

PAL SYSTEM INTERNATIONAL FZCO

Pre-Insulated Ducting Technology

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Subject: UL Listing Explained

The PalDuct Phenolic System has successfully completed all testing per the UL 181 Standard and is a listed product under "Air Ducts" by Underwriters Laboratories.

Who is U.L.?

U.L. (Underwriters Laboratories) is an independent, not-for-profit product safety testing and certification organization, founded in 1894. Over the last century, Underwriters Laboratories has become the world's best known independent product safety certification organization. Millions of products and their components are tested to UL's rigorous safety standards.

What is U.L. 181?

U.L. 181 is the Safety Standard for Factory-Made Air Ducts and Air Connectors in accordance with the Standards of the National Fire Protection Association for the Installation of Air-Conditioning and Ventilating Systems, NFPA No. 90A, and the Installation of Warm Air Heating and Air-Conditioning Systems, NFPA No. 90B. Systems and products must be UL181 listed to satisfy building codes in North America and many countries in the world.

What is "Listed"?

A published list stating the product has been tested to and complies with the applicable Standard and maintains periodic inspection to assure production of the listed products are in accordance with the listing. Having UL Listing guarantees that the product fully complies with each and every one of UL's requirements in the applicable Standard, and the manufacturer's product can then bear the UL Mark.

Third Party Certification

The UL listing is called a "Third Party Certification". This certification provides an unbiased safety assurance to interested parties including the manufacturer, the specifier, and the consumer. UL's field reps worldwide conduct periodic, unannounced on site inspections of UL-certified products in the manufacturer's factory. The product is verified as being fully compliant with a set of rules governing the product. Another part of the agreement is traceable labels. Each product listed must have a label affixed to the product traceable to the manufacturer through Underwriters Laboratories.

Listed and Classified Products

They are not the same, in fact Classified products have been evaluated only for specific properties, a limited range of hazards, or suitability for use under limited conditions. If a product is Classified by UL, this can mean its testing meets the particular requirements for a single test with a published result, but has nothing to do with all the other tests that may form part of a Standard (i.e., UL 181).

UL Listing and Compliance

Also, if products comply to some parts of specific UL Standard, this can mean their testing only meets that part of the Standard, but the products do not fully conform with the UL requirements. Only after a manufacturer has successfully passed all tests within a given Standard can it then be Listed. Therefore, listed products are far more onerous than those which are just classified.

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PalDuct Phenolic

PalDuct Phenolic is UL 181 Listed. It is important to note that "UL 181 Standard for Safety" covers all aspects of duct system performance, and requires the following tests for the evaluation of air ductwork:

- Test for Surface Burning Characteristics
- Flame Penetration Test
- Burning Test
- Mold Growth and Humidity Test
- Low Temperature Test and High Temperature Test
- Puncture Test
- Static Load Test
- Impact Test
- Pressure Test and Collapse (negative pressure) Test
- High Temperature and Humidity for 90 days
- Cone Calorimeter

Therefore, The PalDuct Phenolic System is not merely "UL 181 compliant," but it is actually listed by UL as a UL 181 Class 1 Air Duct, UL file number MH49717.

Online Certifications Directory

The Online Certifications Directory includes the names of companies authorized to use the UL Mark on or in connection with products in compliance with UL's requirements.

If you wish to view that PalDuct Phenolic is UL Listed, then either use the web address www.ul.com and the Online Certifications Directory tab searching for 'PAL' or UL file number 'MH49717', alternatively type in the link below and search company name 'PAL'.

<http://dat'abase.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

Conclusion

All consultants and engineering professionals concerned with performance and safety in buildings, and in particular in air ductwork, can take comfort that the specification of UL Listed Products ensures that those products meet a comprehensive Standard and that independent UL inspectors perform regular follow up factory inspections to ensure product consistency. The PalDuct Phenolic System of pre-insulated phenolic ducting fully conforms with UL 181 Standard and is listed as a Class 1 Air Duct.