**Armacell Data Center Solution**

***Master Specification Notes***



***Hold the “CTRL” key and Click on the Section to go to that Section. Hold the “CTRL” key and Click on the*** *![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()****in the bottom right of the page to be brought back to this screen.***

[Master Specification Notes – Hangers And Supports For Plumbing Piping And Equipment (220529) 2](#_Toc39131695)

[Master Specification Notes – Plumbing Equipment Insulation (220716) 4](#_Toc39131696)

[Master Specification Notes – Plumbing Piping Insulation (220719) 7](#_Toc39131697)

[Master Specification Notes – Hangers And Supports For HVAC Piping And Equipment (230529) 10](#_Toc39131698)

[Master Specification Notes - Duct Insulation (230713) 12](#_Toc39131699)

[Master Specification Notes – HVAC Equipment Insulation (230716) 15](#_Toc39131700)

[Master Specification Notes – HVAC Piping Insulation (230719) 18](#_Toc39131701)

[Master Specification Notes – Metal Ducts (233113) 21](#_Toc39131702)

# Master Specification Notes – Hangers & Supports For Plumbing Piping & Equipment (220529)

*Note: The highlighted sections pertain to the following packages only; all other highlighted information not pertaining to the chosen package should be removed.*

*DC1 Package Only*

*DC2 Package Only*

*DC3 Package Only*

**Part 1 – General**

**1.4 INFORMATIONAL SUBMITTALS**

A. Qualification Data: For qualified Installer. Copy of Armacell Qualified Installer Program (AQIP) Certificate of Recognition.

**1.5 QUALITY ASSURANCE**

A. Installer Qualifications: Installation of Armacell System equipment must be performed by installers who have completed the Armacell Qualified Installer Program (AQIP).

B. Inspection: Inspection of Armacell system will be performed as outlined in the “Armacell LLC Limited System Solution Warranty – Solution Portfolios”. Failure to inspect all applicable systems per the requirements will result in non-receipt or the voiding of said warranty.

**Part 2 – Products**

2.1Polypropylene Pipe Shield

A. Description: Shop fabricated saddle, made from Glass-Reinforced Polypropylene with installation adaptor. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

2.2 Elastomeric Insulation Support System

A. Elastomeric pipe support with a PET-foam load bearing core and PVC foil cladding. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

**Part 3 – Execution**

**3.1 HANGER AND SUPPORT INSTALLATION**

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*A. Installation shall be completed by an AQIP trained installer and follow the Armacell North America Application Manual and all other written and technical specifications of Armacell.

**3.2 HANGER AND SUPPORT SCHEDULE**

*To comply with the* “Armacell LLC Limited System Solution Warranty – Solution Portfolios”, *Armacell Shields and Supports shall be used where compliant with requirements.*

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

# Master Specification Notes – Plumbing Equipment Insulation (220716)

*Note: The highlighted sections pertain to the following packages only; all other highlighted information not pertaining to the chosen package should be removed.*

*DC1 Package Only*

*DC2 Package Only*

*DC3 Package Only*

**Part 1 – General**

**1.4 INFORMATIONAL SUBMITTALS**

A. Qualification Data: For qualified Installer. Copy of Armacell Qualified Installer Program (AQIP) Certificate of Recognition.

**1.5 QUALITY ASSURANCE**

A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the Department of Labor, Bureau of Apprenticeship and Training. Installation of Armacell System equipment must be performed by installers who have completed the Armacell Qualified Installer Program (AQIP).

B. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products in accordance with UL 723 or ASTM E 84,by a testing agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.

*The following is shown for completeness only and is dictated by the project’s compliance to the project location’s Codes and Regulations.*

1. Insulation Installed Indoors: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.

2. Insulation Installed Outdoors: Flame-spread index of 75 or less, and smoke-developed index of 150 or less.

C. Inspection: Inspection of Armacell system will be performed as outlined in the “Armacell LLC Limited System Solution Warranty – Solution Portfolios”. Failure to inspect all applicable systems per the requirements will result in non-receipt or the voiding of said warranty.

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

**1.8 SCHEDULING**

A. Armacell LLC Limited System Solution Warranty – Solution Portfolios: All applicable products defined within the **Armacell LLC <DC1> <DC2> <DC3> Solution Package** must be installed per the requirements outlined in the “Armacell LLC Limited System Warranty-Solution Portfolios” for the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**. Failure to install all applicable products per the requirements will result in non-receipt of the warranty.

**Part 2 – Products**

**2.1 INSULATION MATERIALS**

A. Flexible Elastomeric Insulation: Closed-cell, sponge- or expanded-rubber materials. Comply with ASTM C 534, Grade 1, Type II for sheet materials. **<UL Classified per UL 723 at 25/50>< UL Classified per UL 723 at 25/50, where required>< UL Classified per UL 723 at 25/50, where required>**.

1. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

B. Polyolefin: Unicellular, polyethylene thermal plastic insulation. Comply with ASTM C 1427, Type I, Grade 1 for tubular materials.

1. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

**2.2 ADHESIVES**

*For Green Building Projects, use the “SCAQMD” language below. Otherwise, use the “MIL-A” language below*

A. Flexible Elastomeric and Polyolefin Adhesive: **<Comply with MIL-A-24179A, Type II, Class I> <SCAQMD Rule 1168>**

1. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

**Part 3 – Execution**

**3.1 INSTALLATION OF FLEXIBLE ELASTOMERIC INSULATION**

A. Installation shall be completed by an AQIP trained installer and follow the Armacell North America Application Manual and all other written and technical specifications of Armacell.

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

**3.2 INSTALLATION OF POLYOLEFIN INSULATION**

A. Installation shall be completed by an AQIP trained installer and follow the Armacell North America Application Manual and all other written and technical specifications of Armacell.

**3.3 FINISHES**

A. Outdoor Installation of Polyolefin Thermal Insulation: After adhesive has fully cured, apply either paint, covering, or cladding per Armacell North America Application Manual.

**3.4 FIELD QUALITY CONTROL**

A. Tests and Inspections:

1. Inspection of Armacell system will be performed as outlined in the “Armacell LLC Limited System Solution Warranty – Solution Portfolios” including at time of install and various times throughout the warranty term by Armacell and its representatives.

B. All insulation applications will be considered defective Work if sample inspection reveals noncompliance with requirements.

**3.4 EQUIPMENT INSULATION SCHEDULE**

*Acceptable equipment insulation materials and thicknesses shall comply with the codes and regulations of the project location’s jurisdiction. To comply with the* “Armacell LLC Limited System Solution Warranty – Solution Portfolios”, *Armacell insulation shall be used where compliant with requirements.*

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

# Master Specification Notes – Plumbing Piping Insulation (220719)

*Note: The highlighted sections pertain to the following packages only; all other highlighted information not pertaining to the chosen package should be removed.*

*DC1 Package Only*

*DC2 Package Only*

*DC3 Package Only*

**Part 1 – General**

**1.4 INFORMATIONAL SUBMITTALS**

A. Qualification Data: For qualified Installer. Copy of Armacell Qualified Installer Program (AQIP) Certificate of Recognition.

**1.5 QUALITY ASSURANCE**

A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the Department of Labor, Bureau of Apprenticeship and Training. Installation of Armacell System equipment must be performed by installers who have completed the Armacell Qualified Installer Program (AQIP).

B. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products in accordance with ASTM E 84,by a testing agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.

*The following is shown for completeness only and is dictated by the project’s compliance to the project location’s Codes and Regulations.*

1. Insulation Installed Indoors: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.

2. Insulation Installed Outdoors: Flame-spread index of 75 or less, and smoke-developed index of 150 or less.

C. Inspection: Inspection of Armacell system will be performed as outlined in the “Armacell LLC Limited System Solution Warranty – Solution Portfolios”. Failure to inspect all applicable systems per the requirements will result in non-receipt or the voiding of said warranty.

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

**1.8 SCHEDULING**

A. Armacell LLC Limited System Solution Warranty – Solution Portfolios: All applicable products defined within the **Armacell LLC <DC1> <DC2> <DC3> Solution Package** must be installed per the requirements outlined in the “Armacell LLC Limited System Warranty-Solution Portfolios” for the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**. Failure to install all applicable products per the requirements will result in non-receipt of the warranty.

**Part 2 – Products**

**2.1 INSULATION MATERIALS**

A. Polyolefin: Unicellular, polyethylene thermal plastic insulation. Comply with ASTM C 1427, Type I, Grade 1 for tubular materials.

1. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

**2.2 ADHESIVES**

*For Green Building Projects, use the “SCAQMD” language below. Otherwise, use the “MIL-A” language below*

A. Polyolefin Adhesive: **<Comply with MIL-A-24179A, Type II, Class I> <SCAQMD Rule 1168>**

1. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

**Part 3 – Execution**

**3.1 INSTALLATION OF POLYOLEFIN INSULATION**

A. Installation shall be completed by an AQIP trained installer and follow the Armacell North America Application Manual and all other written and technical specifications of Armacell.

**3.2 FINISHES**

A. Outdoor Installation of Polyolefin Thermal Insulation: After adhesive has fully cured, apply either paint, covering, or cladding per Armacell North America Application Manual.

**3.3 FIELD QUALITY CONTROL**

A. Tests and Inspections:

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*1. Inspection of Armacell system will be performed as outlined in the “Armacell LLC Limited System Solution Warranty – Solution Portfolios” including at time of install and various times throughout the warranty term by Armacell and its representatives.

B. All insulation applications will be considered defective Work if sample inspection reveals noncompliance with requirements.

**3.4 PIPING INSULATION SCHEDULE**

*Acceptable piping insulation materials and thicknesses shall comply with the codes and regulations of the project location’s jurisdiction. To comply with the* “Armacell LLC Limited System Solution Warranty – Solution Portfolios”, *Armacell insulation shall be used where compliant with requirements.*

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

# Master Specification Notes – Hangers & Supports For HVAC Piping & Equipment (230529)

*Note: The highlighted sections pertain to the following packages only; all other highlighted information not pertaining to the chosen package should be removed.*

*DC1 Package Only*

*DC2 Package Only*

*DC3 Package Only*

**Part 1 – General**

**1.4 INFORMATIONAL SUBMITTALS**

A. Qualification Data: For qualified Installer. Copy of Armacell Qualified Installer Program (AQIP) Certificate of Recognition.

**1.5 QUALITY ASSURANCE**

A. Installer Qualifications: Installation of Armacell System equipment must be performed by installers who have completed the Armacell Qualified Installer Program (AQIP).

B. Inspection: Inspection of Armacell system will be performed as outlined in the “Armacell LLC Limited System Solution Warranty – Solution Portfolios”. Failure to inspect all applicable systems per the requirements will result in non-receipt or the voiding of said warranty.

**Part 2 – Products**

2.1Polypropylene Pipe Shield

A. Description: Shop fabricated saddle, made from Glass-Reinforced Polypropylene with installation adaptor. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

2.2 Elastomeric Insulation Support System

A. Elastomeric pipe support with a PET-foam load bearing core and PVC foil cladding. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

**Part 3 – Execution**

**3.1 HANGER AND SUPPORT INSTALLATION**

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*A. Installation shall be completed by an AQIP trained installer and follow the Armacell North America Application Manual and all other written and technical specifications of Armacell.

**3.2 HANGER AND SUPPORT SCHEDULE**

*To comply with the* “Armacell LLC Limited System Solution Warranty – Solution Portfolios”, *Armacell Shields and Supports shall be used where compliant with requirements.*

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

# Master Specification Notes - Duct Insulation (230713)

*Note: The highlighted sections pertain to the following packages only; all other highlighted information not pertaining to the chosen package should be removed.*

*DC1 Package Only*

*DC2 Package Only*

*DC3 Package Only*

**Part 1 – General**

**1.4 INFORMATIONAL SUBMITTALS**

A. Qualification Data: For qualified Installer. Copy of Armacell Qualified Installer Program (AQIP) Certificate of Recognition.

**1.5 QUALITY ASSURANCE**

A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the Department of Labor, Bureau of Apprenticeship and Training. Installation of Armacell System equipment must be performed by installers who have completed the Armacell Qualified Installer Program (AQIP).

B. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products **<listed and labeled in accordance with UL 723>** **<listed and labeled in accordance with UL 723, where required, or tested in accordance with ASTM E 84> <listed and labeled in accordance with UL 723, where required, or tested in accordance with ASTM E 84>**, by a testing agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.

*The following is shown for completeness only and is dictated by the project’s compliance to the project location’s Codes and Regulations.*

1. Insulation Installed Indoors: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.

2. Insulation Installed Outdoors: Flame-spread index of 75 or less, and smoke-developed index of 150 or less.

C. Inspection: Inspection of Armacell system will be performed as outlined in the “Armacell LLC Limited System Solution Warranty – Solution Portfolios”. Failure to inspect all applicable systems per the requirements will result in non-receipt or the voiding of said warranty.

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

**1.8 SCHEDULING**

A. Armacell LLC Limited System Solution Warranty – Solution Portfolios: All applicable products defined within the **Armacell LLC <DC1> <DC2> <DC3> Solution Package** must be installed per the requirements outlined in the “Armacell LLC Limited System Warranty-Solution Portfolios” for the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**. Failure to install all applicable products per the requirements will result in non-receipt of the warranty.

**Part 2 – Products**

**2.1 INSULATION MATERIALS**

A. Flexible Elastomeric Insulation: Closed-cell, sponge- or expanded-rubber materials. Comply with ASTM C 534, Grade 1, Type II for sheet materials. **<UL Classified per UL 723 at 25/50>< UL Classified per UL 723 at 25/50, where required>< UL Classified per UL 723 at 25/50, where required>**.

1. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

**2.2 ADHESIVES**

*For Green Building Projects, use the “SCAQMD” language below. For high temperature use, include the “High Temperature” language below. Otherwise, use the “MIL-A” language below*

A. Flexible Elastomeric Adhesive: **<Comply with MIL-A-24179A, Type II, Class I> <SCAQMD Rule 1168> <High Temperature>**

1. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

**Part 3 – Execution**

**3.1 INSTALLATION OF FLEXIBLE ELASTOMERIC**

A. Installation shall be completed by an AQIP trained installer and follow the Armacell North America Application Manual and all other written and technical specifications of Armacell.

**3.2 FINISHES**

A. Outdoor Installation of Flexible Elastomeric Thermal Insulation: After adhesive has fully cured, apply either paint, covering, or cladding per Armacell North America Application Manual.

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

**3.3 FIELD QUALITY CONTROL**

A. Tests and Inspections:

1. Inspection of Armacell system will be performed as outlined in the “Armacell LLC Limited System Solution Warranty – Solution Portfolios” including at time of install and various times throughout the warranty term by Armacell and its representatives.

B. All insulation applications will be considered defective Work if sample inspection reveals noncompliance with requirements.

**3.4 DUCT INSULATION SCHEDULE**

*Acceptable duct wrap insulation materials and thicknesses shall comply with the codes and regulations of the project location’s jurisdiction. To comply with the* “Armacell LLC Limited System Solution Warranty – Solution Portfolios”, *Armacell insulation shall be used where compliant with requirements.*

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

# Master Specification Notes – HVAC Equipment Insulation (230716)

*Note: The highlighted sections pertain to the following packages only; all other highlighted information not pertaining to the chosen package should be removed.*

*DC1 Package Only*

*DC2 Package Only*

*DC3 Package Only*

**Part 1 – General**

**1.4 INFORMATIONAL SUBMITTALS**

A. Qualification Data: For qualified Installer. Copy of Armacell Qualified Installer Program (AQIP) Certificate of Recognition.

**1.5 QUALITY ASSURANCE**

A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the Department of Labor, Bureau of Apprenticeship and Training. Installation of Armacell System equipment must be performed by installers who have completed the Armacell Qualified Installer Program (AQIP).

B. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products **<listed and labeled in accordance with UL 723>** **<listed and labeled in accordance with UL 723, where required, or tested in accordance with ASTM E 84><listed and labeled in accordance with UL 723, where required, or tested in accordance with ASTM E 84>**, by a testing agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.

*The following is shown for completeness only and is dictated by the project’s compliance to the project location’s Codes and Regulations.*

1. Insulation Installed Indoors: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.

2. Insulation Installed Outdoors: Flame-spread index of 75 or less, and smoke-developed index of 150 or less.

C. Inspection: Inspection of Armacell system will be performed as outlined in the “Armacell LLC Limited System Solution Warranty – Solution Portfolios”. Failure to inspect all applicable systems per the requirements will result in non-receipt or the voiding of said warranty.

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

**1.8 SCHEDULING**

A. Armacell LLC Limited System Solution Warranty – Solution Portfolios: All applicable products defined within the **Armacell LLC <DC1> <DC2> <DC3> Solution Package** must be installed per the requirements outlined in the “Armacell LLC Limited System Warranty-Solution Portfolios” for the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**. Failure to install all applicable products per the requirements will result in non-receipt of the warranty.

**Part 2 – Products**

**2.1 INSULATION MATERIALS**

A. Flexible Elastomeric Insulation: Closed-cell, sponge- or expanded-rubber materials. Comply with ASTM C 534, Grade 1, Type II for sheet materials. **<UL Classified per UL 723 at 25/50> < UL Classified per UL 723 at 25/50, where required> < UL Classified per UL 723 at 25/50, where required>**.

1. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

**2.2 ADHESIVES**

*For Green Building Projects, use the “SCAQMD” language below. For high temperature use, include the “High Temperature” language below. Otherwise, use the “MIL-A” language below*

A. Flexible Elastomeric Adhesive: **<Comply with MIL-A-24179A, Type II, Class I> <SCAQMD Rule 1168> <High Temperature>**

1. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

**Part 3 – Execution**

**3.1 INSTALLATION OF FLEXIBLE ELASTOMERIC**

A. Installation shall be completed by an AQIP trained installer and follow the Armacell North America Application Manual and all other written and technical specifications of Armacell.

**3.2 FINISHES**

A. Outdoor Installation of Flexible Elastomeric Thermal Insulation: After adhesive has fully cured, apply either paint, covering, or cladding per Armacell North America Application Manual.

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

**3.3 FIELD QUALITY CONTROL**

A. Tests and Inspections:

1. Inspection of Armacell system will be performed as outlined in the “Armacell LLC Limited System Solution Warranty – Solution Portfolios” including at time of install and various times throughout the warranty term by Armacell and its representatives.

B. All insulation applications will be considered defective Work if sample inspection reveals noncompliance with requirements.

**3.4 EQUIPMENT INSULATION SCHEDULE**

*Acceptable equipment insulation materials and thicknesses shall comply with the codes and regulations of the project location’s jurisdiction. To comply with the* “Armacell LLC Limited System Solution Warranty – Solution Portfolios”, *Armacell insulation shall be used where compliant with requirements.*

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

# Master Specification Notes – HVAC Piping Insulation (230719)

*Note: The highlighted sections pertain to the following packages only; all other highlighted information not pertaining to the chosen package should be removed.*

*DC1 Package Only*

*DC2 Package Only*

*DC3 Package Only*

**Part 1 – General**

**1.4 INFORMATIONAL SUBMITTALS**

A. Qualification Data: For qualified Installer. Copy of Armacell Qualified Installer Program (AQIP) Certificate of Recognition.

**1.5 QUALITY ASSURANCE**

A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the Department of Labor, Bureau of Apprenticeship and Training. Installation of Armacell System equipment must be performed by installers who have completed the Armacell Qualified Installer Program (AQIP).

B. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products **<listed and labeled in accordance with UL 723>** **<listed and labeled in accordance with UL 723, where required, or tested in accordance with ASTM E 84> <listed and labeled in accordance with UL 723, where required, or tested in accordance with ASTM E 84>**, by a testing agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.

*The following is shown for completeness only and is dictated by the project’s compliance to the project location’s Codes and Regulations.*

1. Insulation Installed Indoors: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.

2. Insulation Installed Outdoors: Flame-spread index of 75 or less, and smoke-developed index of 150 or less.

C. Inspection: Inspection of Armacell system will be performed as outlined in the “Armacell LLC Limited System Solution Warranty – Solution Portfolios”. Failure to inspect all applicable systems per the requirements will result in non-receipt or the voiding of said warranty.

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

**1.8 SCHEDULING**

A. Armacell LLC Limited System Solution Warranty – Solution Portfolios: All applicable products defined within the **Armacell LLC <DC1> <DC2> <DC3> Solution Package** must be installed per the requirements outlined in the “Armacell LLC Limited System Warranty-Solution Portfolios” for the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**. Failure to install all applicable products per the requirements will result in non-receipt of the warranty.

**Part 2 – Products**

**2.1 INSULATION MATERIALS**

A. Flexible Elastomeric Insulation: Closed-cell, sponge- or expanded-rubber materials. Comply with ASTM C 534, Grade 1, Type I for tubular materials and Type II for sheet materials. **<UL Classified per UL 723 at 25/50> < UL Classified per UL 723 at 25/50, where required>< UL Classified per UL 723 at 25/50, where required>**.

1. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

**2.2 ADHESIVES**

*For Green Building Projects, use the “SCAQMD” language below. For high temperature use, include the “High Temperature” language below. Otherwise, use the “MIL-A” language below*

A. Flexible Elastomeric Adhesive: **<Comply with MIL-A-24179A, Type II, Class I> <SCAQMD Rule 1168> <High Temperature>**

1. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

**Part 3 – Execution**

**3.1 INSTALLATION OF FLEXIBLE ELASTOMERIC**

A. Installation shall be completed by an AQIP trained installer and follow the Armacell North America Application Manual and all other written and technical specifications of Armacell.

**3.2 FINISHES**

A. Outdoor Installation of Flexible Elastomeric Thermal Insulation: After adhesive has fully cured, apply either paint, covering, or cladding per Armacell North America Application Manual.

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

**3.3 FIELD QUALITY CONTROL**

A. Tests and Inspections:

1. Inspection of Armacell system will be performed as outlined in the “Armacell LLC Limited System Solution Warranty – Solution Portfolios” including at time of install and various times throughout the warranty term by Armacell and its representatives.

B. All insulation applications will be considered defective Work if sample inspection reveals noncompliance with requirements.

**3.4 PIPING INSULATION SCHEDULE**

*Acceptable piping insulation materials and thicknesses shall comply with the codes and regulations of the project location’s jurisdiction. To comply with the* “Armacell LLC Limited System Solution Warranty – Solution Portfolios”, *Armacell insulation shall be used where compliant with requirements.*

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*

# Master Specification Notes – Metal Ducts (233113)

*Note: The highlighted sections pertain to the following packages only; all other highlighted information not pertaining to the chosen package should be removed.*

*DC1 Package Only*

*DC2 Package Only*

*DC3 Package Only*

**Part 1 – General**

**1.4 INFORMATIONAL SUBMITTALS**

A. Qualification Data: For qualified Installer. Copy of Armacell Qualified Installer Program (AQIP) Certificate of Recognition.

**1.5 QUALITY ASSURANCE**

A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the Department of Labor, Bureau of Apprenticeship and Training. Installation of Armacell System equipment must be performed by installers who have completed the Armacell Qualified Installer Program (AQIP).

B. Inspection: Inspection of Armacell system will be performed as outlined in the “Armacell LLC Limited System Solution Warranty – Solution Portfolios”. Failure to inspect all applicable systems per the requirements will result in non-receipt or the voiding of said warranty.

**Part 2 – Products**

**2.1 DUCT LINER**

A. Flexible Elastomeric Duct Liner: Closed-cell, sponge- or expanded-rubber materials. Comply with ASTM C 534, Grade 1, Type II for sheet materials. UL Classified per UL 723 at 25/50.

1. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

*For Green Building Projects, use the “SCAQMD” language below. Otherwise, use the “MIL-A” language below*

B. Flexible Elastomeric Duct Liner Adhesive: **<Comply with MIL-A-24179A, Type II, Class I> <SCAQMD Rule 1168>**

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*1. Subject to compliance with requirements, provide appropriate products from the **Armacell LLC <DC1> <DC2> <DC3> Solution Package**.

C. Shop Application of Duct Liner: Comply with the Armacell North America Application Manual and all other written and technical specifications of Armacell. Installation shall be completed by an AQIP trained installer.

**Part 3 – Execution**

**3.1 DUCT SCHEDULE**

*Acceptable duct liner insulation materials and thicknesses shall comply with the codes and regulations of the project location’s jurisdiction. To comply with the* “Armacell LLC Limited System Solution Warranty – Solution Portfolios”, *Armacell insulation shall be used where compliant with requirements.*

*![C:\Users\TMackinnon\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\Y9IR40N3\home-2741413_960_720[1].png]()*