
**Respiratory protective devices —
Performance requirements —**

Part 7:

**Special application marine, mining,
welding, and abrasive blasting
- Filtering RPD and supplied
breathable gas RPD**

Appareils de protection respiratoire — Exigences de performances —

*Partie 7: Applications particulières pour environnements marins,
exploitation minière, soudage et projection d'abrasifs - APR alimentés
en gaz respirables et APR filtrants*

[ISO 17420-7:2021](https://standards.iteh.ai/standards/iso/3f707c69-93ef-40c1-836c-cdc6c43feb8/iso-17420-7-2021)

<https://standards.iteh.ai/catalog/standards/iso/3f707c69-93ef-40c1-836c-cdc6c43feb8/iso-17420-7-2021>



iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO 17420-7:2021](https://standards.iteh.ai/catalog/standards/iso/3f707c69-93ef-40c1-836c-cdc6c43feb8/iso-17420-7-2021)

<https://standards.iteh.ai/catalog/standards/iso/3f707c69-93ef-40c1-836c-cdc6c43feb8/iso-17420-7-2021>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Classification overview	3
4.1 General.....	3
4.2 Supplied breathable gas RPD.....	3
4.3 Filtering RPD.....	4
5 General requirements for RPD	4
6 Basic requirements for supplied breathable gas RPD or filtering RPD	4
7 Special application for supplied breathable gas RPD for marine, mining, welding, abrasive blasting and filtering RPD for mining, welding, abrasive blasting	4
7.1 Special application – Requirement matrices.....	4
7.1.1 General.....	4
7.1.2 Supplied breathable gas RPD.....	5
7.1.3 Filtering RPD.....	9
7.2 Requirements for special application RPD for marine, mining, welding and abrasive blasting.....	12
7.2.1 Thermal requirements.....	12
7.2.2 Resistance to flame of fabric materials – Supplied breathable gas RPD.....	13
7.2.3 Radiant heat.....	14
7.2.4 Resistance to hot particles (embers/sparks/ash) – Supplied breathable gas RPD and filtering RPD.....	14
7.2.5 Chemical resistance of materials – Supplied breathable gas RPD.....	15
7.2.6 Chemical resistance of visor only – Supplied breathable gas RPD and filtering RPD.....	16
7.2.7 Contact with hot and cold surfaces generated by the RPD.....	17
7.2.8 Avoidance of frictional sparks – Supplied breathable gas RPD and filtering RPD.....	17
7.2.9 Mechanical Requirement.....	17
7.2.10 Requirements for audible warning devices – Supplied breathable gas RPD.....	18
7.2.11 Practical performance requirements – Supplied breathable gas RPD and filtering RPD.....	19
7.2.12 Requirements for RPD used in explosive atmospheres – Supplied breathable gas RPD and filtering RPD.....	21
7.2.13 Antistatic properties – Supplied breathable gas RPD and filtering RPD.....	21
7.3 Pre-conditioning of supplied breathable gas RPD and filtering RPD.....	22
7.3.1 General.....	22
7.3.2 Exposure to vibration and shock – Marine – Supplied breathable gas RPD.....	22
7.3.3 Exposure to vibration and shock – Mining – Supplied breathable gas RPD and filtering RPD.....	23
7.3.4 Resistance to changes in atmospheric pressure – Supplied breathable gas RPD and filtering RPD.....	23
7.3.5 Enhanced resistance to corrosion – Intermittent exposure – Supplied breathable gas RPD and filtering RPD.....	24
7.3.6 Exposure to impact from drop.....	24
7.3.7 Exposure to abrasive blasting – Supplied breathable gas RPD and filtering RPD.....	25
8 Testing	26
8.1 General.....	26
8.2 Inspection.....	26
8.3 Hose permeation.....	26

8.3.1	Hose material.....	26
8.3.2	Sampling air.....	26
8.3.3	Test equipment.....	27
8.4	Testing of leak tightness using positive pressure.....	29
9	Marking.....	29
10	Information supplied by the RPD manufacturer.....	30

iTeh Standards
(<https://standards.itih.ai>)
Document Preview

[ISO 17420-7:2021](https://standards.itih.ai/catalog/standards/iso/3f707c69-93ef-40c1-836c-cdc6c43feb8/iso-17420-7-2021)

<https://standards.itih.ai/catalog/standards/iso/3f707c69-93ef-40c1-836c-cdc6c43feb8/iso-17420-7-2021>

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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: 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*.

A list of all parts in the ISO 17420 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.