SLOVENSKI STANDARD
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Prezračevanje stavb - Kanali in elementi kanalov, klasifikacija tesnosti in preskušanje

Ventilation for buildings - Ducts and ductwork components, leakage classification and testing

Lüftung von Gebäuden - Luftleitungen und Luftleitungsbauteile, Klassifizierung entsprechend der Luftdichtheit und Prüfung

Ventilation des bâtiments - Composants de réseaux, classification de l'étanchéité et essais

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Ventilation for buildings - Ducts and ductwork components, leakage classification and testing

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Lüftung von Gebäuden - Luftleitungen und Luftleitungsbauteile, Klassifizierung entsprechend der Luftdichtheit und Prüfung

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Foreword

This document (EN 15727:2010) 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of an identical text or by endorsement, at the latest by November 2010, and conflicting national standards shall be withdrawn at the latest by November 2010.

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Introduction

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

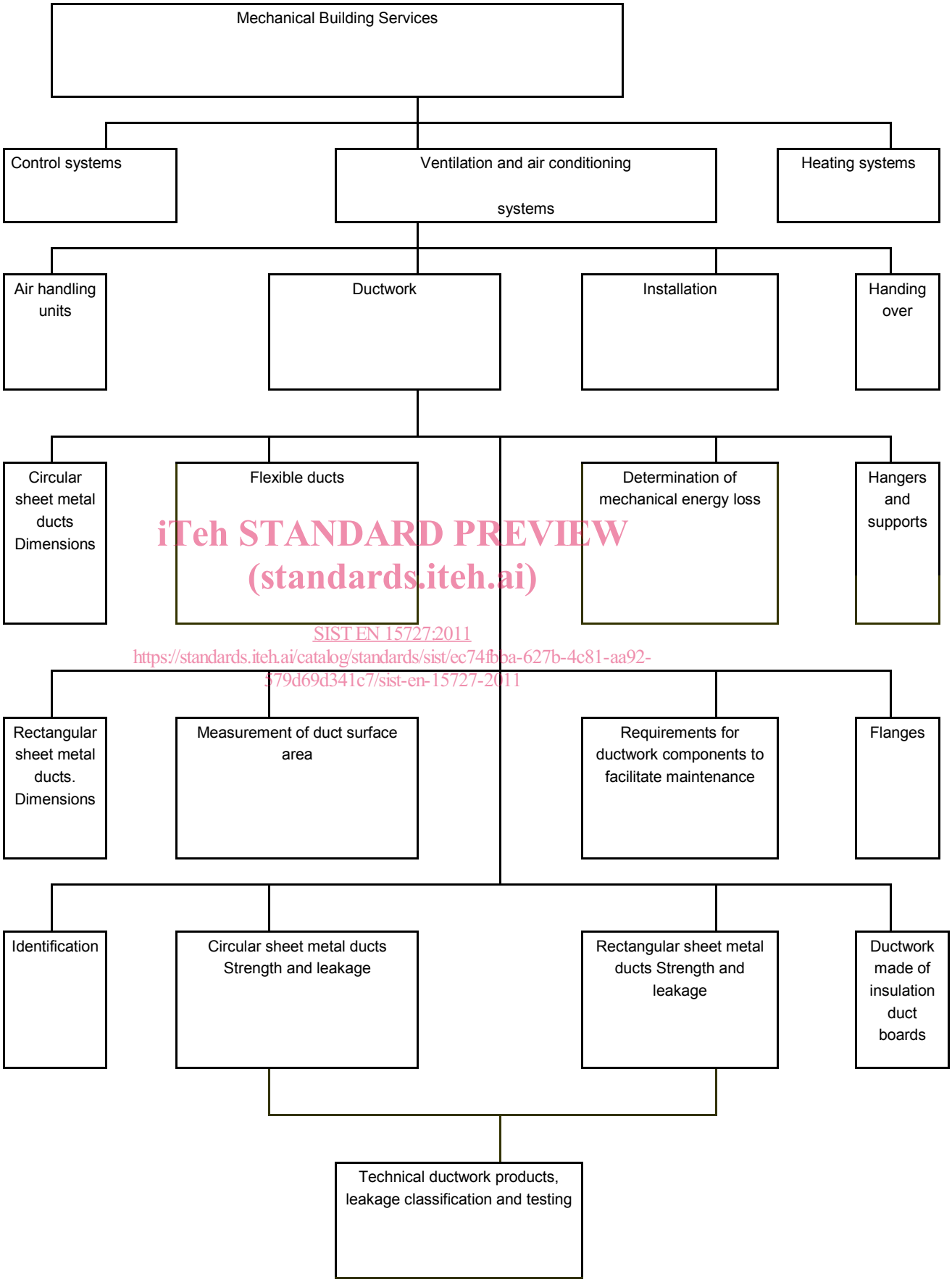

Figure 1 — Position of this standard in the field of mechanical services

1 Scope

This European Standard applies to technical ductwork products, intended for installation in ductwork conforming to EN 1505 and EN 1506, used in air conditioning and ventilation systems defined in the scope of CEN/TC 156. This document specifies the leakage requirements for technical ductwork products, i.e. components in the ductwork that has more functions than conveying air, such as sound attenuators, filter boxes and duct fans, etc.

The following products are not within the scope of this document:

— ductwork components like bends, reducers, ducts and T-pieces. EN 12237 and EN 1507 apply;

— flexible ducts according to EN 13180;

— ducts made of insulation ductboards according to EN 13403;

— dampers according to EN 1751;

— air handling units according to EN 1886.

This document is a parallel standard to EN 12237, EN 1507 and EN 1751, based on the same leakage classification.

2 Normative references

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

EN 1505, *Ventilation for buildings — Sheet metal air ducts and fittings with rectangular cross section — Dimensions*

EN 1506, *Ventilation for buildings — Sheet metal air ducts and fittings with circular cross-section — Dimensions*

EN 12792:2003, *Ventilation for buildings — Symbols, terminology and graphical symbols*

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12792:2003 and the following apply.

3.1.1
nominal diameter
d_n
nominal diameter according to EN 1506 for ductwork of circular cross-section

3.1.2
side lengths a and b
side lengths according to EN 1505 for a ductwork of rectangular cross-section

3.1.3
total joint length
L
total length of the periphery of the joints of the connections of the technical products

3.1.4
product surface area
A_p
actual external envelope surface area for the technical ductwork product under test, excluding possible flanges and insertion parts

3.1.5
virtual product surface area
A_c
quantity used for calculation of the permitted leakage for the product under test according to this document

NOTE A_c may deviate from the product surface area.

3.1.6
test pressure
p_{test}
static pressure difference between the pressure within the product to be tested and the pressure of the ambient air

3.1.7
static pressure limit
p_s
maximum design operating pressure for the ductwork according to its air tightness class

NOTE The static pressure limits, positive and negative, for the appropriate air tightness class are specified in Table 3 and Table 4.

3.1.8
air leakage rate
q_{vl}
air leakage flow rate of the product under test

3.1.9
measured air leakage rate
$q_{vlmeasured}$
air leakage flow rate before correction of temperature and atmospheric pressure (see 7.4)

3.1.10
air temperature
t
temperature of the ambient air during the test

3.1.11
atmospheric pressure
p_a
barometric pressure of ambient air during the test

3.1.12
tightness factor
f_c
leakage flow rate per unit surface area of the product