TDI | Texas Department of Insurance

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Submittal Requirements for Product Evaluation Mechanical Anchorage of Condenser Units

The Texas Department of Insurance (TDI) will use the information and product requirements requested below to develop a product evaluation report for mechanical anchorage of condenser units for use in the designated catastrophe areas along the Texas Gulf Coast. The intent is to provide guidance for the anchorage of condenser units to either concrete pads or wood pads that are located at ground level or for elevated structures on piles or piers. The anchorage of commercial sized HVAC units to roof curbs or similar supporting structures that are loaded on roof tops is outside the scope of this document. The product evaluation report will identify the product, specify the models of condenser units involved, specify the limitations, specify the pad requirements, specify the applicable installation methods, and specify the fastener specifications used. This evaluation report is not intended to preclude a Texas licensed professional engineer from using test data or evaluation reports from nationally recognized evaluation services that have not been submitted to TDI for certifying compliance with the building specifications adopted by TDI.

1.0 Building Code Requirements for Products

1.1 Products will be evaluated by TDI in accordance with the wind load criteria of Chapter 3 of the 2018 IRC; the wind load criteria of Chapter 16 of the 2018 IBC; test standards and performance criteria specified in the IRC and the IBC; and nationally recognized test standards or procedures.

1.2 **Basic Design Wind Speed Requirements**: The basic windspeed requirements for the windstorm program area are as defined in the IRC and the IBC. Contact TDI for more information regarding the basic wind speed requirements.

1.3 **Design Pressure Requirements**: Refer to Chapter 3 of the IRC or to ASCE 7-16 for design wind pressure requirements based on the basic wind speeds that are required for the TDI windstorm program area. The manufacturer should consider that different Exposure conditions can occur for all structures that are located within the TDI windstorm program area. Contact TDI for more information regarding design pressure requirements.

2.0 Product Applicability and Limitations of Evaluation Report

2.1 Evaluation of a product does not constitute approval of the product for use on all structures.

2.2 TDI will develop the product evaluation report based on the way the products have been designed to be anchored and supported.

2.3 **Support Pad Dimensions:** The dimensions of the support pad must be large enough such that the condenser unit can fully rest on the surface of the support pad and the condenser unit can be anchored to the support pad with the minimum edge distances required for the fasteners.

2.4 **Concrete Support Pad Construction**: Concrete support pads must be poured in place and rest on the ground. The minimum compressive strength for the concrete must be specified. The dimensions (L x W x H) of the concrete support pad must be sufficient to prevent overturning of the condenser

unit when anchored to the support pad. The thickness of the concrete support pad must be sufficient to provide full penetration of the fasteners.

2.5 **Wood Support Pad Construction:** Wood framing must be minimum 2X dimension lumber. The species of the lumber must be specified. The dimensions and construction of the pad as well as the method for anchoring the pad to the ground or the structure must be specified to prevent overturning of the condenser unit when secured to the pad and to support the weight of the condenser unit when secured to the pad. The minimum penetration of the fasteners used to secure the condenser unit to the pad must be specified.

2.6 **Anchorage of Condenser Unit to Pad:** Many condenser units may have pre-drilled holes in the base of the pad. The submittal must specify the location and quantity for anchors used to secure the condenser unit to the pad.

3.0 Substantiating Information

Include the following information as part of the submittal package for each product:

3.1 **Analysis.** Copy of any calculations or analysis associated with the development of the design drawings associated with the installation and support structure of the mechanically anchored condenser units. The analysis must reference the 2018 IRC and the 2018 IBC. A Texas licensed professional engineer must sign, seal, and date the analysis.

3.2 **Installation Instructions.** Provide a copy of the installation instructions.

3.3 **Design Drawings:** Provide one copy of the design drawings. The drawings must include a title block with the drawing number, name of the product, name and address of the manufacturer, the date of the drawing, and the revision date(s) if applicable). The drawing must include the wind speed limitations, the anchorage methods, the properties of the anchors, properties and dimensions of the support structure (concrete pad, wood pad, etc.), and models of condenser units involved that are consistent with the submitted analysis. The drawings must reference the 2018 IRC and the 2018 IBC. A Texas licensed professional engineer must sign, seal, and date the design drawings. TDI will reference the design drawings in the evaluation report and will post the design drawings on the TDI website with the product evaluation report.

3.4 **Optional:** Provide an electronic WORD version of a draft TDI product evaluation report.

4.0 Expiration and Renewal of Evaluation Reports

4.1 TDI will accept analysis of mechanical anchorage of condenser units as long as the analysis is based on current available products, the design standards that the product was analyzed to have not changed, and, the products specified in the analysis have not changed.

4.2 TDI reserves the right to request verification from the product manufacturer that the products specified in the analysis have not changed.

4.3 For the renewal of an existing product evaluation, if the analysis does not indicate an expiration date then TDI may continue to utilize the analysis if no changes have occurred in the product, no changes occur in the anchorage method for the products, and no changes occur in the design standards used to analyze the product.

4.4 The evaluation report will be subject to re-evaluation a maximum of four years from the effective date of the evaluation report.

4.5 The evaluation report will indicate the month and year of the re-evaluation date.