANS. Sheets E-2.00, E-2.01, E, E-2.02, E-2.003, E-2.04, E-2.005, E-2.006, E-2.007, E-2.008, E-2.009.

The electrical notes on floor plan was reviewed. (new electrical meter center).

TYPICAL UNITS ELECTRICAL FLOOR PLANS. Sheets E-3.00, E-3.01 & E-3.02.

Has been Added New electrical water heater with disconnect and circuits assigned for connection on each panel.

ELECTRICAL DETAILS- ELECTRICAL PANELS . Sheets E-3.03 & E-3.03A.

Has been revised electrical panels and demand loads with new water heater power connection.

And Revised house Panels.

ELECTRICAL DETAILS, POWER RISER. Sheets E-100B, E-3.04 & E-3.05.

Revised Complete Riser Diagram (New meter pump and new meters center).



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SUITE 103
MIAMI, FLORIDA 33173

TELEPHONE: (305) 255-1621
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EMAIL: jmmconsulting@bellsouth.net

BUILDING FIRE ALARM PLANS.

Sheets FA-2.00, FA-2.00A, FA-2.01, FA-2.01A, FA-2.02, FA-2.02A, FA-2.03, FA-2.03B, FA-205, FA-2.052A, FA-2.06, FA-2.06A, FA-2.07, FA-2.07A, FA-2.08, FA-2.08 A , FA-02.9 AND FA-02.9B
Revised Complete fire floor plan -has been removed.

Sheets FA-2.04, FA-2.04A

Revised Complete Fire alarm riser and fire floor plan for senior center and building E-1



10251 Sunset Dr.
SUITE 103
MIAMI, FLORIDA 33173

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May 10th, 2021

Reference: Walter I.M. Hodge
194AA Estate Smithfield
Frederiksted, St. Croix 00820

Addendum:

Sheets P-2.00, P-2.01, P-2.02, P-2.03, P-2.04, P-2.05, P-2.06, P-2.07, P-2.08, P-2.09, P-2.10, P-2.11, P-2.12, P-2.13, P-2.14, P-2.15, P-2.16, P-3.00, P-3.01, P-3.02, P-4.00.

P-2.00, P-2.02, P-2.04, P-2.06, P-2.08, P-2.09, P-2.11, P-2.13, P-2.15

- 1- Electric water heater, drain riser and water heater drain line have been added in the closet located at kitchen of each unit.

P-2.01, P-2.03, P-2.05, P-2.07, P-2.10, P-2.12, P-2.14, P-2.16

- 1- Solar water heaters were removed. vent thru roof from sanitary risers below have been shown on the roof plan.

P-3.00, P-3.01, P-3.02

- 1- Electric water heater, drain riser and water heater drain line have been added in the closet located at kitchen of each unit.

P-4.00

- 1- Solar water heater detail has been removed.
Electric water heater schedule & typical units electric water heater detail have been provided.



BLISS & NYITRAY, INC.
STRUCTURAL
ENGINEERS

Memorandum

Project	Walter I.M. Hodge 194AA Estate Smithfield Frederiksted St. Croix, U.S. Virgin Island 00820	BNI Job No	20M66
To	Mrs. Victoria E. Cortes, (Corwil)	Date	05/10/2021
From	Jose E. Vila, P.E. (BNI)	Page	1 of 1
Subject	<i>Revision 1, Addendum 2 Narrative</i>		

Revision 1

- S-2.01, S-2.03, S-2.05, S-2.07, S-2.10, S-2.12, S-2.14 and S-2.16:
 - Revised plan to remove the roof equipment.
 - Truss anchor schedule note 7 was removed.
- S-4.01:
 - Details 7 and 8 applicable to the roof equipment supports were removed.

May 17, 2021

MDG
170 Froehlich Farm
Blvd. Woodbury, NY
11797



Re: **VIHA – Walter I.M. Hodge**
194AA Estate Smithfield
Frederiksted, St. Croix 00820
U.S. Virgin Islands

Addendum No. 2:

Question 1. Window sealant directions (Refer to sheet A-10.00 note 13 under window notes), refers to the installation of a waterproofing membrane. Please confirm that the waterproofing membrane is required around the entire opening before wood buck is installed. (This is becoming normal, especially on old buildings.).

Answer i. Confirmed, refer to flashing detail 25/A-10.00a.

Question 2. Elevation S2 of the community center is calling for 45 min rated glass on the sidelite and 20 min. rated glass on the door. It's an exterior opening, Please confirm that the entire opening will be required to be fire rated and a hurricane impact system.

Answer i. Fire rating requirements removed at S2, refer to revised A-10.00 and LS-2.14.

Question 3. The solar Water Heater Detail on P-4.00 looks like there are 2 ET's, one labelled ⑧ and the other not. Please confirm only one is required.

Answer i. Solar Water heater has been removed. Refer to revised drawings.

Question 4. Are the LP tanks and 1st stage regulators provided by the contractor?

Answer i. Yes, complete LP gas system by Contractor.

Question 5. Please provide a Project specification book that contains Division 150000 as stated in Exhibit "B".

Answer i. All Plumbing and HVAC specs are shown on drawings.

Question 6. Please provide pipe material specifications for A/G and B/G LP Piping.

Answer i. On sheets P-1.00 and P-5.00, the Specified material under the Design Criteria is Schedule 40 Metallic pipe (Table 402.4 (28) of IBCF. Pipe shall be protected as per sections 404.11.1 through 404.11.5 of the IBC Fuel 2018. Semirigid Copper Tubing (Table 402.4(30)) will also be acceptable for residential

units only.

Question 7. Note ④ on the “P” drawings refers to IBC-FUEL. Please provide the required specifications.

Answer i. On sheets P-1.00 and P-5.00, the Specified material under the Design Criteria is Schedule 40 Metallic pipe (Table 402.4 (28) of IBCF. Pipe shall be protected as per sections 404.11.1 through 404.11.5 of the IBC Fuel 2018. Semirigid Copper Tubing (Table 402.4(30)) will also be acceptable for residential units only.

Question 8. Please confirm that most of the EWH’s have been removed from the Project and we are only to include the specifically tagged EWH’s.

Answer i. Residential units are being provided with electric tank water heaters. Refer to revised drawings.

Question 9. Confirm that the tag ⑦ on the Plumbing Roof Drawings are the only places where water piping is to penetrate the roof.

Answer i. Residential units are being provided with tank water heaters. Refer to revised drawings. Water pipes do not penetrate roof any longer.

Question 10. Please confirm ALL LP Gas piping to the Residential units is ½”.

Answer i. Confirmed.

Question 11. Please confirm that PVC is approved for A/G and B/G- Soil, Waste and Vent piping.

Answer i. Confirmed.

Question 12. Please confirm that CPVC is approved for A/G and B/G- Domestic Water piping located inside the Building footprint.

Answer i. Confirmed.

Question 13. Please provide specifications for: EWH, ET, Solar WH TMV, Water Meter, Washer Box, EF Roof Cap and EF Wall Cap.

Answer i. Refer to revised drawings.

Question 14. Please provide a Sequence of Operation for the HVAC MD’s that are on P-2.08.

Answer i. Motorized damper to be interlocked with condenser, Dampers to open when condenser is on and to remain closed when condenser is off.

Question 15. Please provide material specifications for “Fire retardant Armaflex” that is called out on P-4.00.

Answer i. Refer to attached Armacell Armaflex insulation.

Question 16. The solar Water Heater Detail on P-4.00 states to use Copper tube. Please specify where the Copper changes to CPVC.

Answer i. Electric tank water heaters are now specified.

Question 17. Confirm that all the items contained in the Solar Water Heater Detail on P-4.00 shown below the roof are located in the Attic Space. If they are to be in the Residential units, please update the isometric drawings to show where and how all these items are to fit.

Answer i. Electric tank water heaters are now specified.

Question 18. Confirm that the Painting of Insulation as stated on P-4.01-2.3-2.3.1 is addressing Exposed Exterior insulation only.

Answer i. Confirmed.

Question 19. C-301 States "All Building Potable Water P.O.C. to be ¾" PVC with BFP and Meter for each Building Unit. Refer to MEP Plans". The P drawings have No WFP's and all the Meters are shown in the Residential Units. Please advise.

Answer i. See revised note on C-300 utility sheets. Building POC is 1 ¼". See MEP for continuation. No BFP or meter on civil sheets.

Question 20. Confirm that the Painting of Insulation as stated on P-4.01-2.3-2.3.1 is addressing exterior exposed ACR insulation only.

Answer i. Confirmed.

Question 21. There are more Domestic Water P.O.C's on the Plumbing drawings than shown on the Civil plans. Please advise which is correct.

Answer i. See revised Civil C-300 utility sheets for coordinated water POCs for each building.

Question 22. Please provide fixture specifications for the following: a. Type P1 (Location: Maintenance Storage, Pump Room) b. Type P2 (Location: Bus Shelter, Maintenance Storage, Pump Room) c. Type CL (Location: Community Center communal bathrooms)

Answer i. Fixture type P-1 specification is shown on schedule shown on sheet E-2.14. Fixture P-2 specification is shown on schedule shown on sheet E-2.14. Fixture CL is the same as Fixture.

Question 23. Please provide panel schedules for the following: a. Panel CA (Location: Senior Center) b. Panel CB (Location: Senior Center)

Answer i. Panel CA does not exist. Panel SA is serving the Senior Center Panel CA does not exist. Panel CB does not exist. Panel SB is serving the Senior Center Panel CB does not exist.

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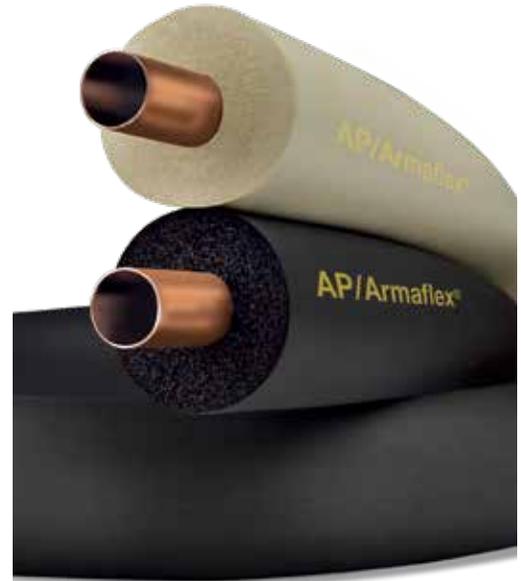
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ArmaFlex[®]

TECHNICAL DATA – AP ArmaFlex® BLACK AND WHITE TUBE INSULATION

Description

Black or off-white flexible closed-cell elastomeric thermal insulation in a tubular form

Applications

Insulation for piping associated with HVAC, VRV and VRF systems, chillers, hot and cold water, refrigeration

Specification Compliance

ASTM C 534, Type I – Grade 1	ASTM G21/C1338	MIL-P-15280J, FORM T (black product only) ②	UL 181
ASTM D 1056, 2C1	CAN/ULC S102 ①	NFPA 90A, 90B	UL 94 5V-A, V-0, File E55798 (black product only)
ASTM E 84, UL723	City of New York Approval MEA 107-89M		

Approvals, Certifications, Compliances

- 3rd party certified by FM Approvals through 1-1/2" wall thickness per FM 4924
- GREENGUARD® Children & Schools Indoor Air Quality 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.
- Plenum Rated
- 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.

Typical Properties

Specifications	Values		Test Method
	3/8" through 1" Walls (NBR/PVC based)	1-1/2" and 2" Walls (EPDM based)	
Thermal Conductivity: Btu • in/h • ft ² • °F (W/mK)			
50°F Mean Temperature (10°C)	0.235 (0.034)	0.278 (0.040)	ASTM C 177 or C 518
75°F Mean Temperature (24°C)	0.245 (0.0353)	0.28 (0.040)	
100°F Mean Temperature (38°C)	0.257 (0.037)	0.289 (0.041)	
125°F Mean Temperature (52°C)	0.268 (0.039)	0.300 (0.043)	
Water Vapor Permeability: Perm-in. [Kg/(s • m • Pa)]	0.05 (0.725 x 10 ⁻¹³)	0.08 (1.16 x 10 ⁻¹³)	ASTM E 96, Procedure A
Flame Spread and Smoke Developed Index:	25/50 rated	25/50 rated	ASTM E 84, UL 723 CAN/ULC S102 ①
Water Absorption, % by Volume:	0.2 %	0.2 %	ASTM C 209 or ASTM C1763
Mold Growth: Fungi Resistance:	Passed	Passed	UL181 ASTM G21/C1338
Maximum Service Temperature	220°F (105°C) ③	300°F (149°C) ④	ASTM C534
Minimum Service Temperature ⑤	-297°F (-183°C) ⑥	-297°F (-183°C) ⑥	ASTM C534

Sizes

Wall Thickness (nominal)	3/8", 1/2", 3/4", 1", 1-1/2", 2" (10, 13, 19, 25, 38, 50 mm)
Inside Diameter, Tubular	1/4" (black product only) ID to 10"ID (6 mm ID to 250 mm ID)
Length of Sections, Feet, Tubular	6' (1.8 m) (Some larger sizes may be shipped in two 3' sections)

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.

① AP ArmaFlex meets CAN/ULC S102 through 1" wall. AP ArmaFlex Black tested. AP ArmaFlex White determined to be comparable through 1" wall.

② AP ArmaFlex meets MIL-P-15280J through 1" wall.

③ AP ArmaFlex Pipe Insulation can withstand temperatures as high as 250°F for 96 hour time periods when tested according to ASTM C411 - Standard Test Method for Hot-Surface Performance of High-Temperature Thermal Insulation.

④ 1-1/2" and 2" AP ArmaFlex tubes are formulated with EPDM rubber giving them a higher upper use temperature than AP ArmaFlex tubes less than 1-1/2" wall thickness.

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.



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.

AP ArmaFlex BLACK TUBES - R VALUES

3/8" WALLS

IPAPT01438	3/16" Copper	2.8
IPAPT03838	1/4" Copper	2.8
IPPT01238	3/8" Copper	2.6
IPAPT05838	1/2" Copper	2.6
IPAPT03438	5/8" Copper	2.4
IPAPT07838	3/4" Copper	2.4
IPAPT11838	1" Copper	2.3
IPAPT13838	1-1/4" Copper	2.2
IPAPT15838	1-1/2" Copper	2.5
IPAPT11038	1-1/2" IPS	2.4
IPAPT21838	2" Copper	2.4
IPAPT20038	2" IPS	2.4
IPAPT25838	2-1/2" Copper	2.4
IPAPT21038	2-1/2" IPS	2.4
IPAPT31838	3" Copper	2.4
IPAPT30038	3" IPS	2.3

1/2" Walls

IPAPT01412	3/16" Copper	3.8
IPAPT03812	1/4" Copper	3.3
IPAPT01212	3/8" Copper	3.3
IPAPT05812	1/2" Copper	3.4
IPAPT03412	5/8" Copper	3.3
IPAPT07812	3/4" Copper	3.3
IPAPT11812	1" Copper	3.3
IPAPT13812	1-1/4" Copper	3.2
IPAPT15812	1-1/2" Copper	3.2
IPAPT11012	1-1/2" IPS	3.1
IPAPT21812	2" Copper	3.2
IPAPT20012	2" IPS	3.2
IPAPT25812	2-1/2" Copper	3.2
IPAPT21012	2-1/2" IPS	3.2
IPAPT31812	3" Copper	3.2
IPAPT30012	3" IPS	3.1
IPAPT35812	3-1/2" Copper	3.1
IPAPT41812R	4" Copper	3.1
IPAPT40012R	4" IPS	3.0
IPAPT50012R	5" IPS	3.0
IPAPT60012R	6" IPS	3.0
IPAPT80012R	8" IPS	2.9

3/4" WALLS

IPAPT01434	3/16" Copper	6.4
IPAPT03834	1/4" Copper	5.9
IPAPT01234	3/8" Copper	5.5
IPAPT05834	1/2" Copper	5.6
IPAPT03434	5/8" Copper	5.5
IPAPT07834	3/4" Copper	5.4
IPAPT11834	1" Copper	5.4
IPAPT13834	1-1/4" Copper	5.3
IPAPT15834	1-1/2" Copper	5.1
IPAPT11034	1-1/2" IPS	4.9
IPAPT21834	2" Copper	4.8
IPAPT20034	2" IPS	5.2
IPAPT25834	2-1/2" Copper	4.7
IPAPT21034	2-1/2" IPS	5.0
IPAPT31834	3" Copper	4.6
IPAPT30034	3" IPS	4.9

3/4" WALLS (continued)

IPAPT35834	3-1/2" Copper	4.5
IPAPT41834R	4" Copper	4.5
IPAPT40034R	4" IPS	4.8
IPAPT50034R	5" IPS	4.7
IPAPT60034R	6" IPS	4.6
IPAPT80034R	8" IPS	4.5

1" WALLS

IPAPT01410	3/16" Copper	8.3
IPAPT03810	1/4" Copper	7.3
IPAPT01210	3/8" Copper	7.2
IPAPT05810	1/2" Copper	7.2
IPAPT03410	5/8" Copper	7.0
IPAPT07810	3/4" Copper	7.0
IPAPT11810	1" Copper	7.2
IPAPT13810	1-1/4" Copper	7.2
IPAPT15810	1-1/2" Copper	7.2
IPAPT11010	1-1/2" IPS	6.9
IPAPT21810	2" Copper	6.8
IPAPT20010	2" IPS	7.1
IPAPT25810	2-1/2" Copper	6.5
IPAPT21010	2-1/2" IPS	6.8
IPAPT31810	3" Copper	6.3
IPAPT30010	3" IPS	6.6
IPAPT35810	3-1/2" Copper	6.2
IPAPT41810R	4" Copper	6.1
IPAPT40010R	4" IPS	6.4
IPAPT50010R	5" IPS	6.2
IPAPT60010R	6" IPS	6.1
IPAPT80010R	8" IPS	5.9
IPAPT10010R	10" IPS	5.8

1-1/2" WALLS

IPAPT03815	1/4" Copper	13.7
IPAPT01215	3/8" Copper	12.7
IPAPT05815	1/2" Copper	12.0
IPAPT03415	5/8" Copper	11.3
IPAPT07815	3/4" Copper	10.8
IPAPT11815	1" Copper	10.1
IPAPT13815	1-1/4" Copper	9.6
IPAPT15815	1-1/2" Copper	9.2
IPAPT11015	1-1/2" IPS	8.7
IPAPT21815	2" Copper	8.6
IPAPT20015	2" IPS	8.8
IPAPT25815	2-1/2" Copper	8.2
IPAPT21015	2-1/2" IPS	8.4
IPAPT31815	3" Copper	7.9
IPAPT30015	3" IPS	8.1
IPAPT35815	3-1/2" Copper	7.7
IPAPT41815R	4" Copper	7.5
IPAPT40015R	4" IPS	7.8
IPAPT50015R	5" IPS	7.5
IPAPT61815R	6" Copper	7.4
IPAPT60015R	6" IPS	7.3
IPAPT80015R	8" IPS	7.0
IPAPT10015R	10" IPS	6.8

2" WALLS

IPAPT03820	1/4" Copper	19.7
IPAPT01220	3/8" Copper	18.2
IPAPT05820	1/2" Copper	17.2
IPAPT03420	5/8" Copper	16.2
IPAPT07820	3/4" Copper	15.5
IPAPT11820	1" Copper	14.5
IPAPT13820	1-1/4" Copper	13.7
IPAPT15820	1-1/2" Copper	13.1
IPAPT11020	1-1/2" IPS	12.4
IPAPT21820	2" Copper	12.2
IPAPT20020	2" IPS	12.3
IPAPT25820	2-1/2" Copper	11.6
IPAPT21020	2-1/2" IPS	11.7
IPAPT31820	3" Copper	11.1
IPAPT30020	3" IPS	11.2
IPAPT35820	3-1/2" Copper	10.7
IPAPT41820R	4" Copper	10.5
IPAPT40020R	4" IPS	10.7
IPAPT50020R	5" IPS	10.2
IPAPT60020R	6" IPS	9.9
IPAPT80020R	8" IPS	9.5
IPAPT10020R	10" IPS	9.2

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1/2" Walls

IPWTT03812	1/4" Copper	3.3
IPWTT01212	3/8" Copper	3.3
IPWTT05812	1/2" Copper	3.4
IPWTT03412	5/8" Copper	3.3
IPWTT07812	3/4" Copper	3.3
IPWTT11812	1" Copper	3.3
IPWTT13812	1-1/4" Copper	3.2
IPWTT15812	1-1/2" Copper	3.2
IPWTT11012	1-1/2" IPS	3.1
IPWTT21812	2" Copper	3.2
IPWTT20012	2" IPS	3.5
IPWTT25812	2-1/2" Copper	3.4
IPWTT21012	2-1/2" IPS	3.4
IPWTT31812	3" Copper	3.3

3/4" WALLS

IPWTT03834	1/4" Copper	5.9
IPWTT01234	3/8" Copper	5.5
IPWTT05834	1/2" Copper	5.7
IPWTT03434	5/8" Copper	5.5
IPWTT07834	3/4" Copper	5.5
IPWTT11834	1" Copper	5.5
IPWTT13834	1-1/4" Copper	5.4
IPWTT15834	1-1/2" Copper	5.2
IPWTT11034	1-1/2" IPS	5.0
IPWTT21834	2" Copper	4.9
IPWTT20034	2" IPS	4.9
IPWTT25834	2-1/2" Copper	4.8
IPWTT21034	2-1/2" IPS	4.8
IPWTT31834	3" Copper	4.7
IPWTT30034	3" IPS	4.6
IPWTT35834	3-1/2" Copper	4.6
IPWTT41834R	4" Copper	4.5

1" WALLS

IPWTT03810	1/4" Copper	10.2
IPWTT01210	3/8" Copper	9.5
IPWTT05810	1/2" Copper	9.1
IPWTT03410	5/8" Copper	8.6
IPWTT07810	3/4" Copper	8.3
IPWTT11810	1" Copper	7.7
IPWTT13810	1-1/4" Copper	7.4
IPWTT15810	1-1/2" Copper	7.3
IPWTT11010	1-1/2" IPS	7.0
IPWTT21810	2" Copper	6.9
IPWTT25810	2-1/2" Copper	6.6
IPWTT31810	3" Copper	6.4
IPWTT35810	3-1/2" Copper	6.3

1-1/2" WALLS

IPWTT03815	1/4" Copper	13.7
IPWTT01215	3/8" Copper	12.7
IPWTT05815	1/2" Copper	12.0
IPWTT03415	5/8" Copper	11.4
IPWTT07815	3/4" Copper	10.9
IPWTT11815	1" Copper	10.2
IPWTT13815	1-1/4" Copper	9.7
IPWTT15815	1-1/2" Copper	9.3
IPWTT11015	1 1/2" IPS	8.9
IPWTT21815	2" Copper	8.7
IPWTT20015	2" IPS	8.5
IPWTT25815	2-1/2" Copper	8.3
IPWTT21015	2-1/2" IPS	8.1
IPWTT31815	3" Copper	8.0
IPWTT30015	3" IPS	7.8
IPWTT35815	3-1/2" Copper	7.8
IPWTT41815R	4" Copper	7.6
IPWTT40015R	4" IPS	7.4
IPWTT50015R	5" IPS	7.2
IPWTT60015R	6" IPS	7.0

2" WALLS

IPWTT03820	1/4" Copper	19.7
IPWTT01220	3/8" Copper	18.2
IPWTT05820	1/2" Copper	17.3
IPWTT03420	5/8" Copper	16.3
IPWTT07820	3/4" Copper	15.7
IPWTT11820	1" Copper	14.6
IPWTT13820	1-1/4" Copper	13.8
IPWTT15820	1-1/2" Copper	13.2
IPWTT21820	2" Copper	12.3
IPWTT20020	2" IPS	12.0
IPWTT25820	2-1/2" Copper	11.7
IPWTT31820	3" Copper	11.2
IPWTT30020	3" IPS	10.9
IPWTT35820	3-1/2" Copper	10.8
IPWTT41820R	4" Copper	10.5
IPWTT40020R	4" IPS	10.3
IPWTT50020R	5" IPS	9.9
IPWTT60020R	6" IPS	9.6

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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.

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 800-866-5638

