Ventilation for buildings - Sheet metal air ducts with rectangular section - Requirements for strength and leakage

Ventilation for buildings - Sheet metal air ducts with rectangular section - Requirements for strength and leakage

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 1507:2006 sisaldab Euroopa standardi EN 1507:2006 ingliskeelset teksti. Käesolev dokument on jõustatud 29.05.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 1507:2006 consists of the English text of the European standard EN 1507:2006. This document is endorsed on 29.05.2006 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: The European Standard applies to rectangular ductwork of sheet metal used in air conditioning and ventilation systems defined in the principal scope of CEN/TC 156.	**Scope:** The European Standard applies to rectangular ductwork of sheet metal used in air conditioning and ventilation systems defined in the principal scope of CEN/TC 156.

ICS 91.140.30

Võtmesõnad:

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1507

March 2006

ICS 91.140.30

English Version

Ventilation for buildings - Sheet metal air ducts with rectangular section - Requirements for strength and leakage

Ventilation des bâtiments - Conduits aérauliques rectangulaires en tôle - Prescriptions pour la résistance et l'étanchéité

Lüftung von Gebäuden - Rechteckige Luftleitungen aus Blech - Anforderungen an Festigkeit und Dichtheit

This European Standard was approved by CEN on 16 February 2006.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 1507:2006: E

Contents

Page

Foreword

This European Standard (EN 1507:2006) has been prepared by Technical Committee CEN/TC 156 “Ventilation for buildings”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by September 2006, and conflicting national standards shall be withdrawn at the latest by September 2006.

This European Standard is one of a series of standards for ductwork used for ventilation and air conditioning of buildings for human occupancy.

The position of this European Standard in the field of mechanical services is shown in Figure 1.

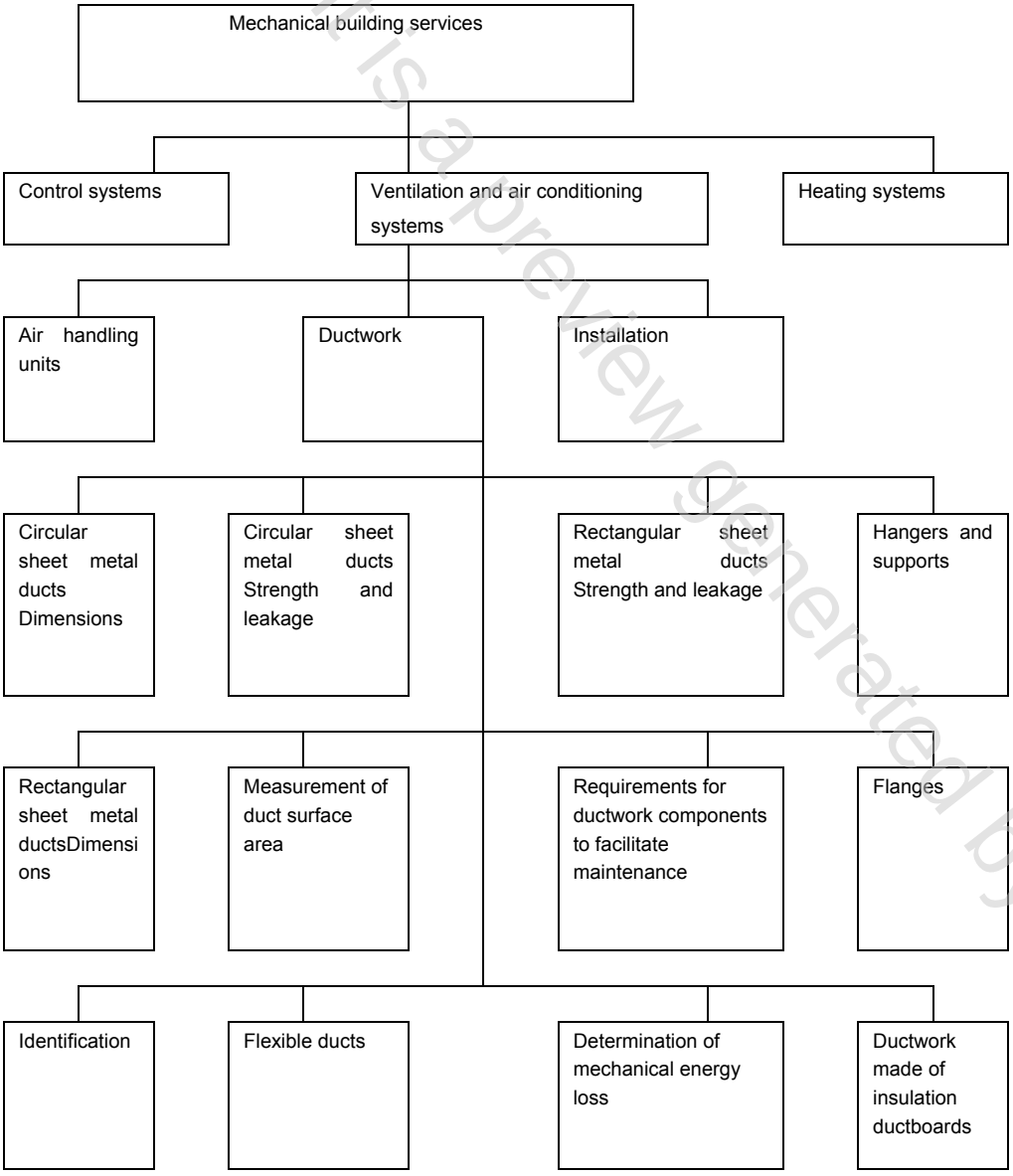

Figure 1 — Position of EN 1507 in the field of mechanical services

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, 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 United Kingdom.

Introduction

This European Standard specifies requirements and test methods for strength and air leakage of rectangular ductwork. The objective is to establish the mechanical strength and leakage necessary to verify the fitness for the intended service as installed ductwork.

Testing of leakage can be done on site, but testing of strength (deflection, bulging and caving) is confined to laboratories and manufacturers premises.

1 Scope

The European Standard applies to rectangular ductwork of sheet metal used in air conditioning and ventilation systems defined in the principal scope of CEN/TC 156.

2 Normative references

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

EN 14239, *Ventilation for buildings — Ductwork — Measurement of ductwork surface area*

ISO 5221, *Air distribution and air diffusion — Rules to methods of measuring air flow rate in an air handling duct*

3 Terms, definition and symbols

For the purposes of this European Standard, the following terms, definitions and symbols apply.

3.1
ductwork surface area
A
surface area (m^2) of the ductwork determined according to EN 14239

3.2
total joint length
L
length (m) of joints resulting from the installation of the ductwork

3.3
test pressure
p_{test}
static air pressure difference (Pa) between the ductwork to be tested and the surrounding air

3.4
design operating pressure
p_{design}
maximum static pressure difference (Pa) for which the installed ductwork is designed to operate under normal conditions

3.5
static gauge pressure limit
ps
maximum design operating pressure (Pa) for the ductwork according to its air tightness class. The pressure classes and corresponding static pressure limits, positive and negative, are defined in Table 1

3.6
leakage flow rate
qv air leakage flow rate of the ductwork ($m^3 \cdot s^{-1}$) at a given test pressure,

$Q_{measured}$ air leakage flow rate before correction