

# JIS

JAPANESE  
INDUSTRIAL  
STANDARD

Translated and Published by  
Japanese Standards Association

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JIS T 8161-1 : 2020

(JSAA/JSA)

**Acoustics — Hearing protectors —  
Part 1: Subjective method for the  
measurement of sound attenuation**

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ICS 13.340.20

Reference number : JIS T 8161-1 : 2020 (E)

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T 8161-1 : 2020

Date of Establishment: 2020-04-25

Date of Public Notice in Official Gazette: 2020-04-27

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

Technical Committee on Safety

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JIS T 8161-1 : 2020, First English edition published in 2021-06

Translated and published by: Japanese Standards Association  
Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

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Printed in Japan

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## Foreword

This Japanese Industrial Standard has been established by the Minister of Health, Labour and Welfare and the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by Japan Safety Appliance Association (JSAA)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act. This Standard partially replaces **JIS T 8161:1983**, which has been withdrawn.

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**JIS T 8161** series consists of the following 2 parts under the general title *Acoustics — Hearing protectors —* :

*Part 1: Subjective method for the measurement of sound attenuation*

*Part 2: Estimation of effective A-weighted sound pressure levels when hearing protectors are worn*

# Acoustics — Hearing protectors — Part 1 : Subjective method for the measurement of sound attenuation

## Introduction

This Japanese Industrial Standard has been prepared based on **ISO 4869-1** : 2018, Edition 2, with some changes in the technical contents to increase convenience of use.

The dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JA.

## 1 Scope

This Standard specifies a subjective method for measuring sound attenuation of hearing protectors at the threshold of hearing. This Standard is applicable to hearing protectors, including earplugs and earmuffs, that are commonly used to reduce the noise to which ear is exposed.

The method is a laboratory method designed to yield reproducible values under controlled measurement conditions. The values reflect the attenuating characteristics of the hearing protector only to the extent that users wear the device in the same manner as did the test subjects.

For a more representative indication of field performance the methods of **ISO/TS 4869-5** can be used.

This test method yields data which are collected at low sound pressure levels (close to the threshold of hearing) but which are also representative of the attenuation values of hearing protectors at higher sound pressure levels. An exception occurs in the case of amplitude-sensitive hearing protectors for sound pressure levels above the point at which their level-dependent characteristics become effective. At those sound pressure levels the method specified in this Standard is inapplicable.

**NOTE 1** Due to masking from physiological noise in the occluded ear tests, sound attenuations below 500 Hz can be overestimated by a few decibels.

**NOTE** The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 4869-1 : 2018 *Acoustics — Hearing protectors — Part 1 : Subjective method for the measurement of sound attenuation* (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.