Construction Products Regulations, BS EN 14314 and CE Marking

Construction Products Regulations

The Construction Products Regulations (CPR) was introduced to break down technical barriers to trade for construction products between the member states of the European Economic Area. To facilitate this, a pan European system of Harmonised European Standards (hEN) – sometimes referred to as European Standards or European Norms - were commissioned to set benchmark specifications for individual product types, such as EN 14314:2009 for phenolic foam insulation in Building Services applications.

Declaration of Performance (DoP) and CE Marking

The manufacturer of a construction product placed on the European market and covered by a hEN or European Technical Assessment (ETA) is required by the CPR to draw up a DoP. The aim is to ensure that the manufacturer takes responsibility for the conformity of the product to the hEN or ETA. CE Marking verifies that the manufacturer has strictly followed all the applicable procedures for drawing up the DoP and that the DoP is accurate and reliable.

Harmonised European Standards (hEN) eg EN 14314:2009

The CPD and the publishing of hENs introduced a common technical language with standardised methods of testing and declaring a construction products performance. These harmonised specifications have been developed and published by CEN – the Committee for European Standardisation. For example, within Building Services applications, the harmonised specifications for Phenolic, PIR, Mineral Wool and Flexible Elastomeric Foams all use the same European Standard for determining Declared Thermal Conductivity values (EN ISO 13787) and Fire Classification from reaction to fire tests (EN 13501-1).However, it should be noted that the test methods used to provide the data for these classification standards can vary from one hEN to another.

In summary, the introduction of hEN's has created a common European approach:

- To the way Regulatory requirements are expressed;
- To the Declaration of Performance (DoP) by a manufacturer;
- For clients to verify compliance and performance claims of manufacturers.

Full details can be found on the European Commission website www.ec.europa.eu

BS EN 14314:2009 +A1:2013

Thermal insulation products for building equipment and industrial installations – Factory made phenolic foam (PF) products – Specification.

NOTE 1 The above standard BS EN 14314:2009 +A1:2013 is the current and correct British and European Standard to assess phenolic foam pipe and duct insulation. The standard forms part of a suite of harmonised European Standards (hENs) to assess the performance of insulation materials used in the construction industry to facilitate CE Marking and compliance with the Construction Products Regulations.

NOTE 2 The harmonised standard BS EN 13166 relates to phenolic foam insulation used in construction and specifically excludes the use of insulation on building equipment and industrial installations and so should not be used to assess phenolic pipe and duct insulation.

Thermal Conductivity

BS EN 14314 has an established method of assessing thermal conductivity into the phenolic foam pipe insulation market:

• The measurement shall be in accordance with EN ISO 8497, EN 12667 or EN 12939

• The thermal conductivity shall be determined and verified to EN ISO 13787

• The aged value represents the time-averaged value over 25 years

• The declared thermal conductivity value shall be in accordance with the requirements of EN 14314

The declared thermal conductivity value for Phenblox® phenolic pipe support is 0.030 – 0.032 W/ m·K at 10°C to EN 14314 which is based on the time averaged value over 25 years, including a safety increment.

Fire & Smoke Performance

Reaction to Fire

The Euroclass system categorises construction products into one of seven reaction to fire classes ranging from the highest class of A1 to the lowest class of F, depending upon their performance in application, in defined tests or a defined combination of tests.

The reaction to fire classification for Phenblox® phenolic pipe support is determined by its performance in the Single Burning Item (SBI) test which measures Total Heat Release (THR), Fire Rate Growth Index (FIGRA) and Lateral Flame Spread (LFS). The highest Reaction to Fire classification available for Phenolic Foam insulation is B, in accordance with EN 14314 and EN 13501-1.

Smoke Production

In addition to the reaction to fire classes A to F, products subjected to the SBI test are also classified into one of three smoke production sub-classes ranging from the highest (best) class of s1 to the lowest (worst) class of s3.

Flaming Droplets / Particles

The final sub-classification for construction products subjected to the SBI test is for flaming droplets / particles which is also divided up into one of three classes ranging from the highest (best) class of d0 to the lowest (worst) class of d2.

Phenblox® phenolic pipe support easily achieves a BL-s1, d0 classification

The subscript L on BL indicates that the fire test has been carried out on pipe insulation as placed on the market, not a flat indicative sample.

***NOTE**. This is the highest/best Reaction to fire classification available to phenolic foam insulation under BS EN 14314.*

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