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# AKDUCT® AND AKDUCT® PREMIER

**CSI Section:**
**23 31 00 HVAC Ducts and Casings**

## 1.0 RECOGNITION

AQC Industries' AKDUCT and AKDUCT Premier, have been evaluated for use as heating, cooling, and ventilation duct systems. The structural performance, physical characteristics, thermal transmission, and fire resistance properties of the AKDUCT and AKDUCT Premier comply with the intent of the provisions of the following codes and regulations:

- 2024, 2021, 2018, 2015, and 2012, Uniform Mechanical Code® (UMC)
- 2024, 2021,2018, 2015, and 2012, International Residential Code® (IRC)
- 2024, 2021, 2018, 2015, and 2012, International Mechanical Code® (IMC)
- 2024, 2015, and 2012 International Energy Conservation Code® (IECC)
- 2025, and 2022, California Residential Code (CRC) – attached supplement
- 2025, and 2022, California Mechanical Code (CMC) – attached supplement
- 2025, and 2022 California Energy Code (CEC) – attached supplement

## 2.0 LIMITATIONS

AKDUCT® and AKDUCT® Premier comply with the codes listed in Section 1.0 of this report, subject to the following limitations:

**2.1.** AKDUCT® Duct and Fittings designs shall be limited to systems with a maximum air temperature of 150°F (66°C) at the discharge of the unit entering the duct system.

**2.2** The size of the duct shall be in accordance with IMC Section 603.2, IRC Section M1601.1, or UMC Section 601.2, as applicable.

**2.3** AKDUCT® Duct and Fittings may be installed underground or embedded within concrete slabs.

**2.4** AKDUCT® Premier Duct and Fittings may be installed as part of an above-ground duct system only where the International Residential Code is applicable.

**2.5** When installing AKDUCT® Duct and Fittings more than 48 inches (1219mm) below the Base Flood Elevation (BFE), the duct shall be installed to slope a minimum of 1/8 inch per foot to: (1) where the IMC/IRC is applicable - an access point or (2) where the UMC is applicable to the main riser.

**2.6** Concrete structural designs with an embedded air duct are beyond the scope of this evaluation report.

**2.7** Underground air ducts located in flood hazard areas shall be designed and installed to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, in accordance with IMC Section 603.13, IRC Section 1601.4.10 Section 603.9of the 2024 edition UMC.

**2.8** The AKDUCT® Duct and Fittings and AKDUCT® Premier recognized in this report are produced by AQC Industries LLC.

**2.9** HVAC systems using AKDUCT® Duct and Fittings shall be balanced in accordance with Section 314.0 of the 2024 UMC.

## 3.0 PRODUCT USE

**3.1 General:** AKDUCT® and AKDUCT® Premier are recognized for installations above or below ground as noted in Table 1 of this report.

**TABLE 1—AKDUCT® AND AKDUCT® PREMIER INSTALLATION LOCATIONS**

| Code | Recognized Installation Locations | | Notes |
|---|---|---|---|
| | Underground AKDUCT® | Above Ground AKDUCT® Premier | |
| UMC | X | - | Section 105 & 602.1 of the UMC |
| IRC | X | X | Section M1601.1.1 of the IRC. |
| IMC | X | - | Section 603.8 of the IMC |
| CMC | X | - | Section 105 and 602.1 of the CMC |

**3.1.1 UMC:** AKDUCT® Duct and Fittings are recognized for underground use in accordance with Section 302 of the 2024 UMC, Sections 603.5, 603.8 and 602.4 of the 2024 UMC Additional acceptance parameters were satisfied based on testing according to the documents noted in Section 6.0 of this report.

**3.1.2 IMC / IRC:** AKDUCT® Duct and Fittings are recognized for underground use in accordance with Section 603.8 of the IMC and Section M1601.1.2 of the IRC.

**3.1.3 IRC (only):** AKDUCT® Premier Duct and Fittings are for above-ground use in accordance with Section M1601.1.1 #6 of the IRC.

**3.2 Installation**

**3.2.1 Installation General:** AKDUCT® and AKDUCT® Premier Duct and Fittings shall comply with the manufacturer's published installation instructions, this report, and the applicable code. In the event of a discrepancy between this report and the installation instructions, the more restrictive assumes governance.

**3.2.2 Non-Flanged Sealing Method:** Two sections of pipe (or pipe and fitting) shall be placed end to end. The adhesive backing shall be removed from the gasket, and the gasket is wrapped around the duct. The gasket shall overlap approximately 3/4 inch (19 mm). A clamp shall be placed around the gasket, with the clamp and gasket lined up. The clamp shall be tightened until it is snug around the connection. Clamp ends do not have to meet each other to be airtight.

The temperature shall be between 32°F (0°C) and 120°F (49°C) when installing the clamp and gasket. When above 90°F (32°C), AQC Industries shall be consulted for high-temperature installation instructions.

**3.2.3 Flanged Sealing Method:** Two beads of AQC sealant shall be applied to each flanged end and around the bolt holes. Two sections of pipe (or pipe and fitting) shall be placed end to end. The bolts, nuts, and washers shall be installed through the predrilled template holes. Torque setting when ratcheting bolts shall be set between 25 to 30 lbs (111 to 133 N). Bolts shall be tightened until they are flush. The nut and bolt require a sealant to cover both ends.

**3.2.4 Underground Systems:** Installation of AKDUCT® By direct burial may be done with compaction fill of either dry silica sand or pea gravel. The backfill material shall be spread evenly around the duct, making sure there are no gaps. The manufacturer recommends the use of plate-tamping equipment. The tamped fill holds the duct in place; thus, no concrete is required to fill in around the duct. The manufacturer recommends that AKDUCT® be backfilled to 2-4 inches (50.8 mm) above the top of the duct. The concrete slab is then poured so that "tie-down" work is generally not required. In case of open site construction and anticipated heavy rainfall, the duct system shall be anchored and tied down to avoid dislodging of the system by buoyancy forces.

When backfilling or grading, heavy loads shall not occur directly on the duct, and heavy equipment shall not be run over the duct. The loading of the duct from the wet concrete and/or soil above the duct shall be limited so as not to produce deflections greater than 15 percent of the original duct diameter as set forth in Table 1 of this report.

When installing more than 48 inches (1219 mm) below the BFE, the duct shall be installed so as to slope back to a 4-inch (102 mm) x 12-inch (305 mm) or larger register box, a size that is generally considered adequate to serve as a cleanout.

The underground ducts shall be placed in or beneath concrete floors or in areas free from vehicle traffic. The manufacturer shall be consulted when vehicle traffic loads are anticipated.

**4.0 PRODUCT DESCRIPTION**

**4.1 General:** Both AKDUCT® and AKDUCT® Premier and their associated fittings are manufactured from High-Density Polyethylene (HDPE), circular in cross-section, with the average wall thickness for each diameter as noted in Table 2 of this report. System components are detailed in Table 3 of this report.

**4.1.1** AKDUCT® and AKDUCT® Premier Duct and Fittings are designed for use in systems with a maximum rated positive pressure equivalent to a 10-inch water column and a maximum rated negative pressure of a 2-inch water column.

**4.2 AKDUCT® Duct and Fittings:** AKDUCT® Duct and Fittings are used to form an underground air duct and fitting system for use in forced-air heating and cooling systems in accordance with Section 302 of the 2024 UMC, Section 603.8 of the IMC, and Section M1601.1.2 of the IRC, as applicable.

**4.3 AKDUCT® Premier Duct and Fittings:** AKDUCT® Premier Duct and Fittings are recognized for use in an above-ground air duct and fitting system in buildings constructed according to the requirements of IRC Section M1601.1.1.

**4.3.1 Surface Burning Characteristics:** When tested in accordance with UL 723 (ASTM E84), AKDUCT® Premier exhibited a flame spread index of 200 or less in accordance with Section M1601.1.1 #6 of the IRC.

**4.4 Flood Plain Elevation:** AKDUCT® Duct and Fittings and AKDUCT® Premier Duct and Fittings are recognized for installation without slope at a maximum of 4 feet below the BFE. This recognition is based on successful testing in accordance with Section 4.3.2 of LC1014 at 8 feet (2440 mm) water column pressure (submerged 8 feet (2440 mm) with the test duration extended from the required 24 hours to 7 days with no leakage.

**4.5 R-Value:** When tested in accordance with NSF Protocol P374, AKDUCT®, and AKDUCT® Premier, at nominal 10-inch diameters, exhibited thermal performance equivalent to PVC Duct with an external R-10 value insulation under Sections C104 and R104.

## 5.0 IDENTIFICATION

A label shall be affixed to at least one of the following: product, packaging, installation instructions, or descriptive literature. The label shall include the company name or trademark, model number, and the Evaluation Report Number (IAPMO UES ER-261) to identify the products recognized in this report. A die-stamp label may also substitute for the label. Either IAPMO UES Mark of Conformity may also be used, as shown below:

or

**IAPMO UES ER-261**

## 6.0 SUBSTANTIATING DATA

6.1 Manufacturer's descriptive literature and installation instructions.

6.2 Test reports are from laboratories in compliance with ISO/IEC 17025.

**6.3** Test reports in accordance with UL 723

6.4 Test reports in conformance with ASTM D2412

6.5 Test reports and listings in conformance with NSF 374.

Data and test reports submitted for this report are in accordance with ASTM D2412, -, NSF Protocol P374, and UL 723**.** Test reports are from laboratories in compliance with ISO/IEC 17025.

## 7.0 REFERENCE CODE SECTIONS

The code references apply to the recognition provided in this report but may not include every code section related to the use of this product.

2024 Uniform Mechanical Code:

- Section 302.2 Alternate Materials and Methods of Construction and equipment.
- Section 603.8 Protection Against Flood Damage
- Section 603.11 Underground Installation

2024 International Residential Code:

- Section 104.11 Alternative materials design and methods of construction
- Section M1601.1.2 Underground duct systems
- Section M1601.3 Duct insulation materials.

2024 International Mechanical Code:

- Section 105.2 Alternative materials, design and methods of construction and equipment.
- Section 603.8 Underground ducts.
- Section 603.8.1 Slope.
- Section 603.8.2 Sealing.
- Section 603.8.3 Plastic ducts and fittings.
- Section 603.13 Flood hazard areas.

2024 International Energy Conservation Code:

- Section C104 Alternative materials, design and methods of construction and equipment.
- Section 403.3 Duct systems
- Section 403.3.1 Duct system design
- Section 403.3.3 Ductwork located outside of conditioned space.

## 7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on AQC Industries' AKDUCT® and AKDUCT® Premier to assess conformance to the codes shown in Section 1.0 of this report and serves as documentation of the product certification. Products are manufactured noted in Section 2.9 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

**For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org**

**TABLE 2— AKDUCT® AND AKDUCT® PREMIER DUCT DIAMETERS, AVERAGE WALL THICKNESS AND LOAD AT 15 PERCENT DEFLECTION**

| DUCT DIAMETER (Inches) | AVERAGE WALL THICKNESS (Inches) | LOAD at 15% DEFLECTION AS TESTED (lbs/lineal ft) |
|---|---|---|
| 6 | 0.429 | 205 |
| 8 | 0.507 | 353 |
| 10 | 0.416 | 102 |
| 12 | 0.575 | 117 |
| 14 | 0.700 | 135 |
| 16 | 0.472 | 189 |
| 18 | 0.692 | 208 |
| 20 | 0.460 | 433 |
| 24 | 0.770 | 390 |
| 30 | 0.693 | 300 |
| 36 | 0.850 | 383 |
| 48 | 0.750 | 258 |

For SI: 1 inch = 25.4 mm, 1 lb/ft = 14.59 N/m.
Load results are based on ASTM 2412 testing without safety factors, yielding a 15 percent deflection based on the inside diameter.

**TABLE 3— AKDUCT® and AKDUCT® Premier SYSTEM COMPONENTS (continued on following 4 pages)**

| ITEM | DESCRIPTION | SIZE(Inches) |
|---|---|---|
| ACCESSORIES:20-0027 | Foam Trench Block | - |
| ACCESSORIES:20-0030 | Damper | - |
| ACCESSORIES:20-0050 | Boot Extension | 4"x 12"-16" |
| ACCESSORIES:20-0100A | Air Test Kit | 13" |
| ACCESSORIES:20-0101A | Air Test Kit | 8" |
| ACCESSORIES:20-0200 | Boot Reducer | 4"x 12" to 2-1/4"x 12" |
| ACCESSORIES:20-0300 | Bolt with 1 nut & 2 washers (pkg of 12) | 2-1/2" x 1/4" |
| ACCESSORIES:20-0711 | Airtite Sealant | - |
| BLUE:03-0090 | Rubber Gasket for 3"HV | - |
| BLUE:03-2510 | Pipe | 3"x 8’ |
| BLUE:03-2511 | End Cap | 3" |
| BLUE:03-2530 | 90 Degree Elbow (Long Sweep) | 3" |
| BLUE:03-2531 | 90 Degree Elbow (Short Sweep) | 3" |
| BLUE:03-2532 | 45 Degree Elbow | 3" |
| BLUE:03-2533 | 22.5 Degree Elbow | 3" |
| BLUE:03-2534 | Sound Attenuator | 3" |
| BLUE:03-2535 | Sound Attenuator Replacement Cartridge | 3" |

**TABLE 3 (continued)**

| | | |
|---|---|---|
| BLUE:03-2590 | Saddle Take Off | 3" |
| BLUE:06-2501 | Offset Footer Boot | 6" |
| BLUE:06-2502 | 90 Degree Boot (4 x 12) | 6" |
| BLUE:06-2510 | Pipe | 6"x 8' |
| BLUE:06-2511 | End Cap | 6" |
| BLUE:06-2530 | 90/45 degree Elbow | 6" |
| BLUE:06-2531 | 22.5 degree Elbow | 6" |
| BLUE:06-2532 | 15 degree Elbow | 6" |
| BLUE:06-2533 | 11.25 degree Elbow | 6" |
| BLUE:06-2560 | Plenum Adapter with Screws | 6" |
| BLUE:06-2570 | Center Saddle-4"x 12" Boot with screws | 6" |
| BLUE:08-2502 | 90 Degree Boot (4 x 12) | 8" |
| BLUE:08-2510 | Pipe | 8"x 8’ |
| BLUE:08-2511 | End Cap | 8" |
| BLUE:08-2520 | Tee | 8" |
| BLUE:08-2525 | Tee Reducer | 8"x 8"x 8"-6" |
| BLUE:08-2530 | 90/45 Elbow | 8" |
| BLUE:08-2531 | 22.5 degree Elbow | 8" |
| BLUE:08-2532 | 15 degree Elbow | 8" |
| BLUE:08-2533 | 11.25 degree Elbow | 8" |
| BLUE:08-2540 | Reducer | 8"x 6" |
| BLUE:08-2560 | Plenum Adapter with Screws | 8" |
| BLUE:08-2565 | Plenum Adapter with 12"piece&End Cap | 8" |
| BLUE:08-2570 | Center Saddle-4"x12"Boot with screws | 8" |
| BLUE:10-2510 | Pipe | 10"x 8' |
| BLUE:10-2511 | End Cap | 10" |
| BLUE:10-2515 | Inline Boot (4 x 12) | 10" |
| BLUE:10-2520 | Tee | 10" |
| BLUE:10-2530 | 90/45 degree Elbow | 10" |
| BLUE:10-2531 | 22.5 degree Elbow | 10" |
| BLUE:10-2532 | 15 degree Elbow | 10" |
| BLUE:10-2533 | 11.25 degree Elbow | 10" |
| BLUE:10-2540 | Round Reducer | 10"x 8" |
| BLUE:10-2545 | Round Reducer | 10"x 8"x 6" |
| BLUE:10-2550 | Offset Saddle-4"x 12"Boot with screws Fits 10" pipe | 10” |
| BLUE:10-2560 | Plenum Adapter with Screws | 10" |
| BLUE:10-2570 | Center Saddle-4 x 12 boot with screws | 10" |
| BLUE:10-2578 | Saddle Reducer (with screws) Fits 10"&12"Pipe | 10”- 8” x 6” |
| BLUE:12-2510 | Pipe | 12"x 8' |

**TABLE 3 (continued)**

| | | |
|---|---|---|
| BLUE:12-2511 | End Cap | 12" |
| BLUE:12-2520 | Tee | 12" |
| BLUE:12-2530 | 90/45 Degree Elbow | 12" |
| BLUE:12-2531 | 22.5 degree Elbow | 12" |
| BLUE:12-2532 | 15 degree Elbow | 12" |
| BLUE:12-2533 | 11.25 degree Elbow | 12" |
| BLUE:12-2540 | Reducer | 12"x 10" |
| BLUE:12-2547 | Reducer | 12"x10"x 8"x 6" |
| BLUE:12-2550 | Offset Saddle-4 x 12 boot with screws Fits 12", 14",16"&18"Pipe | 12” |
| BLUE:12-2551 | Offset Saddle-4"x 24"Boot with screws | 12" |
| BLUE:12-2560 | Plenum Adapter with Screws | 12" |
| BLUE:14-2510 | Pipe | 14"x 8' |
| BLUE:14-2511 | End Cap | 14" |
| BLUE:14-2530 | 90/45 Degree Elbow | 14" |
| BLUE:14-2531 | 22.5 degree Elbow | 14" |
| BLUE:14-2532 | 15 degree Elbow | 14" |
| BLUE:14-2533 | 11.25 degree Elbow | 14" |
| BLUE:14-2560 | Plenum Adapter with Screws | 14" |
| BLUE:14-2575 | Wye | 14" |
| BLUE:14-2577 | Saddle Reducer-Fits 14", 16" & 18"Pipe | 14"x 12" |
| BLUE:16-2510 | Pipe | 16"x 8' |
| BLUE:16-2511 | End Cap | 16" |
| BLUE:16-2530 | 90/45 Degree Elbow | 16" |
| BLUE:16-2531 | 22.5 degree Elbow | 16" |
| BLUE:16-2532 | 15 degree Elbow | 16" |
| BLUE:16-2533 | 11.25 degree Elbow | 16" |
| BLUE:16-2540 | Reducer | 16"x 14" |
| BLUE:16-2547 | Reducer | 16"x 14"x 12"x 10" |
| BLUE:16-2560 | Plenum Adapter with Screws | 16" |
| BLUE:16-2575 | Wye | 16" |
| BLUE:16-2577 | Saddle Reducer-Round-Fits 16"&18"Pipe | 16"x 14" |
| BLUE:16-3510F | Pipe with Flange | 16"x 8' |
| BLUE:18-2510 | Pipe | 18"x 8' |
| BLUE:18-2511 | End Cap | 18" |
| BLUE:18-2530 | 90/45 Degree Elbow | 18” |
| BLUE:18-2531 | 22.5 degree Elbow | 18” |
| BLUE:18-2532 | 15 degree Elbow | 18” |
| BLUE:18-2533 | 11.25 degree Elbow | 18” |

**TABLE 3 (continued)**

| | | |
|---|---|---|
| BLUE:18-2540 | Eccentric Reducer | 18"x 16"x14"x 12" |
| BLUE:18-2560 | Plenum Adapter with Screws | 18" |
| BLUE:18-2577 | Saddle Reducer-Round | 18"x 16" |
| BLUE:18-3510F | Pipe with Flange | 18"x 8' |
| BLUE:18-3541F | Eccentric Reducer with Flange | 18"x 16" |
| BLUE:20-0010 | Plenum | 20"x 24"x 36" |
| BLUE:20-0015 | Plenum | 25"x 30"x 48" |
| BLUE:20-0050 | Boot Extension | 4x12-16" |
| BLUE:20-0060 | Universal Linear Diffuser Adapter | |
| BLUE:20-0061 | Linear Diffuser 49"x 7"x 8"O.D. | 48" |
| BLUE:20-0062 | Linear Diffused 37"x 7"x 8"O.D. | 36" |
| BLUE:20-0063 | Linear Diffuser 25"x 7"x 8"O.D. | 24" |
| BLUE:20-3510F | Pipe with Flange | 20"x 8' |
| BLUE:20-3530F | 90/45 Degree Elbow with Flange | 20" |
| BLUE:20-3531F | 22.5 degree Elbow | 20" |
| BLUE:20-3532F | 15 degree Elbow | 20" |
| BLUE:20-3533F | 11.25 degree Elbow | 20" |
| BLUE:20-3541F | Eccentric Reducer with Flange | 20"x 18" |
| BLUE:20-3542F | Eccentric Reducer | 20"x 18"x 16" |
| BLUE:20-3575F | Tee/Wye | 20" |
| BLUE:24-3510F | Pipe with Flange | 24"x 8’ |
| BLUE:24-3530F | 90/45 Degree Elbow with Flange | 24" |
| BLUE:24-3531F | 22.5 degree Elbow | 24" |
| BLUE:24-3532F | 15 degree Elbow | 24" |
| BLUE:24-3533F | 11.25 degree Elbow | 24" |
| BLUE:24-3541F | Eccentric Reducer with Flange | 24"x 20" |
| BLUE:24-3575F | Tee/Wye | 24" |
| BLUE:24-3542F | Eccentric Reducer with Flange | 24"x 20"x 18" |
| BLUE:24-3543F | Eccentric Reducer with Flange | 24"x 20"x 18"x 16" |
| BLUE:30-3510F | Pipe with Flange | 30"x 8' |
| BLUE:30-3530F | 90/45 Degree Elbow with Flange | 30" |
| BLUE:30-3531F | 22.5 degree Elbow | 30" |
| BLUE:30-3532F | 15 degree Elbow | 30" |
| BLUE:30-3533F | 11.25 degree Elbow | 30" |
| BLUE:30-3575F | Tee/Wye | 30" |
| BLUE:30-3542F | Eccentric Reducer | 30"x 24" |
| BLUE:36-3510F | Pipe with Flange | 36"x 8’ |
| BLUE:36-3530F | 90/45 Degree Elbow with Flange | 36" |
| BLUE:36-3531F | 22.5 degree Elbow | 36" |

**TABLE 3 (continued)**

| | | |
|---|---|---|
| BLUE:36-3532F | 15 degree Elbow | 36" |
| BLUE:36-3533F | 11.25 degree Elbow | 36" |
| BLUE:36-3575F | Tee/Wye | 36" |
| BLUE:36-3543F | Eccentric Reducer | 36"x 30"x 24" |
| BLUE:48-3510F | Pipe with Flange | 48"x 6’ |
| BLUE:48-3530F | 90/45 Degree Elbow with Flange | 48" |
| BLUE:48-3531F | 22.5 degree Elbow | 48" |
| BLUE:48-3532F | 15 degree Elbow | 48" |
| BLUE:48-3533F | 11.25 degree Elbow | 48" |
| BLUE:48-3534F | 7.5 degree Elbow | 48" |
| BLUE:48-3575F | Tee/Wye | 48" |
| CLAMPS:03-0080 | Stainless Steel Clamp | 3" |
| CLAMPS:06-0080 | Clamps & Gasket Set | 6" |
| CLAMPS:08-0080 | Clamps & Gasket Set | 8" |
| CLAMPS:10-0080 | Clamps & Gasket Set | 10" |
| CLAMPS:12-0081 | Clamps & Gasket Set | 12" |
| CLAMPS:14-0081 | Clamps & Gasket Set | 14" |
| CLAMPS:16-0081 | Clamps & Gasket Set | 16" |
| CLAMPS:16-0100 | Steel Clamp | 16" |
| CLAMPS:16-0912 | wide W6403 Gasket | 12" |
| CLAMPS:18-0081 | Clamps & Gasket Set | 18" |
| CLAMPS:18-0100 | SS Clamp | 18" |
| CLAMPS:18-0912 | wide W6403 Gasket | 12" |
| CLAMPS:20-0081 | Clamps & Gasket Set | 20" |
| CLAMPS:24-0081 | Clamps & Gasket Set | 24" |
| CLAMPS:30-0081 | Clamps & Gasket Set | 30" |
| CLAMPS:36-0081 | Clamps & Gasket Set | 36" |
| CLAMPS:48-0081 | Clamps & Gasket Set | 48" |

For SI: 1 inch = 25.4 mm

# CALIFORNIA SUPPLEMENT

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## AKDUCT® AND AKDUCT® PREMIER

**CSI Section:**
**23 31 00 HVAC Ducts and Casings**

### 1.0 RECOGNITION

The AQC Industries AKDUCT® and AKDUCT® Premier, as evaluated in IAPMO UES Evaluation Report ER-261, are a satisfactory alternative for use in buildings constructed under the following codes and regulations, with exceptions as noted in this supplement:

- 2025, 2022, 2019, 201 California Residential Code (CRC)
- 2025, 2022, 2019, 2016 California Energy Code (CEC)
- 2025, 2022, 2019, 2016 California Mechanical Code® (CMC)

### 2.0 LIMITATIONS

The AQC Industries and AKDUCT® Premier installed as noted in ER-261 comply with the codes listed in Section 1.0 of this California Supplement, subject to the following limitations:

**2.1** AKDUCT® Duct and Fittings shall slope a minimum of 1/8 inch per foot (10.4 mm/m) back to the main riser, if installation is more than 48 inches (1219 mm) below the Base Flood Elevation (BFE).

**2.2** Use of the AQC Industries AKDUCT® Duct and Fittings recognized in this report for underground use in accordance with Sections 602.5.5, 60 and 1701 of the CMC.

**2.3** The size of the duct shall be in accordance with CMC Section 601.2, as applicable.

**2.4** Underground air duct pipes located in flood hazard areas, the ducts shall be designed and installed to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to the design flood elevation, in accordance with Section 603.8 of the CMC.

**2.5 Flood Plain Elevation**: AKDUCT® Duct and Fittings designs are not intended for installation where exposure to groundwater or runoff is anticipated, without additional sufficient drain tiles, sumps, and pumping systems to be installed to avoid ductwork exposure to hydrostatic pressure.

**2.6** This supplement expires concurrently with IAMPO UES ER-261.