ASPREX Fact Sheet

Portable ramp

Product which provides a moveable sloping surface that bridges a limited gap between two levels. The purpose of using portable ramps is to move up and down stairs or other adjacent uneven surfaces. Portable ramps are short (usually less than 3.5 meters in length) and usually take the form of a wide platform (single piece), or twin tracks (two thin tracks used together). The ramp ends are shaped to prevent the ramp from sliding during use; and angled for smooth transition onto and off the ramp. Variations include material (usually aluminum), surfaces (non-slip texture or applications such as rubber paint), and lighter weight specialist materials (such as fiberglass or graphite fiber) for ramps which are moved frequently, type of edging or rim, the dimensions and angle of the ramp lip where it intersects with the ground, and any markings or guides for installation and for visual cueing during ramp use.

- Product Classification
  - APL (WHO Assistive Product Priority List): 32 (Ramps, portable).
  - ISO 9999:2022: 183015 (Portable ramps).
- Possible configuration variants
  - Single ramp (one-piece platform).
  - Twin ramp (two thin tracks used together).
- Possible accessories or optional components
  - Carry bag.
  - Additional handrails (for those with mobility impairments who cannot use ramps safely without support for balance e.g. cane users).
  - Wheelchair-mounted storage bag.
  - Handles.
- Product goals

  Activities or functions the product is mainly intended to support, according to WHO ICF Classification:
  - Lifting and carrying objects [d430].
  - Moving around using equipment [d465].
- Indicated impairments

  Difficulties the product is mainly intended to address, according to the WHO ICF Classification:
  - Muscle power functions [b730].
  - Walking [d450]. *Only if used with variants: Twin ramp, Single piece platform,*
- Contraindicated impairments

  Difficulties for which the product may be inappropriate:
  - Cognitive difficulty that may impact safe use and wayfinding.
  - Difficulty in seeing (making it difficult to find the dimensions of the ramp particularly its edges).
  - Difficulty in motor planning (controlling speed and trajectory of gait).
  - Poor balance (affecting walking on an angle).
- Indicated environments

  Specific environments in which the product should be used:
  - Places without level access (where a moveable, flat supporting surface such as a ramp can bridge the gap between two levels).
  - Rough terrain involving a change in gradient.
  - Stairs.
  - Wheelchair accessible vehicles.

- Contraindicated environments

  Environments in which the product may be inappropriate:
  - Stairs with more than two steps in height.
  - Places where the presence of a ramp is an obstacle (for example blocking pavements or path of travel for pedestrians: care must be taken to balance the needs of all users of the environment).
  - Environments without stable surfaces for positioning and securing the ramp.
- Other indicated factors

  Other factors or situations the product is intended to address:
  - Conditions which affect strength, endurance and motor functions of climbing.
  - Use when pushing wheeled loads and needing to access to the built environment.
- Other contraindicated factors

  Other factors or situations in which the product may be inappropriate:
  None specified.
- Points to be considered in product selection
  - Twin portable ramps: each track should be not less than 15.5 cm wide; is is not suitable for ambulant users, as it is not safe to walk with one leg in each track.
  - Twin portable ramps are intended for wheelchair/wheeled mobility device users; they must be positioned at a distance which enables the wheels to safely fit in either track.
  - Twin portable ramps are lighter weight than wide platform ramps.
  - Wide platform ramps are indicated for people who are ambulant but who find steps difficult, or who need to propel a walking aid or other type of load up several steps.
  - Platform ramps are constructed of more material than twin track ramps and are therefore heavier to transport.
  - Platform ramps can accommodate users walking with mobility devices such as canes, crutches, walkers and three or four wheeled mobility devices.
  - A portable ramp can be carried and transported, but the size of the ramp impacts on the length and gradient of the slope it provides when deployed, as well as the weight for carrying and transporting.
- Points to be considered in product fitting
  - The mechanism of use is to position the ramp, so it is tilted at an angle, with one end higher than the other (inclined plane).
  - As a general guideline the maximum length of a portable ramp should be no more than 3.5m, the height of higher end should not exceed 43.75cm.
- Points to be considered in product use
  - Strength: sufficient for safe, repeated use considering weight of user.
  - Driving surfaces and surfaces of the lips should be non-slip, even in wet conditions.
  - Easy to operate: no squeezing hazard when operating the ramp's folding or telescoping mechanism.
  - The ramp should not unfold or displace during transport.
  - The portable ramp should be able to be mounted/installed without the use of tools.
  - Where the length in use exceeds the maximum transport length, the portable ramp should be foldable, dissembled and/or lengthwise adjustable (telescopic).
  - Ramp length must be at least eight times longer than the height of the step(s).
- Points to be considered in product maintenance / follow-up
  - Check the ramp periodically for wear to surfaces or moving parts and check for any bowing or deformation of the ramp itself.
- Examples of products available on the market
  - Live product search in the EASTIN website https://www.eastin.eu/en/searches/products/list?iso=183015

Source

This Fact Sheet was compiled in 2021 by an international team of experts, to provide the initial knowledge base for a project ("An online system to assist the selection of assistive product") supported by the World Health Organization in 2020-2021

within the GATE Initiative (Global collaboration on Assistive Product). Fact Sheets were compiled for each of the 50 types of products included in the WHO APL (Assistive Product Priority List).

The team was composed of Renzo Andrich (Italy, group leader), Natasha Layton (Australia), Stefan von Prondzinski (Italy), Jerry Weisman (USA), Silvana Contepomi (Argentina) and Hasan Minto (Pakistan).

The project led to a prototype online tool called ASPREX (ASsistive PRoduct EXplorer). At the end of the project, it was transferred to a WHO collaborating center (the Global Disability Hub in the UK), in view of possible future developments.