



SLOVENSKI STANDARD
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Nepremična oprema za vadbo - 2. del: Oprema za vadbo moči, dodatne posebne varnostne zahteve in preskusne metode (ISO/DIS 20957-2:2019)

Stationary training equipment - Part 2: Strength training equipment, additional specific safety requirements and test methods (ISO/DIS 20957-2:2019)

Stationäre Trainingsgeräte - Teil 2: Kraft-Trainingsgeräte, zusätzliche besondere sicherheitstechnische Anforderungen und Prüfverfahren (ISO/DIS 20957-2:2019)

Équipement d'entraînement fixe - Partie 2: Équipement d'entraînement de force, exigences spécifiques de sécurité et méthodes d'essai supplémentaires (ISO/DIS 20957-2:2019)

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97.220.30 Oprema za dvoranske športe Indoor sports equipment

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Stationary training equipment —

Part 2: Strength training equipment, additional specific safety requirements and test methods

*Équipement d'entraînement fixe —**Partie 2: Équipement d'entraînement de force, exigences spécifiques de sécurité et méthodes d'essai supplémentaires*

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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. (standards.iteh.ai)

ISO 20957-2 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 136, Sports, playground and other recreational facilities and equipment, in collaboration with ISO Technical Committee ISO/TC 83, *Sports and other recreational facilities and equipment*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 20957-2:2005), which has been technically revised.

The main changes compared to the previous edition are as follows:

- the formulation has been aligned to ISO 20957-1;
- specific terms and definitions for Part 2 have been added to [Clause 3](#);
- [Clause 5](#) has been specified and restructured;
- [Clause 6](#) has been specified and restructured;
- Additional requirements for externally loaded equipment have been added to [Clause 5](#) and [6](#);

A list of all parts in the ISO 20957- series can be found on the ISO website.

Introduction

This part of ISO 20957 concerns the safety of strength training equipment.

This part of ISO 20957 amends and supplements ISO 20957-1. The requirements of this specific standard take precedence over those in the general standard.

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Stationary training equipment —

Part 2:

Strength training equipment, additional specific safety requirements and test methods

1 Scope

This part of ISO 20957 specifies additional safety requirements for stationary strength training equipment in addition to the general safety requirements of ISO 20957-1.

This part of ISO 20957 is applicable to stationary training equipment type strength training equipment with stack weight resistance or other means of resistance like elastic cords, hydraulic, pneumatic, electrical, magnetic, springs and externally loaded weights (type 2) (hereinafter referred to as training equipment) with the classes H, S and I according to ISO 20957-1.

NOTE Free-weight barbell racks are subject to the requirements of ISO 20957-4 and ISO 20957-1.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 12100, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 20957-1, *Stationary training equipment — Part 1: General safety requirements and test methods*

ISO/TR 7250-2:2010, *Basic human body measurements for technological design — Part 2: Statistical summaries of body measurements from national populations*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 20957-1 and the following apply.

3.1

selectorized equipment

strength training equipment where the resistance means is a load that is an integral part of the device and can be varied by the user without adding or removing components to and from the equipment

3.2

externally loaded equipment

strength training equipment where the main resistance means is a load that is not an integral part of the device and can be varied by the user by adding or removing components to and from the equipment

Note 1 to entry: Components to be added or removed are e. g. weight discs or bands.

ISO/DIS 20957-2:2019(E)**3.3****guided barbell equipment**

various types of vertical or inclined frame structure with an integral constrained bar for loading weight plates which travels along a guided path with indexing engagement means that allow the bar to be started and stopped at multiple positions along the range of travel

Note 1 to entry: Examples are shown in Figure 1b) and Figure 1c). Commonly used names for this equipment are "Smith press", "Smith Machine" and "multipress".

3.4**drop stop**

a permanent or adjustable constructive element creating a preset minimum stop position that provides the user with clearance to avoid entrapment without any further action of the user

3.5**catch mechanism**

rest or holder for a barbell on a guided barbell equipment, or for a carriage on a sled leg press need to be engaged by the user, from which the user can begin the exercise motion or end at the completion of the exercise

3.6**maximum storage load**

load that can be applied to weight post and/or external weight storage equipment as specified by the manufacturer

3.7**maximum specified training load**

maximum working load as specified by the manufacturer, but not including the user weight

3.8**work arm**

a component of a strength training equipment that allows the user to activate a resistance means controlled and directed motion for a specific exercise

Note 1 to entry: An example for equipment where this component is relevant is shown in Figure 1a).

3.9**training resistance**

force or torque exerted by the user to perform the exercise

3.10**weight post**

structure protruding from the frame of externally loaded equipment for the purpose of holding weight either for a resistance means or for storage

3.11**work arm actuated externally loaded training equipment**

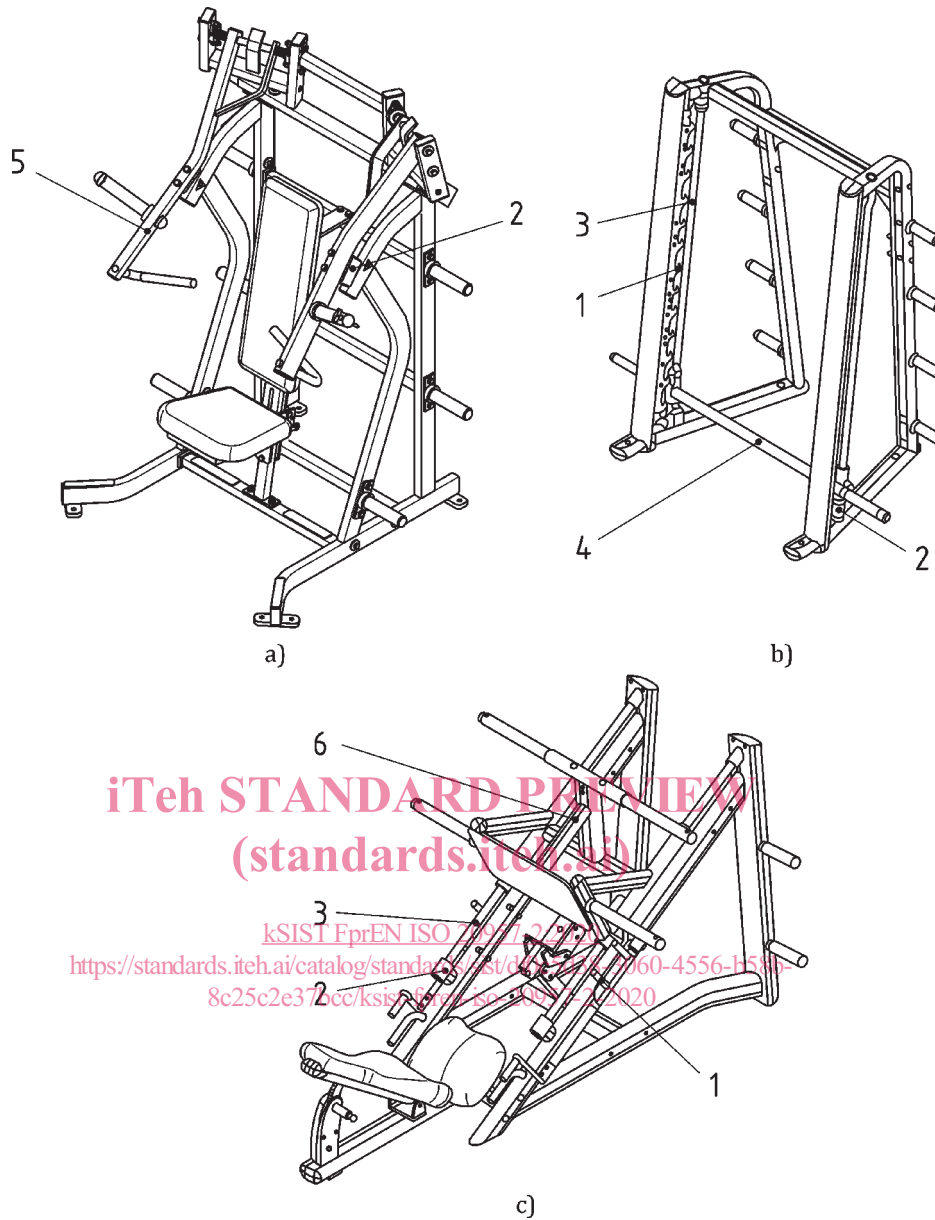
equipment where the external load is attached directly or indirectly to a movement mechanism that is displaced intentionally by the user

Note 1 to entry: An example is shown in Figure 1a).

3.12**guided externally loaded strength training equipment**

equipment where the external load is placed on a weight post affixed to a carriage that is moving on guided path

Note 1 to entry: Examples are shown in Figure 1b) and Figure 1c).



Key

- | | | | |
|---|-----------------|---|----------|
| 1 | catch mechanism | 4 | barbell |
| 2 | drop stop | 5 | work arm |
| 3 | guid | 6 | carriage |

Figure 1 — Examples for different types of externally loaded strength training equipment - a) Work arm activated b) and c) guided types

3.13

stacked weights

guided weights stacked together where the training load can be selected

4 Classification

ISO 20957-1 applies.