AS ISO 8927:2021
ISO 8927:1991

Australian STANDARD®

STANDARDS Australia

Earth-moving machinery — Machine availability — Vocabulary

AS ISO 8927:2021

This Australian Standard ® was prepared by ME-063, Earthmoving Equipment. It was approved on behalf of the Council of Standards Australia on 26 May 2021.

This Standard was published on 4 June 2021.

The following are represented on Committee ME-063:

Australian Industry Group
Better Regulation Division — SafeWork NSW
Construction and Mining Equipment Industry Group
Department of Regional NSW
Department of Resources, Qld
Engineers Australia
Institute of Instrumentation, Control & Automation Australia
Minerals Council of Australia
Mining Electrical and Mining Mechanical Engineering Society
University of Queensland

This Standard was issued in draft form for comment as DR AS ISO 8927:2021.

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:
www.standards.org.au

ISBN 978 1 76113 369 5

Earth-moving machinery — Machine availability — Vocabulary

First published as AS ISO 8927:2021.

Preface

This Standard was prepared by the Standards Australia Committee ME-063, Earthmoving Equipment.

The objective of this document is to define the generally recognized terms and definitions relating to the availability of earth-moving machinery to assist in the communication and understanding of such terms.

This document applies to earth-moving machinery as defined in ISO 6165.

Annex A provides a means of identifying the field of terms to be used and standardized to clarify the relationships between the terms.

This document is identical with, and has been reproduced from, ISO 8927:1991, *Earth-moving machinery — Machine availability — Vocabulary*.

As this document has been reproduced from an International Standard, the following applies:

(a) In the source text "this International Standard" should read "this document".

(b) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms "normative" and "informative" are used in Standards to define the application of the appendices or annexes to which they apply. A "normative" appendix or annex is an integral part of a Standard, whereas an "informative" appendix or annex is only for information and guidance.

Contents

Preface ..... **ii**

Foreword ..... **iv**

1 Scope **1**

2 Normative reference **1**

3 Terms and definitions **1**

3.1 General terms 1
3.2 Availability terms 1
3.3 Reliability terms 2
3.4 Failure terms 2
3.5 Serviceability terms 4
3.6 Time terms 6

Annex A (informative) **Relationships between terms relating to machine availability of earth-moving machinery** **10**

Alphabetical index **13**

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.

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.

International Standard ISO 8927 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Sub-Committee SC 3, *Operation and maintenance*.

Annex A of this International Standard is for information only.

Australian Standard®

Earth-moving machinery — Machine availability — Vocabulary

1 Scope

This International Standard defines the generally recognized terms and definitions relating to the availability of earth-moving machinery to assist in the communication and understanding of such terms.

It applies to earth-moving machinery as defined in ISO 6165.

Annex A provides a means of identifying the field of terms to be used and standardized, to clarify the relationships between the terms.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 6165 : 1987, *Earth-moving machinery — Basic types — Vocabulary.*

3 Terms and definitions

3.1 General terms

3.1.1
item
Either a general term or an individual term which is the object of availability and reliability considerations.

3.2 Availability terms

3.2.1
availability
Probability of a repairable item being operable when it is required to operate. Availability is the total characteristics of reliability, serviceability and accessibility of the item. Availability can be detailed as instantaneous availability and mean availability.

3.2.2
instantaneous availability
Probability of a repairable item maintaining its function at a given or specified moment.

3.2.3
mean availability
Ratio of the total accumulated time an item has been in operation to the total time it could have been in operation if it operated continuously. Mean availability can be detailed as inherent availability and operational availability.

3.2.4
inherent availability
Measure of mean availability; the inherent availability, A_i, is calculated as shown in the following formula:

$$A_i = \frac{\text{MTBF}}{\text{MTBF} + \text{MTTR}}$$