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Structures for mine shafts —

Part 1: Vocabulary

Structures de puits de mine —

Partie 1: Vocabulaire

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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 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 82, *Mining*.

A list of all parts in the ISO 19426 series can be found on the ISO website.

Introduction

Many mining companies, and many of the engineering companies that provide designs for mines, operate globally so ISO 19426 was developed in response to a desire for a unified global approach to the safe and robust design of structures for mine shafts. The characteristics of ore bodies, such as their depth and shape, vary in different areas so different design approaches have been developed and proven with use over time in different countries. Bringing these approaches together in ISO 19426 will facilitate improved safety and operational reliability.

The majority of the material in ISO 19426 deals with the loads to be applied in the design of structures for mine shafts. Some principles for structural design are given, but for the most part it is assumed that local standards will be used for the structural design.

Structures for mine shafts —

Part 1: Vocabulary

1 Scope

This document specifies the terms and definitions related to the structures for mine shafts, used throughout ISO 19426.

Terms used in mining can vary from conventional engineering usage, and they vary quite considerably between different countries. For this reason, alternative terms are provided in many of the entries. The preferred terms, given in bold type, are those used throughout ISO 19426.

It is assumed that users of this document are familiar with mining, so common terms with normal dictionary usage are not defined. Also, no definitions are provided for terms that can be widely used in mining but are not explicitly used in ISO 19426.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

— IEC Electropedia : available at http://www.electropedia.org

3.1
bank level
shaft collar
top of the shaft

3.2
bank door
collar door
shaft door
door installed at *bank level* (3.1) that prevents personnel, equipment and material from falling down the shaft

3.3
bottom transom
structural member, or group of members, located at the bottom of the *bridle* (3.7) and used to transfer *underslung loads* (3.85) or tail-rope loads to the *bridle hangers* (3.8)

Note 1 to entry: See Figures 1, 2 and 3.

3.4
box front
gate
structure located at the lower end of a *rock pass* (3.62) used to control *rock* (3.61) flow

3.5
brattice screen
screen to partition off a portion of the shaft to prevent falling objects or spillage moving from one area of the shaft to another

Note 1 to entry: This is usually placed around personnel hoisting compartments to ensure safe hoisting conditions.

3.6
brattice wall
airtight dividing wall partitioning a shaft into two distinct ventilation compartments, one being an upcast compartment and the other a downcast compartment

3.7
bridle
structural frame that includes the *top transom* (3.81), the *bottom transom* (3.3) and the *bridle hangers* (3.8) to form a frame that carries the *cage* (3.11) or *skip* (3.73) body

Note 1 to entry: See Figures 1, 2 and 3.

3.8
bridle hanger
structural member, or group of members, that transfers loads between the *top transom* (3.81) and *bottom transom* (3.3)

Note 1 to entry: See Figures 1, 2 and 3.

3.9
brow beam
beam that supports the concrete layer that stabilizes the hanging wall at a station

3.10
bunton
structural member (usually horizontal) that primarily provides support to the *conveyance* (3.15) *guides* (3.38)

3.11
cage
single or multiple deck *conveyance* (3.15) used for the transportation of personnel, equipment or material (or both) in the shaft

Note 1 to entry: See Figure 1.

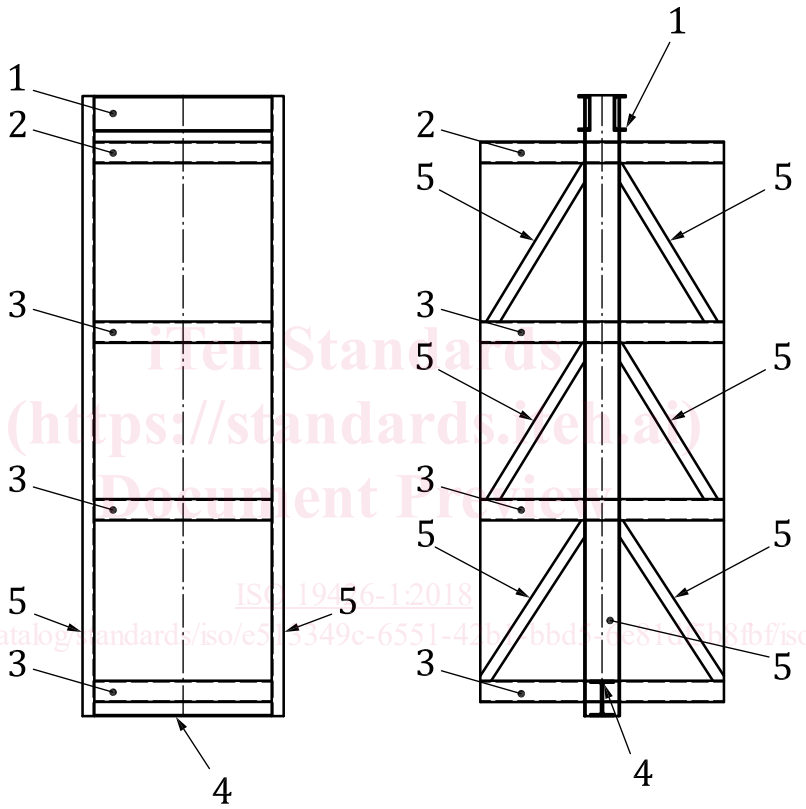
3.12
camelback
raised portion of the path traversed by a roller, used for tipping hoppers in *decline shafts* (3.21) or for providing a gravity locking mechanism on *skips* (3.73) in vertical shafts

3.13
canopy
cover or roof structure, offering protection to persons on the top deck of the *stage* (3.75) or on a *conveyance* (3.15)

3.14
catch plate
spectacle plate
device for operating and supporting the rope-detaching hook in a final *overwind* (3.56) condition, and that subsequently prevents the detached *conveyance* (3.15) from running back down the shaft

3.15
conveyance
container or structure used in a mine shaft to transport a load or perform a task, that includes *counterweight* (3.17), *equipping skeleton* (3.31) cage, inspection platform, *kibble* (3.47), personnel or material cage, *skip* (3.73), sinking cross-head, material cars, hoppers, or cradle

Note 1 to entry: Some typical conveyances are illustrated in Figures 1, 2 and 3.

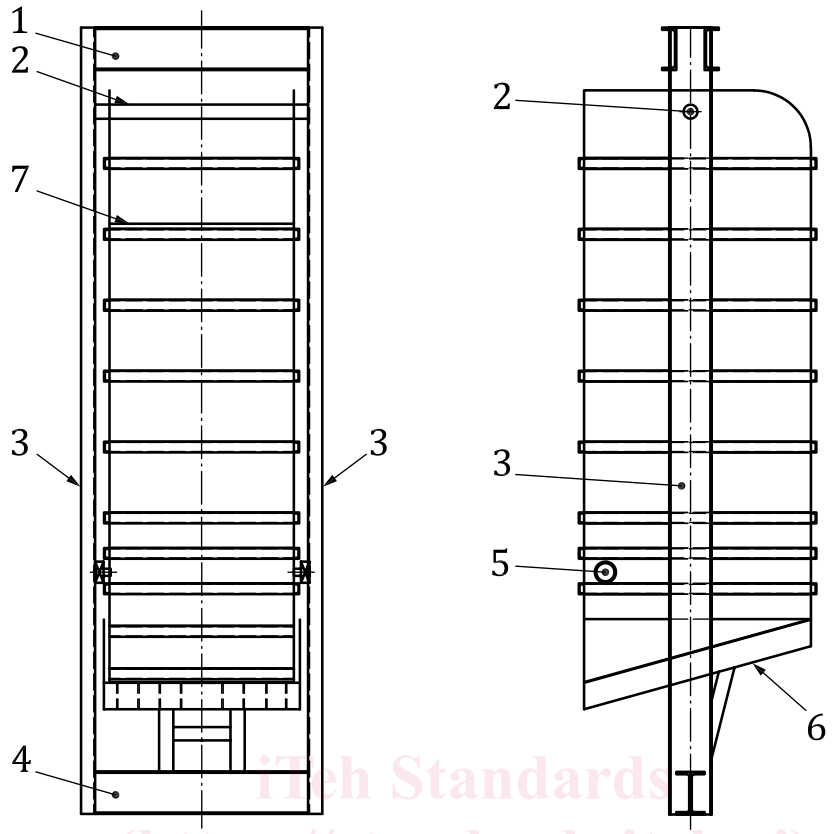


a) Front view **b) Side view**

Key

1 top transom (3.81)
2 roof beam
3 floor beam
4 bottom transom (3.3)
5 bridle hanger (3.8)

Figure 1 — Typical 3 deck cage components



a) Front view **b) Side view**

Key

1 top transom (3.81)
2 pivot bar
3 bridle hanger (3.8)
4 bottom transom (3.3)
5 tipping roller
6 door
7 loading lip

Figure 2 — Typical skip components