Irish Standard
I.S. EN 777-4:2009

Multi-burner gas-fired overhead radiant tube heater systems for non-domestic use - Part 4: System H - Safety

I.S. EN 777-4:2009

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English Version

Multi-burner gas-fired overhead radiant tube heater systems for non-domestic use - Part 4: System H - Safety

Tubes radiants suspendus à multi-brûleurs utilisant les combustibles gazeux à usage non-domestique - Partie 4 : Système H - Sécurité

Gasgeräte-Heizstrahler Dunkelstrahlersysteme mit mehreren Brennern mit Gebläse für gewerbliche und industrielle Anwendung - Teil 4: System H - Sicherheit

This European Standard was approved by CEN on 24 January 2009.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 777-4:2009) has been prepared by Technical Committee CEN/TC 180 “Domestic and non-domestic gas fired air heaters and non-domestic gas fired overhead radiant heaters”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2009, and conflicting national standards shall be withdrawn at the latest by September 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 777-4:1999.

This revision modifies EN 777-4:1999. It has been prepared to incorporate requirements for combustion products evacuation ducts, POCEDs, supplied as an integral part of the system to support the EU Directive 89/106/EEC on construction products under mandate M/105. To this end the systems within the scope of this standard are now defined as Type B_{52} rather than Type B_{22}.

Furthermore, the opportunity presented by this revision has been taken to update the standard in respect to EN 437:2003.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EC Directive(s).

For relationship with EC Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies the requirements and test methods for the construction, safety, classification and marking of non-domestic gas-fired overhead radiant tube systems incorporating two or more burner units with each burner under the control of an automatic burner control system, and operated by a single fan providing a single flue outlet, called system H and referred to in the body of the text as the “system”.

This standard is applicable to Type B_{52} systems (see 4.3) intended for use in other than domestic dwellings, in which the supply of combustion air and the evacuation of the products of combustion is achieved by mechanical means. This standard is applicable only to such systems that have fully pre-mixed gas/air burners.

This standard is not applicable to:

a) systems designed for use in domestic dwellings;

b) outdoor systems;

c) systems of heat input in excess of 120 kW (based on the net calorific value of the appropriate reference test gas);

d) systems having a draught diverter;

e) systems that are designed for continuous condensation within the flue system under normal operating conditions;

f) systems having combustion products evacuation ducts that are non-metallic.

This standard is applicable to systems which are intended to be type tested. It also includes requirements concerning the evaluation of conformity, including factory production control, but these requirements only apply to POCEDs and their associated terminals.

NOTE Requirements for systems which are not intended to be type tested would need to be subject to further consideration.

Requirements concerning the rational use of energy have not been included in this European Standard.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the editions cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 88-1:2007, *Pressure regulators and associated safety devices for gas appliances - Part 1: Pressure regulators for inlet pressures up to and including 500 mbar*

EN 126:2004, *Multifunctional controls for gas burning appliances*

EN 161:2007, *Automatic shut-off valves for gas burners and gas appliances*

EN 257, *Mechanical thermostats for gas-burning appliances*

EN 298:2003, *Automatic gas burner control systems gas burners and gas burning appliances with or without fans*

EN 437:2003, *Test gases - Test pressures - Appliance categories*

EN 10226-1:2004, *Pipe threads where pressure tight joints are made on the threads – Part 1: Taper external threads and parallel internal threads - Dimensions, tolerances and designation*

EN 10226-2:2005, *Pipe threads where pressure tight joints are made on the threads – Part 2: Taper external threads and taper internal threads - Dimensions, tolerances and designation*

EN 60335-1:2002, H*ousehold and similar electrical appliances – Safety - Part 1: General requirements*

EN 60335-2-102:2006, H*ousehold and similar electrical appliances – Safety - Part 2-102: Particular requirements for gas, oil and solid-fuel burning having electrical connections*

EN 60529:1992, *Degrees of protection provided by enclosures (IP code)*

EN 60584-1:1995, *Thermocouples — Part 1: Reference tables*

EN 60584-2:1993, *Thermocouples — Part 2: Tolerances*

EN ISO 228-1:2003, *Pipe threads where pressure-tight joints are not made on the threads - Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*

EN ISO 3166-1:2006, *Codes for the representation of names of countries and their subdivisions – Part 1: Country codes (ISO 3166-1:2006)*

EN ISO 6976:2005, *Natural gas - Calculation of calorific values, density, relative density and Wobbe index from composition (ISO 6976:1995 including Corrigendum 1:1997, Corrigendum 2:1997 and Corrigendum 3:1999)*

ISO 7005-1:1992, *Metallic flanges - Part 1: Steel flanges*

ISO 7005-2:1988, *Metallic flanges - Part 2: Cast iron flanges*

ISO 7005-3:1988, *Metallic flanges - Part 3: Copper flanges and composite flanges*

CR 1404:1994, *Determination of emissions from appliances burning gaseous fuels during type testing*

3 Terms and definitions

For the purposes of this standard the following terms and definitions apply.

3.1 System and its constituent parts

3.1.1
overhead radiant tube heater
gas fired appliance intended for installation above head level which is designed to heat the space beneath by radiation by means of a tube or tubes, heated by the internal passage of combustion products

3.1.2
multi-burner systems
those radiant tube heater systems which employ two or more burner units with each unit incorporating independent flame monitoring.

NOTE The units may be located in one or more sections of tubing. One or more fans may be used to assist in the evacuation of products of combustion or the supply of combustion air