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Interested committees:

Title: Draft BS ISO 13347-3 Fans - Determination of fan sound power levels under standardized laboratory conditions. Part 3: Enveloping surface methods.

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



DRAFT International Standard

ISO/DIS 13347-3

Fans — Determination of fan sound power levels under standardized laboratory conditions —

Part 3: Enveloping surface methods

ICS: 23.120; 17.140.20

ISO/TC 117

Secretariat: **BSI**

Voting begins on:
2025-01-23

Voting terminates on:
2025-04-17

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Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Acoustic environment and ducting	2
3.1 General	2
3.2 Test installation	3
3.2.1 General	3
3.2.2 Installation category A	3
3.2.3 Installation category B	3
3.2.4 Installation category C	4
3.2.5 Casing sound power, Installation category D	4
3.2.6 Installation category E	4
3.2.7 Ducted small fans	4
3.2.8 End Reflection correction	4
3.3 Fan-powered exhaust ventilators	4
3.4 Drive and transmission noise	5
4 Determination of measurement surface	5
4.1 General	5
4.2 Measurement surfaces	5
4.3 Arrangement of measuring points (rectangular parallelepiped)	5
4.4 Arrangement of measuring points (large sphere or hemisphere)	9
4.4.1 Hemispherical measurement surface (installation type A and type E)	9
4.4.2 Characteristic dimension D_o (installation types B, C and D)	9
4.4.3 Hemispherical and spherical measurement surfaces (installation types B, C and D)	10
4.4.4 Location of microphone positions	10
4.5 Arrangement of measuring points (small hemisphere)	15
5 Test method	17
6 Acoustic tests: determination of sound power level	18
6.1 General	18
6.2 Calculation	18
6.2.1 Calculation of surface sound pressure level	18
6.2.2 Calculation of sound power level	19
6.3 Uncertainty of measurements	19
Annex A (normative) Determination of environmental correction K_2	20
Bibliography	21

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 13347-3 was prepared by Technical Committee ISO/TC 117, *Fans*.

ISO 13347 consists of the following parts, under the general title *Fans — Determination of fan sound power levels under standardized laboratory conditions*:

- *Part 1: General overview*
- *Part 2: Reverberant room method*
- *Part 3: Enveloping surface methods*
- *Part 4: Sound intensity method*

Introduction

This part of ISO 13347 establishes a method for determining the sound power level of a fan. The method is reproducible in all laboratories which are qualified according to the requirements of this part of ISO 13347.

The method employs standard sound measurement instrumentation, applied to rooms which are restricted in certain acoustic properties. The test set-ups are generally designed to represent the physical orientation of a fan as installed, in accordance with ISO 5801 or ISO 13350.

Since sound power levels are considered independent of the acoustic environment around the fan, a good comparison may be made between two or more fans proposed for any specific air performance condition. Moreover, these values establish an accurate base for estimating the acoustical outcome of the fan installation in terms of sound pressure levels. A successful estimate of sound pressure levels requires extensive information on the fan and the environment in which it is to be located.

It is often advantageous for the equipment user to employ acoustical consultation to ensure that all factors which affect the final sound pressure levels are considered. More detailed information on the complexity of this situation may be found in acoustic text books.

Fans — Determination of fan sound power levels under standardized laboratory conditions —

Part 3: Enveloping surface methods

1 Scope

This part of ISO 13347 applies to fans as defined in ISO 5801 and ISO 13349. It is limited to the determination of airborne sound emission for the specified set-ups. Vibration is not measured, nor is the sensitivity of airborne sound emission to vibration effects determined.

The sizes of fan which can be tested in accordance with this part of ISO 13347 are limited only by the practical aspects of the test set-up. Dimensional limitations, test fan dimensions, and air performance will control the room size, power and mounting requirements for the test fan. (Small fans may be tested according to this part of ISO 13347 or to ISO 10302, according to usage).

The test arrangements in this part of ISO 13347 establish the laboratory conditions necessary for a successful test. Rarely will it be possible to meet these requirements in situ and this part of ISO 13347 is not intended for field measurements. Intending users are reminded that, in these situations, there may well be additional acoustic system effects where inlet and outlet conditions at the fan are less than ideal.

The enveloping surface methods may be used for the determination of open inlet and/or open outlet sound power level of fans for the standardized installation category's given in [3.1](#).

An estimation (with increased uncertainty) of ducted sound power for fans too small, or otherwise inconvenient, for testing by the in-duct method described in ISO 5136 may also be obtained by the addition of end reflection corrections (see Annex C of ISO 13347-1).

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.

ISO 3744, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering method in an essentially free field over a reflecting plane*

ISO 5136, *Acoustics — Determination of sound power radiated into a duct by fans and other air-moving devices — In-duct method*

ISO 5801, *Fans — Performance testing using standardized airways*

ISO 10302, *Acoustics — Method for the measurement of airborne noise omitted by small air-moving devices*

ISO 13347-1, *Fans — Determination of fan sound power levels under standardized laboratory conditions — Part 1: General overview*

ISO 13349-1, *Fans — Vocabulary and definitions of categories — Part 1: Vocabulary*

ISO 13350, *Fans — Performance testing of jet fans*