

AS/NZS ISO 16976.4:2024
ISO 16976-4:2023



Australian/New Zealand Standard™

Respiratory protective devices — Human factors

**Part 4: Work of breathing and breathing resistance: physiologically
based limits**



AS/NZS ISO 16976.4:2024

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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee SF-010, Occupational Respiratory Protection to supersede SA/SNZ TS ISO 16976.4:2021, *Respiratory protective devices — Human factors, Part 4: Work of breathing and breathing resistance: Physiologically based limits*.

The objective of this document is to describe how to calculate the work performed by a person's respiratory muscles with and without the external respiratory impediments that are imposed by RPD of all kinds, except diving equipment. This document describes how much additional impediment people can tolerate and contains values that can be used to judge the acceptability of an RPD.

This document is identical with, and has been reproduced from ISO 16976-4:2023, *Respiratory protective devices – Human factors – Part 4: Work of breathing and breathing resistance: physiologically based limits*.

As this document has been reproduced from an international document, a full point substitutes for a comma when referring to a decimal marker.

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 94, *Personal safety — Personal protective equipment*, Subcommittee SC 15, *Respiratory protective devices*.

This first edition of ISO 16976-4 cancels and replaces the second edition of the Technical Specification ISO/TS 16976-4:2019, which has been technically revised.

The main changes are as follows:

- the document has been editorially revised.

A list of all parts in the ISO 16976 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

A respiratory protective device (RPD) is designed to offer protection from the inhalation of hazardous substances. However, this protection requires extra effort by the respiratory muscles as they need to generate higher pressures to overcome the associated respiratory loads imposed by the RPD.

NOTES