ICS 13.110
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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 25749.6-2012

Safety of machinery -- Evaluation of the emission of airborne hazardous substances -- Part 6: Test bench method for the measurement of the separation efficiency by mass of air cleaning systems with ducted outlet

Issued on: May 11, 2012 **Implemented on: December 1, 2012**

Issued by: General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China, Standardization Administration of the People's Republic of China

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Foreword

GB/T 25749 "Assessment of Hazardous Substances in Airborne Airborne Discharge" consists of the following nine parts.

- Part 1. Selection of test methods;

- Part 2. Tracer gas method for measuring emissions of a given pollutant;

- Part 3. Test bench method for measuring the emission rate of a given pollutant;

- Part 4. Tracer method for measuring the efficiency of exhaust system capture;

- Part 5. Test bench method for measuring the quality separation efficiency of air purification systems without conduit exports;

- Part 6. Test bench method for measuring the quality separation efficiency of air purification systems with conduit outlet;

- Part 7. Test bench method for measuring pollutant concentration parameters;

- Part 8. Indoor method for measuring pollutant concentration parameters;

Part 9. Purification Index.

This part is Part 6 of GB/T 25749.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This section is equivalent to the use of the international standard ISO 29042-6..2010 "Assessment of Hazardous Substances in Airborne Airborne Discharge Article 6

Part. Test bench method for measuring the quality separation efficiency of air purification systems with conduit outlet.

This part is equivalent to ISO 29042-6..2010. For ease of use, this section has made the following editorial changes.

- The terms of reference for ISO /TC199 and the relationship between ISO 29042-6 and EN1903-7 have been deleted

content;

--- 3.1 Note. "Percentage of mass separation efficiency" is changed to "mass separation efficiency" and is added after "100" in formula (1)

"%", Other similar cases do the same treatment;

--- delete footnote 1 in Chapter 7.

This part of the National Machinery Safety Standardization Technical Committee (SAC/TC208) proposed and centralized.

This part of the drafting unit. Shenzhen City, China Testing Co., Ltd., mechanical science research institute, Nanjing Forestry University, optical machine engineering research

Institute.

This part of the main drafters. Guo Bing, Fu Rui, Ju Ronghua, Sun Huashan, Ning Yan, Zhou Hongping, Li Qin, Zhang Xiaofei, Chen Nengyu, Liu Zhiyong.

Introduction

The safety standard structure for the machinery sector is as follows.

- Class A standard (basic safety standard), given the basic concepts, design principles and general characteristics applicable to all machinery;

- Class B standard (general safety standard), a safety feature involving a mechanical or a wider range of safety devices.

* Class B1, specific safety features (eg safety distance, surface temperature, noise) standard;

* Class B2, safety devices (eg hands operated devices, interlocks, pressure sensitive devices, protective devices)

- Class C standards (machine safety standards) that specify a detailed safety requirement for a particular machine or group of machines.

According to GB/T 15706, this part belongs to class B standard.

The terms of this section may be supplemented or modified by category C standards.

For machines designed and constructed in accordance with Class C standards, if the provisions of Class C standards are inconsistent with Class A or Class B criteria,

Using Class C standards.

Mechanical safety airborne emissions of harmful substances

Evaluation Part 6. Measuring the outlet with conduit

A Test - bed Method for Quality Separation Efficiency of Air Purification System

1 Scope

This part of GB/T 25749 specifies the quality separation of an air purification system with a conduit outlet at a given operating condition

Efficient test bench method. The method is suitable for the purification of airborne aerosols (smoke, dust, soot, fine mist), steam or gas systems.

The quality separation efficiency of the air purification system used for the intended use is measured and can be used to.

a) Evaluation of air purification system performance;

b) Improved assessment of air purification systems;

c) Comparison between air purification systems;

d) classify the air purification system according to the quality separation efficiency;

e) Determine the technical level of the same intended use of the air purification system according to the quality separation efficiency.

2 normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article

Pieces. For undated references, the latest edition (including all modifications) applies to this document.

ISO 12100 Mechanical Safety Design General Risk Assessment and Risk Reduction (Safetyofmachinery-General

principlesfordesign-Riskassessmentandriskreduction

3 terms and definitions

ISO 12100 and the following terms and definitions apply to this document.

3.1

Quality separation efficiency separationefficiencybymass

etas

< Air purification system> The pollutant mass (m3) filtered by the air purification system for a given contaminant at a given time

Into the air purification system of pollutant mass (m1) ratio.

Note. The percentage of the mass separation efficiency of the air purification system can be expressed as follows.

etas =

m3

m1 x

100% (1)

4 principle

The principle of the measurement method is to operate the air purification system on the test bench under specified conditions and to determine the upstream and lower air purification systems

The quality of the test substance.

The test substance may be an actual contaminant or a substitute, preferably a low toxicity and consistent with the target of the measurement method.