Ergonomic mounting advice

LinidoSolutions Guidelines for the installation of products in sanitary facilities

Hinged and fixed arm supports	
Sturdy arm supports on both sides of toilet ¹	symmetrical support
Protrudes beyond the front of the toilet and the shower seat ²	200 mm
Height of arm supports (on both sides) above to ilet and/or shower seat $^{\rm 2}$	min 250 mm, max 300 mm
Distance between top of arm supports and surface of floor ³	750 mm
Distance between inside of arm supports and side wall ²	≥ 350 mm
Distance between centre of toilet and/or shower seat and arm supports 1	350 mm
Distance between arm supports ¹	700 mm
Walls suitable for installation of sturdy arm supports ¹	
Arm supports can be grasped firmly ¹	
Essential components are sturdy and robust ¹	

Toilets	
Distance between centre of toilet and side wall 1	≥ 550 mm
Height of backrest above toilet (measured from toilet seat to bottom of backrest) 3	min 230 mm, max 300 mm

Shower seats (wall mounted) and commode / shower chairs	
Seat height (= top of shower seat from surface of floor) 1	min value 400 mm, average value 470 mm, max value 540 mm
Distance between centre of shower seat and side wall (corner installations) ¹	550 mm
Seat depth ¹	between 400 – 450 mm
Total depth of shower seat from rear wall ²	≥ 515 mm
Seat area, width x length ¹	700 x 900 mm
Free space next to shower seat on both sides, minimum ¹	350 x 1200 mm
Free space next to shower seat for sideways transfers and care, minimum 1 side $^{\rm 1}$	900 x 1200 mm
Free space at front of shower seat ²	≥ 1200 x 1200 mm
Standard shower area, preferably sloping towards drainage ¹	900 x 900 mm
Support: sturdy armrests, distance above seat ¹	200 – 330 mm
Support: distance between armrests approx. 1	500 mm

Grab rails, horizontally installed	
Horizontal surface, rail height (above floor or stairs) 1	between 850 – 900 mm
Height of second rail (above floor or stairs) 1	600 mm
Hand must be able to hold onto rail easily, space around rail $^{\rm 1}$	≥ 50 mm
Hand must be able to move along the rail easily ¹	
Horizontal rail in combination with Click-On frame for shower seat (centre of tube) ³	920 mm

Grab rails (and shower rail where appropriate), vertically installed	
Distance to side wall ²	≥ 50 mm
Reach envelope, height ¹	average value 400 – 1350 mm, max value 1800 mm
Grab rail as shower rail, length ²	≥ 1000 mm
Height of shower head on shower rail from surface of floor ¹	min 950 mm, max 2200 mm

Grab rails, diagonally installed	
Installation at an angle of 45 degrees ³	
Grip point is at the bottom corner, within comfortable reach of the user 1	average value 400 – 1350 mm, max value 1800 mm

Definitions:Minimum value ¹ = minimum value for shorter users Average value ¹ = average value or preferred value for shared use Maximum value ¹ = maximum value for taller users Critical value 1 = recommended range, limit values

min value 800 mm, average value 1000 mm, max value 1250 mm

Grab rails and other components (shelves, taps, toilet handles etc.)	
Walls suitable for installation of sturdy grab rails / arm supports $^{\rm 1}$	
Form and function: component can be identified by touch ¹	
Essential components are sturdy, robust and can be grasped firmly $^{\rm 1}$	
Distance from an internal angle (in the shower, outside shower spray) 1	≥ 500 - 550 mm
Height of components (e.g. shower tap) above surface of floor ¹	optimum value 1050 mm, average value 900 – 1200 mm critical value 400 – 1350 mm, max value 1800 mm
Height of alarm cord, round at wall, above surface of floor ²	400 mm
(Grab) rail over full width of door, height from surface of floor $^{\rm 2}$	900 mm

Washbasin adjustment system and washbasin rails	
Height for use when sitting, measured from surface of floor to top of tube 1	min value 620 mm, average value 700 mm, max value 820 mm
To accommodate wheelchair users ¹	820 mm

Mirrors	
Height of mirror from surface of floor, standing ¹	min 1050 mm, max 1950 mm
Height of mirror from surface of floor sitting 2	min 600 mm may 1/150 mm

Space required in bathrooms and toilets	
Transfer space	
In front of and beside toilets and (area for possible) shower seat ¹	≥ 900 x 1200 mm
With assistance, on one side of toilet ¹	≥ 900 x 1800 mm
With assistance, on other side of toilet ¹	≥ 900 x 1200 mm
With lift ²	≥ 900 x 1200 mm
Visitor's toilet in dwelling, free corridor width ¹	≥ 1100 mm
$\textbf{Walking space} \ \ \text{between sanitary items such as toilet, washbasin and shower area} \ ^1$	≥ 900 mm
Turning space/turning circle ¹	≥ 1500 x 1500 mm
Standing space for wheelchair, (partially) under washbasin 1.2	≥ 900 x 1200 mm
Sitting space	
Distance from backrest ²	≥ 850 mm
Sitting space, including backrest, width x length 1.2	≥ 700 x 900 mm

≥ 900 x 1200 mm

≥ 200 x ≥ 800 mm

≥ 600 x ≥ 600 x 600 mm

Definitions:

Shower stretchers and trolleys

Height for standing carer, measured from surface of floor to lying surface 1

Minimum value 1 = minimum value for shorter users Average value 1 = average value or preferred value for shared use Maximum value 1 = maximum value for taller users Critical value 1 = recommended range, limit values

Sitting space, wheelchair user, width x length $^{\rm 2}$

 $\textbf{Leg room}, \ \text{height x width x depth} \ ^{1}$

Foot space, height x depth ¹

Sources:

- 3 Handbock voor Toegankelijiheid, Over de ergonomie van buitenruimten, gebouwen en woningen (Accessibility Manual, The ergonomics of outdoor spaces, buildings and dwellings), M Wijk 7th Edition, ISBN 978-90-12-58505-7.
- Handboek voor Toegankelijkheid, Over de ergonomie van buitenruimten, gebouwen en woningen (Accessibility Manual, The ergonomics of outdoor spaces, buildings and dwellings), M Wijk 6th Edition, ISBN 978-90-6228-685-0.
- 3. Handicare, your professional partner for functional, durable sanitary products.

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