ASPREX Fact Sheet

Fixed grab rail

Straight (or angled or square-angled) bar fixed to a side wall to allow the person to firmly grab and thus provide support while standing or transferring from one position to another, for instance to enter a bathtub or a shower or moving from the wheelchair to a bed. It can be made of metal, plastic, wood or other materials.

- Product Classification
  - APL (WHO Assistive Product Priority List): 16 (Handrails/grab bars)
  - ISO 9999:2022: 181806 (Fixed grab bars and handgrips)
- Possible configuration variants
  - Coating (which may be textured or made of metal, plastic, epoxy or other materials).
  - Folding drop-down bar (wall-fixed grab rail that can be folded away when needed to free the passage).
  - Floor-to-wall or floor-to-ceiling grab bar.
- Possible accessories or optional components

  None specified.
- Product goals

  Activities or functions the product is mainly intended to support, according to WHO ICF Classification:
  - Changing body position [d410] (standing up or sitting down).
  - Maintaining body position [d415].
  - Transferring oneself [d420].
- Indicated impairments

  Difficulties the product is mainly intended to address, according to the WHO ICF Classification:
  - Changing body position [d410] (difficulty in standing up or sitting down).
  - Transferring oneself [d420].
  - Muscle power functions [b730].
  - Stability of joint functions [b715].
- Contraindicated impairments

  Difficulties for which the product may be inappropriate:
  - Severe difficulty in grasping/gripping. *Unless used with variants: Coating*
  - Severe arms weakness.
- Indicated environments

  Specific environments in which the product should be used:
  - Wall-bordered paths.
- Contraindicated environments

  Environments in which the product may be inappropriate:
  - Weak walls.
  - Walls lacking points where the rail can be safely fixed to bear the person's weight.
- Other indicated factors

  Other factors or situations the product is intended to address:
  - Having had a fall in the past months or feeling at risk of falls.
  - Poor balance and strength.
- Other contraindicated factors

  Other factors or situations in which the product may be inappropriate:
  None specified.

- Points to be considered in product selection
    - Select the shape and the size of the grab rail depending on your personal transfer needs and techniques, your height and weight, and the amount of mobility and strength you have in your hands, arms and shoulders.
    - Knowing and mastering the transfer techniques that are most effective for the individual case (whether in the bathroom or in the sleeping rooms or in other situations) is a prerequisite for appropriate selection, as different techniques may involve different grab rail shapes and positioning; in case the user is uncertain about the best technique, consulting an experienced professional is strongly recommended.
    - The grab rail must be safe, which means stable, irremovable, not deformable, supporting the person's weight when walking or resting, and able to bear the user's pushing/pulling force when clinging or falling.
    - An unsafe grab rail is a potential source of accidents rather than a facilitator.
    - The grab rail safety depends on three factors: the technical quality of the selected product item, the characteristic of the walls where the grab rail is going to be installed, and the expertise of the person who is going to install it.
    - When selecting the product item, always check the product documentation to find out the technical quality data and the installation instruction.
    - Good quality traditional masonry and bricks should cause no problems if the recommended fixtures and procedures are followed.
    - A plasterboard or tiled surface should not affect the fixing, although ensure that the whole depth of the fixing is supported by the masonry.
    - Most dense concrete blocks are strong enough to support rails; however, care should be taken as their composition may make it difficult to drill a straight hole through them.
    - If the wall is made of lightweight, aerated, and hollow brickwork, even the most appropriate fixings may not be able to withstand the loads that can be suddenly applied to the rails.
    - The insides of the hollow blocks are often filled with a polystyrene type insulating material, which will not provide enough support for fixtures screwed into it.
    - Aerated concrete blocks, which are often used in bathrooms and toilets as the waste pipes are carried through their cavities, are made of a very lightweight substance, which limits their fixing support qualities; supporting fixtures should be attached to this type of wall using specific wall mounted support products or battens.
    - Even if a partition or stud wall is physically strong and stable and has a suitable flat surface to take a grab rail, the addition of a pattress or backboard on the wall is advised when fixing a grab rail to it; this should be a flat, unknotted piece of wood, which is screwed into the vertical joining pieces of the partitions.
    - Particular care should be taken when attaching rails to domestic sandwich partitions, e.g. plasterboard with a hardboard facing.
    - Fixing to UPVC plastic doorframes should be avoided, as the frames are unlikely to have the necessary internal materials in the required area to support a grab rail's fixings.
    - When rails are installed outside or in a bathroom and are likely to become wet, consider using brass or chromium-plated screws to avoid the formation of unsightly rust stains.
    - Make sure to have a person who will be able to carry out the installation in a perfect manner.
    - If you are unsure of the construction of your home, you should seek the advice of a builder; they may also be able to advise you, and fit rails if suitable.
    - The installer should ensure there is no possibility that any metal part that may be touched by you, including fixing screws, will come into contact with electric cabling.
    - Choose the grab rail coating based on your gripping ability, comfort perception, heat / cold sensitivity and aesthetics; especially if the grab rail is placed in outdoor spaces or exposed to high or low temperature, a plastic or epoxy coating may be necessary.
- Points to be considered in product fitting
    - Make sure that the grab rail is positioned in such a way to provide the best support that is consistent with your transfer technique.
- Points to be considered in product use
    - If you happen to experience losses in hand strength, or pain in the hands or wrist or elbows or shoulder, your gripping ability may be temporarily hindered; additional support by another person may be advisable.
- Points to be considered in product maintenance / follow-up

    - Regularly clean and sanitize the grab rail.
    - Regularly inspect the grab rail stability and safety: if any component shows deformation, breaks, unscrewing or detachment, repair should be carried out immediately.
- Examples of products available on the market
    - Live product search in the EASTIN website https://www.eastin.eu/en/searches/products/list?iso=181806

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.