

# ISO 19894:2019 (E)

## Walking trolleys — Requirements and test methods

---

### Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms and definitions
4	General requirements and test methods
4.1	Risk analysis
4.2	Intended performance
4.3	Clinical evaluation and investigation
4.4	Walking trolleys that can be dismantled
4.5	Fasteners
4.6	User mass/load limits
4.7	Apparatus
4.8	Test conditions
5	Materials
5.1	General
5.2	Flammability
5.2.1	General
5.2.2	Upholstered parts and moulded parts
5.3	Biocompatibility and toxicity
5.4	Infection and microbiological contamination
5.4.1	Cleaning and disinfection
5.4.2	Resistance against temperature alternations
5.4.3	Animal tissue
5.5	Resistance to corrosion
6	Ingress of liquids
6.1	Ingress of liquids
6.1.1	Requirements
6.1.2	Test method
7	Temperatures of parts that come in contact with human skin
8	Safety of moving and folding parts
8.1	Squeezing
8.2	Mechanical wear
9	Prevention of traps for parts of the human body
9.1	Holes and clearances
9.2	V-shaped openings
10	Folding and adjusting mechanisms
10.1	General
10.2	Locking mechanisms
10.3	Folding function
10.3.1	Requirements
10.3.2	Retaining test and strength test of folding mechanism

- 11            **Lifting and carrying means**
  - 11.1          **General**
  - 11.2          **Requirement**
  - 11.3          **Test method**
- 12            **Strength, torque, durability**
  - 12.1          **Strength of the resting seat**
    - 12.1.1        **Requirements**
    - 12.1.2        **Strength test of the resting seat**
  - 12.2          **Strength of the arm support**
    - 12.2.1        **Requirements**
    - 12.2.2        **Strength test of the arm support**
  - 12.3          **Torque of the handle**
    - 12.3.1        **Requirements**
    - 12.3.2        **Torque test of the handle**
  - 12.4          **Running durability**
    - 12.4.1        **Requirements**
    - 12.4.2        **Running durability test**
- 13            **Appearance (Surfaces, corners, edges and protruding parts)**
- 14            **Stability**
  - 14.1          **Requirements for static stability on slope**
  - 14.2          **Test method for static stability on slope**
    - 14.2.1        **Forward stability test**
    - 14.2.2        **Rearward stability test**
    - 14.2.3        **Lateral stability test**
  - 14.3          **Requirements for stability and strength when the handle is loaded**
  - 14.4          **Stability test and strength test when the handle is loaded**
    - 14.4.1        **In the case of unified-type handle**
    - 14.4.2        **In the case of separated-type handles**
  - 14.5          **Requirements for stability in a horizontal position when the resting seat is loaded**
  - 14.6          **Stability test in a horizontal position when the resting seat is loaded**
- 15            **Forces in soft tissues of the human body**
- 16            **General structure**
  - 16.1          **Structure**
  - 16.2          **Brakes**
    - 16.2.1        **Requirements of running brakes**
    - 16.2.2        **Braking test of the running brakes**
    - 16.2.3        **Requirements of parking brakes**
    - 16.2.4        **Braking test of the parking brakes**
- 17            **Ergonomic principles**
- 18            **Information supplied by the manufacturer**
  - 18.1          **General**
  - 18.2          **Markings or labelling**
  - 18.3          **Instruction manual**
- 19            **Packaging**
- 20            **Test report**
- Annex A (informative) Consideration items for hazards when designing the products**
  - A.1          **Hazards and their factors that are supposed on general assistive products**
  - A.2          **Hazards from ergonomic factors of various users**
  - A.3          **Hazards originating from mechanical damage, insufficient maintenance and/or aging**
- Annex B (informative) Rationale**
- Annex C (informative) Environmental and consumer-related requirements**

- C.1 Assessment of hazardous substances in walking trolleys for persons with disability —  
General aspects
- C.2 Hazardous substances in all materials or products
- C.2.1 Substances of very high concern (SVHC): the European approach on chemicals
- C.2.1.1 General
- C.2.1.2 CMR chemicals
- C.2.1.3 PBT and vPvB substances
- C.2.1.4 Substances of equivalent concern
- C.2.2 Recommendations
- C.2.2.1 General
- C.2.2.2 CMR chemicals
- C.2.2.3 PBT and vPvB substances
- C.2.2.4 Substances of equivalent concern
- C.3 Hazardous substances in textiles
- C.3.1 Relevant substances
- C.3.2 Recommendation
- C.4 Hazardous substances in plastic materials
- C.4.1 Relevant substances
- C.4.2 Recommendation
- C.4.2.1 Substances based on lead, cadmium, mercury and their compounds or tin organic  
compounds
- C.4.2.2 Organic halogenated compounds
- C.4.2.3 Phthalates
- C.5 Metals
- C.5.1 Relevant substances
- C.5.2 Recommendations
- C.6 Wood
- C.6.1 Relevant substances
- C.6.2 Recommendations

Page count: 42