



## TEXAS DEPARTMENT OF INSURANCE

### Regulatory Policy Division - Engineering Services Program (103-3A)

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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 wind zones where the products may be used, specify the pad requirements, specify the applicable installation methods, and specify the fastener specifications used. There is no fee for the evaluation of the product by the TDI. This evaluation is not intended to preclude a Texas licensed professional engineer from performing an analysis, using testing information or ICC evaluation reports that have not been submitted to the TDI for certifying compliance with the building specifications adopted by the TDI.

### 1.0 Minimum Information Required for Evaluation

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Provide the information requested in the form of a complete and organized package. Mail the package to TDI at the address at the top of this document. The submittal must include a cover letter and the substantiating information specified in Section 4.0. The cover letter needs to include the following:

- 1.1 The manufacturer's full name and address
- 1.2 Manufacturer's engineering or technical representative contact, including telephone number, fax number, and e-mail address.
- 1.3 Manufacturer's contact phone number for local sales information.
- 1.4 The name (model, series number, etc.) of all of the condenser units involved.
- 1.5 A description of the substantiating information as specified in Section 4.0 for each product included in the submittal.
- 1.6 Optional: Provide an electronic version of a draft TDI product evaluation report.
- 1.7 Drawings that include the anchorage, support structure (concrete pad, wood pad), and models of condenser units involved that are consistent with the submitted analysis data. Drawings will be referenced in the evaluation report. Provide one hard copy of the drawings and one PDF copy saved on a CD. TDI will post the drawings on the TDI website with the evaluation report.
- 1.8 Indicate if the submitted information is for a new product evaluation or the revision of an existing evaluation. If the information is for a revision, please indicate the existing TDI evaluation number or submittal ID number.

### 2.0 Building Code Requirements for Products

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- 2.1 TDI will evaluate the products according to the wind load criteria of Chapter 3 of the 2006 International Residential Code (IRC); the wind load criteria of Section 1609 of the 2006 International Building Code (IBC); the Texas Revisions to the IRC and the IBC; and nationally recognized standards or procedures.
- 2.2 Basic design wind speed requirements for construction in the designated catastrophe areas along the Texas Gulf Coast are as follows:
  - Inland II Zone: 110 mph, 3-second gust
  - Inland I Zone: 120 mph, 3-second gust
  - Seaward Zone: 130 mph, 3-second gust

### **3.0 Product Applicability and Limitations of Evaluation Report**

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- 3.1 Evaluation of a product does not constitute approval of the product for use on all structures.
- 3.2 The TDI will develop the product evaluation report based on the manner in which the products have been designed to be anchored and supported.
- 3.3 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.
- 3.4 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.
- 3.5 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.
- 3.6 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.

### **4.0 Substantiating Information**

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- 4.1 Include the following information as part of the submittal package for each product:
  - Cover letter as described in Section 1.0
  - Analysis in accordance with the adopted windstorm codes described in Section 2.1
  - A complete copy (PDF copy on either CD or DVD) 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. A Texas licensed professional engineer must sign, seal, and date the calculations.
  - Installation instructions.
- 4.2 Design Drawings: Provide hard copy and PDF copy of the design drawings on a CD or DVD. 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 Windstorm Inspections Program Product Evaluation Index website.

### **5.0 Expiration and Renewal of Product Evaluation Reports**

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- 5.1 The 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.
- 5.2 The TDI reserves the right to request verification from the product manufacturer that the products specified in the analysis have not changed.
- 5.3 For the renewal of an existing product evaluation, if the analysis does not indicate an expiration date then the 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.
- 5.4 The evaluation report will be subject to re-evaluation a maximum of four years from the effective date of the evaluation report.
- 5.5 The evaluation report will indicate the month and year of the reevaluation date.