

**Test Report** No.: GZHL1901000293MD Date: Jan 29, 2019 Page 1 of 17

CAREMAX REHABILITATION EQUIPMENT CO.,LTD VIA FOSHAN SHUNKANGDA MEDICAL TECH CO., LTD PINGNAN INDUSTRIAL AREA, GUICHENG NANHAI DISTRICT, 528251 FOSHAN CITY, GUANGDONG, PEOPLE'S REPUBLIC OF CHINA

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Description : BATH BENCH/SHOWER CHAIR/COMMODE CHAIR

Style / Item No. : CA355L-KD

Manufacturer : CAREMAX REHABILITATION EQUIPMENT CO.,LTD

Country of Origin : CHINA

Test Performed : Selected test(s) as requested by applicant

Sample Receiving Date : Jan 03, 2019

Test Performing Date : Jan 03, 2019 to Jan 29, 2019

Test Result(s) : For further details, please refer to the following page(s)

Signed for and on behalf of Guangzhou Branch SGS-CSTC Ltd.

Arthur Mak

Approved Signatory





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**Test Conducted:** Based on ISO 17966:2016 Assistive products for personal hygiene that support users — Requirements and test methods

Number of Tested Sample: 1 piece(s)

2. Capacity of product: 180 kg

3. Test Results: Details shown as following table

Clause	Test Item/Test Requirement / Test Method	Test Result
16	Static strength, impact and durability	
16.1	General Static strength, durability and impact are critical tests for a safe product. The formulae for calculating the forces in the different tests are dealt with in 16.2. Each sub clause starts with its own requirements followed by test methods.	Pass
16.4	Static strength of lying support, arm and foot supports and seat and back surface	es
16.4.1	Requirements  During and after the static strength tests in 16.4.2 no parts of the APPH shall:  — become unstable;  — exhibit any cracking;  — have any loose connections;  — have visible deformations or gaps disturbing the function;  — become detached.  Further depending on the APPH:  — there shall be no permanent tilt;— all adjustable parts shall function as intended;  — the deflection of an arm support during test shall not disturb the function in relation to transfer;  — the foot support shall either have means to prevent the feet from sliding into the gap between them,  or have a gap that is less than stated in Table 4;  — the foot support is allowed to deflect all the way down to the floor during test (after the test the remaining deflection shall not exceed 10 mm);  — if an APPH is intended to be folded for transport and/or storage, it shall not fold unintenionally;  — after the test, the APPH shall operate as intended by the manufacturer.  All pass/fail criteria shall be fulfilled after or during the test, whenever it occurs.	Pass
16.4.2	Test methods	
16.4.2.1	Static strength of a lying support surface The tests shall be performed on a horizontal surface with the load applied for 20 minutes. If there are any brakes, they shall be activated. The APPH shall be kept stable during the whole test. First test. Attach the load according to Table 6 to the lying support surface, distributed according to Figure 14. Second test. This test(s) shall be performed on the most critical part of the surface where it is possible for the user to put the maximum load while transferring according to Figure 15. If it is possible to transfer both at the ends and along the side of the lying support surface, each test shall be performed separately. Remove the test load and inspect the APPH for damage.  NOTE The lying support surface includes products within 09 33 12 and 18 15 06.	



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Clause	Test Item/Test Requirement / Test Method	Test Result
	Step 1	
16.4.2.2	Static strength of an arm support downwards Calculate downward force to be applied to an arm support using the formulae in Table 6. Each arm support is loaded for a minimum of 60 s in a point 50 mm from the front edge. With the APPH standing on the horizontal test plane, attach the maximum load determined by the formula or any greater load specified by the manufacturer, so that its line of action intersects the support surface of the arm support as shown in Figure 18 and 19 using a loading pad selected as specified in 4.8.12.1 and 4.8.12.2. NOTE Figure 18 shows the configuration of the loading equipment at the start of the test. This configuration will change as the test deflects the arm support. Before commencing the test set-up, the means to prevent the assistive product from tipping and the means to prevent the assistive product from moving backwards and forwards are applied. If there are two arm supports half the load shall be applied to each of the arm supports simultaneously or one at a time individually. Slowly increase the load until the force F1 reaches the value specified in the formula	
16.4.2.3	Static strength of seat and back support  Set up the APPH according to manufacturer's instructions.  The APPH shall be secured so that it does not move during testing in a way that does not affect the test.  For the static strength test of the seat, apply the maximum load (F1) according to Table 6, using a loading pad as specified in 4.8.12.4 for 20 min to the part of the APPHs seat support surface according to Figure 16.  If the APPH has a seat lid, the load shall be placed on the upper surface of the lid due to foreseeable misuse.  For the static strength test of the back support, apply the maximum load (F2) according to Table 6, using a loading pad as specified in 4.8.12.3 for 20 min to the part of the APPH's back support surface according to Figure 16. If there are any brakes, they shall be activated and the APPH shall not be able to tilt during the test. The test shall be done with the back support in the most adverse position if it has an adjustable recline function.	



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Clause	Test Item/Test Requirement / Test Method	Test Result
	New    Seeing ped   Figure 16 — Flading of load on set at /hack support surface	
16.4.2.4	Static strength of foot supports Before commencing the test set-up, the means to prevent the APPH from tipping and the means to prevent the APPH from moving backward and forward are applied. Calculate downward forces to be applied to the foot support using the formulae in Table 6. With the APPH standing on the horizontal test plane, apply the forces (F) determined by Table 6, "Static force on foot support downward" and "Static force on foot support remaining gap", or any greater force specified by the manufacturer, at the foot support locations illustrated in Figure 17.  Use a convex loading pad (see Figure 3) to apply the load on flat foot supports and foot supports consisting of two or more tubes and use a concave cylindrical loading pad (see Figure 2) on foot supports consisting of a single tube.  NOTE In some cases where it can be done without weakening the foot support, it may be necessary to drill a hole in the foot plate to secure the loading actuator. If the foot support is height adjustable it shall be positioned in the most adverse position of intended use.  If tubular foot supports or other constructions are used which do not have a flat foot support surface, apply the force at an angle of 25° ± 5° to the vertical inclined towards the seat.  If foot supports are of an open construction so that a standard loading pad cannot transmit load to the structure, fit a suitable rigid plate to the foot support so that load is carried by the parts of the foot support nearest to the loading point.  If two separate foot supports are used apply half of the load to each foot support in turns.  Slowly increase the load until the force F2 reaches the value specified in the formula in Table 6 or the greater force specified by the manufacturer. Maintain the load for a period of between 5 s and 10 s.  Remove the load.	
16.5	Durability	
16.5.1	Requirements  During and after the durability tests in 16.5.2 no parts of the APPH shall:  — become unstable;  — exhibit any cracking;  — have any loose connections;  — have visible deformations or gaps disturbing the function;	Pass



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	<ul> <li>become detached.</li> <li>Further, depending on the APPH:</li> <li>there shall be no permanent tilt;</li> <li>all adjustable parts shall function as intended;</li> <li>the deflection of an arm support during test shall not disturb the function in relation to transfer;</li> <li>the foot support shall either have means to prevent the feet from sliding into the gap between them, or have a gap that is smaller than stated in Table 4;</li> <li>the foot support is allowed to deflect all the way down to the floor during test (after the test the remaining deflection shall not exceed 10 mm);</li> <li>if an APPH is intended to be folded for transport and/or storage, it shall not fold unintentionally (after the test, the APPH shall operate as intended by the manufacturer).</li> <li>All pass/fail critera shall be fulfilled after or during the test, whenever it does occur. During the test, the following conditions apply.</li> <li>1) Readjustment of postural supports is allowed.</li> <li>2) Retightening, readjusting or refitting of components that are identified in the manufacturer's instructions for use as operator-adjustable components is allowed.</li> <li>Components identified as operator adjustable may require the use of tools, if the tools are provided with the assistive product. If there are operator adjustable components, durability test equipment may be stopped at 25% plus or minus 5% intervals, for inspection of operator-adjustable components to determine if retightening, readjusting or refitting of operator-adjustable components is required. Retightening, readjusting or refitting of operator-adjustable components is required. Retightening, readjusting or refitting has been performed.</li> <li>3) Retightening, readjusting or refitting of any other component is not allowed.</li> <li>4) During the durability testing, replacement of normal wear items is allowed in accordance with manufacturer's instructions.</li> <li>5) For electrically operated APPHs, the duty cycle shall be declared by the manufacturer.</li></ul>	
16.5.2	Test methods  Apply the maximum load intended by the manufacturer (including any accessories) to the support surface in the most adverse position, in a manner that ensures that there is negligible dynamic loading.  The test cycle shall be calculated as specified in 16.3 (see Tables 7 and 8) regarding the intended area of use and specified life time of the product, unless otherwise determined in this International Standard.  The APPH shall be prevented from slipping or moving by means of a stopper.	
16.5.2.1	Durability of the arm support  With the APPH standing on the horizontal test plane, apply the force ± 3 % determined by the formula in Table 6, or any greater force specified by the manufacturer, so that its line of action intersects the support surface of the arm support as shown in Figure 18 and 19 using the concave loading pad selected as specified in 4.8.12.1.  NOTE Figure 17 shows the configuration of the loading equipment at the start of the	



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Clause	Test Item/Test Requirement / Test Method	Test Result
	test. This configuration will change as the test deforms the arm support.  The cyclical application of the load may be applied to both arm supports simultaneously or one at a time. The cycling shall be done in a smooth manner.  Slowly increase the load until the force F1 reaches the value specified in formula in Table 6, or the greater value specified by the manufacturer. The cycling shall be less than 20 cycles per minute.  After the test remove the load.	
	Ney  protes far lead application	
	Figure 18 — Downward forces on arts supports: Front view	
16.5.2.2	Durability of seat surface  The APPH shall be positioned horizontally on the test plane.  Apply the load as specified in Table 6 vertically to the seat surface, according to Figure 16.  Use a suitable loading pad (see 4.8.12.4) to apply the load.  A test dummy according to ISO 7176-11 may also be used.  The number of cycles shall be calculated as specified in the formula in 16.3 and in Table 7 and Table 8 regarding the intended area of use.  After the test remove the load.	
16.5.2.3	Durability of a power operated height adjustment mechanism  Place the APPH in its lowest position horizontally on the test plane. Apply the maximum load distributed as indicated in Figure 14 for a lying support surface or 16.4.2.3 (Figure 16) for a sitting surface. A test dummy according to ISO 7176-11 may also be used.  The APPH is raised and lowered completely in accordance with the procedure stated in the instructions for use. The number of test cycles shall be calculated as specified in the formula in 16.3 and Table 7 and Table 8 regarding the intended area of use. After the test remove the load.	
16.5.2.4	Durability of power operated movable sections  The APPH shall be positioned horizontally on the test plane.  Apply the maximum load distributed as indicated in Figure 14 for lying support surface or 16.4.2.3(Figure 16) for a sitting surface on the movable section. A test dummy according to ISO 7176-11 may also be used.  Each of the movable sections is operated through their full range of travel as in normal use.	



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Clause	Test Item/Test Requirement / Test Method	Test Result
16.5.2.5	The number of test cycles shall be as specified in the formula and Table 7 and Table 8 in 16.3 regarding the intended area of use.  Inspect the product 5 min after cycling is completed.  After application of the load, no elements of the product shall become loose, fractured or present any hazard. Deformation of more than 10 mm (after removal of the load) from the corresponding measurements taken before the application of the load is not acceptable.  Durability of the frame of an APPH with a sitting surface equipped with legs/wheels  This test method is not intended for fixed products.  The APPH shall be positioned horizontally on the test plane.  Set the wheels/legs according to Figure 20, against the stopper.  For hydraulic, mechanical, electrical or any other adjustable APPH, the test has to be performed so that any movement of the adjusting system does not interfere with the test result.  The seat is loaded with 80% of the maximum load in a box, when tilted in the forward and backwards directions.  The seat is loaded with 40% of the maximum load in a box when tilted in sideways directions.  The box (350 mm wide, 350 mm deep and 300 mm high) shall be fastened at the centre of the seat and secured against sliding.  A test dummy according to ISO 7176-11 may also be used.  The number of cycles shall be as specified in Table 7 and Table 8 in 16.3 regarding the intended area of use. It shall not exceed 10 000 times in each direction.  The force is applied perpendicular to the box.  The APPH is tilted at the box (see Figure 20) until two legs have lifted by 30 mm.  Afterwards the chair drops freely back onto the test plane (4.8.7). Test 1 is in the backwards directions. Each test is performed separately with the full number of cycles	rest nesult
16.6	before the next test is started.  Impact	
16.6.1	Requirements  After performing the tests in 16.6.2 the following requirements shall be fulfilled.  a) No component shall be fractured or have become detached, with the following exceptions:  — readjustment of postural supports is allowed;  — retightening, readjusting or refitting of components that are identified in the manufacturer's instructions for use as operator-adjustable components is allowed; components identified as operator adjustable may require the use of tools, which shall be provided with the assistive product;  — retightening, readjusting or refitting of any other component is not allowed.  b) Cracks in surface finishes, such as paint, that do not extend into the structural material do not constitute a failure.  c) No externally visible electrical cable shall be abraded or crushed. No externally visible electrical connector shall be crushed or disconnected.  d) All parts intended to be removable, folding or adjustable shall operate as described by the manufacturer.	Pass



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Clause	Test Item/Test Requirement / Test Method	Test Result
16.6.2	e) All power-operated systems shall operate as described by the manufacturer. f) No elements of the APPH shall become loose, fractured or present any hazard. g) Handgrips shall not be displaced. h) No component or assembly of parts shall exhibit deformation, free play or loss of adjustment that adversely affects the function of the APPH.  Test methods	
16.6.2.1	Test method for a back support  This test applies to products where the back support height is 320 mm or greater above the seat.  The measurement of the 320 mm is taken from the upper surface of the seat base at an angle of 90 ° from the centre of the seat.  For back supports that have a pivot that allows them to align freely with the back of the user as shown in Figure 21, position the back support impact test pendulum (see 4.8.13) with the bar vertical so that the mass is touching the back support on a horizontal line passing through the back supports, position the impact test pendulum with the bar vertical so that the mass is touching the centre line of the back support at a point 30 mm below the top of the back support as shown in Figure 22.  Apply the brakes (if any).  Position a rigid stopper (see 4.8.8) against the rear wheels/legs of the product and attach a loose restraint that is just long enough to prevent the APPH from tipping backwards beyond the balance point. Support the pendulum so that the rigid bar is at an angle of 30°±2° to the vertical as shown in Figure 22, and then allow it to fall freely one time and strike the back support.  If the manufacturer claims that the product exceeds the minimum requirements, use the angle claimed by the manufacturer ± 2° for the test.  If the back support is height adjustable the test shall be performed in worst case position.  For products where the back support is mounted on two supporting members repeat the test twice with the pendulum repositioned so that it strikes the centre line of each back support 20 mm below the top of the back support.  For products where the back support is mounted on a single central support repeat the test with the pendulum positioned to strike the back support at points located 0,4 times the back support maximum width from each side of its centre line.	
16.6.2.2	Test method for a lying support surface  The following tests shall be performed in the sequence in which they are listed.  Place the mattress, if any, as specified by the manufacturer, onto the lying support surface, in a position n which any moving elements are free of supporting elements and their inclination is less than 7° in elation to horizontal, and if height-adjustable, the lying support surface shall be placed in the middle of the possible range of the adjustment.  From a height of 180 mm above the mattress/lying support surface, drop the impactor (4.8.16) onto he APPH 20 times onto each of the locations marked "A" in Figure 23. The impactor shall be allowed to fall freely, but guides may be used to help ensure that the impacts occur as close as possible to the recommended locations.	
	Stability	
17		



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Clause	Test Item/Test Requirement / Test Method	Test Result
	During the stability test according to 17.2, a mobile and static APPH loaded with the maximum load shall not lose its equilibrium (balance) at a 10° angle forward and backwards, and at a 5° angle sideways.	
17.2	Test method for static stability  The tests shall be carried out in the forward, backward and sideward directions as specified by the manufacturer on the inclined test plane (4.8.7) according to the required angle for each test. If for mobile APPHs, there is more than one intended direction of travel (forwards) they shall all be regarded as forwards. For mobile APPHs, the base is positioned in the travelling position as indicated by the manufacturer.  The APPH shall be secured against slipping on the inclined surface by the means of stoppers (see 4.8.8 and Figure 1). Apply the maximum load distributed as indicated in Figure 14 for APPHs with a lying support surface.  For APPHs with a sitting surface the centre of gravity of the load shall be placed according to Figure 16, force F1, but not more than 350 mm from the front edge of the seat.  A test dummy according to ISO 7176-11 may also be used.  For an APPH with a lying support surface the tests are repeated on a horizontal surface with loads distributed as indicated in Figure 15 both at the ends and at the sides, one test at a time. The tests shall be carried out with the APPH in its most adverse position regarding the position of wheels, support surface, base and brakes, if applicable.  NOTE It is necessary to assess the risks associated with the APPH when intended to be used on a wet and/or a soapy floor.	
18	Surfaces, corners, edges and protruding parts If not required for the intended function of an APPH, all accessible edges, corners and surfaces shall be smooth and be free from burrs and sharp edges. If not required for the intended function, an APPH shall not have any protruding parts. Where possible necessary protruding parts shall have protection to prevent injury and/or damage.	Pass
19	Small parts  APPHs and their parts intended to be used by small children shall not be of a size where they can create a danger of small children being choked.  Regarding APPHs for children, any part that can be detached without the use of a tool should not fit wholly within the cylinder as specified in EN 716-2:2008, subclause 5.4.  NOTE Small children are considered to be under the age of 5.	NA
23	Fixed APPHs	T
23.1	General This clause specifies requirements and test methods for fixed APPHs which are additional to those specified in Clauses 4 to 21. The requirements and test methods only apply to fixed APPHs within the following divisions of ISO 9999:2011 (in brackets): — shower seats (09 33 03) — bath/shower chairs (without wheels), bath boards, stools, back supports and seats (09 33 03) — bathing stretchers, shower tables and diaper-changing tables (09 33 12)	NA



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Clause	Test Item/Test Requirement / Test Method	Test Result
	<ul> <li>raised toilet seats (09 12 12 / 09 12 18)</li> <li>handrails, handles (18 18 03)</li> <li>suction handles, bath clamp handles (18 18 10)</li> </ul>	
	— hinged rails and arm supports (18 18 11)	
	— height adjustable plinths and brackets (18 15 06) The requirements and test methods do not take into consideration the fixation of the APPH nor the building structure. During testing the APPH shall be adequately fixed onto a suitable test bench/wall so as not to test the fixation but only the APPH.  NOTE Consider national building codes for the fixation of the APPH. The number of test cycles in the durability testing of fixed APPHs shall be as specified in 16.3 (see Table 7 and Table 8) regarding the intended area of use and specified lifetime of the APPH and at appropriate intervals.  In case of a hinged APPH, the test method shall include folding from the complete	
	upright position to the complete down position.	
	Requirements  After and during performing both static strength and durability tests, the requirements in 16.4.1 and 16.5.1 shall be fulfilled.  During the durability testing of the APPHs, it is permissible to make adjustments	
23.2	according to the manufacturer's instructions for use.  The method of fastening to the wall/tub/floor/other APPH shall be recommended by the manufacturer and included in the instructions for use. It shall be specified by the manufacturer how much load each fastener shall sustain.  Additional requirements (if any) to each APPH group can be found in the relevant subclause. ISO 21542 should also be looked at for relevant parts as fixed APPHs are tested.	NA
23.3	Shower seats (09 33 03)	
23.4	Bathing stretchers, shower tables and diaper changing tables (09 33 12)	NA
23.5	Bath/shower chairs (without wheels), bath boards, stools, back supports and seats (09 33 03)	
23.6	Raised toilet seats (09 12 18)	NA
23.7	Handrails, grab bars and handgrips (18 18 03 and 18 18 06)	
23.7.1	Description Handrails and handgrips are designed to aid balance and prevent people who are weak or unstable from falling. Grab bars are usually cylindrical, attached to a wall, floor or other stable structure, to provide the means for a person to support or stabilize himself/herself using hands or arms while in the bathroom.	
23.7.2	Ergonomic principles for handrails, grab bars and handgrips Additional to Clause 21 (Ergonomic principles). The handrail/handle can be round, with a diameter of 25 mmto 45 mm. If it is not round the handrail/handle, it shall have an equivalent grip area. The span between the fixing points shall be defined by the manufacturer as it depends on the materials. The handrail/handle should not have undue flexibility. The gap between the wall and the grab handrail/handle shall be at least 35 mm and shall furthermore follow the requirements within Table 4. Suction cup attachments shall be tested and have the same requirements as for	NA



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Clause	Test Item/Test Requirement / Test Method	Test Result
	attachments above.  NOTE Local building regulations may have different requirements regarding the size of the gap.	
23.7.3	Test methods for static strength and durability for handrails, grab bars and hand	grips
	Test method for static strength The wall-fastened handrail is loaded vertically (F1) using the formula for static force on seat surface in Table 6 for at least 60 s in the most adverse position and then horizontally using 50% of the static force indicated in Table 6. See Figure 29. The handrail shall be attached to a solid wall, with material strong enough to withstand the forces of the tests. The fixation shall be strong enough so that the handrail does not come loose during the test.  NOTE The order of vertical and horizontal is not critical.	
23.7.3.1		
23.7.3.2	Figure 29 — Handrails/handles  Test method for durability The wall-fastened handrail is loaded vertically and horizontally with 40% of the test force for seat surface in Table 6. The amount of cycles is specified according to the formula and Table 7 and Table 8 in 16.3 (see Figure 29).  The handrail shall be attached on a solid wall, with material strong enough to withstand the forces of the tests. The fixation shall be strong enough so that the handrail does not come loose during the test.  NOTE The order of vertical and horizontal tests is not critical.	
23.8	Removable grab rails and handgrips (18 18 10)	
23.8.1	Description APPHs, usually straight or angled bars, that can be temporarily attached to walls, floors, ceilings or furniture (e.g. beds) using e.g. clamps or suction pads and removed without tools; they provide support to a person while changing position.	
23.8.2	Ergonomic principles for removable grab rails and handgrips Additional to Clause 21 (Ergonomic principles).  The handle can be round, with a diameter of 25 mm to 45 mm. If it is not round the bar shall have an equivalent grip area. The span between the fixing points shall be defined by the manufacturer, as it depends on the design of the handle and the materials on which they can be fixed. The gap between the wall and the grab bar shall be at least 35 mm and shall furthermore follow the requirements within Table 4. Suction handles shall be equipped with a safety indicator. For example a display showing the residual force (= maximum user mass).	NA



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Clause	Test Item/Test Requirement / Test Method	Test Result
	Bath clamp handles shall be securely fastened to the bathtub without damaging the tub and the substructure.  The suction/bath clamp handle shall not come loose while tested.	
	NOTE 1 Different material and different frictions will give different results.  NOTE 2 Local building regulations may have different requirements regarding the size of the gap.	
23.8.3	Test methods for static strength and durability for removable grab rails and hand	grips
23.8.3.1	Test method for static strength  Attach the test equipment onto the supporting stands (4.8.15).  Suction handrails are loaded (F1) with 75 % of the maximum load horizontally and 50 % of the maximum load vertically, 90° to the wall and parallel to the wall in the worst case position (see Figure 29 as an example).  Bath clamp handles are loaded (F1) with 75 % of the maximum load horizontally and 50 % of the load vertically, 90° to the bath tub and parallel to the bath tub on the top of the handle (see Figure 29 as an example).  The test surface shall be of stainless steel that is fixed and has at least the size of the test item.	
23.8.3.2	Test method for durability  Attach the test equipment onto the supporting stands (4.8.15).  Suction handles are loaded in the middle of the handle under an angle of 15° outward-upward and outward-downward with 40 % of the maximum load, using Table 7 and Table 8 in 16.3 (see Figure 30 as an example).  Bath clamp handles are loaded parallel to the bath tub on the top of the handle with 40 % maximum user weight according to the formula and Table 7 and Table 8 in 16.3, see Figure 29.  NOTE 1 The order of vertical and horizontal tests is not critical.  NOTE 2 Outward means the direction away from the wall.  The test surface shall be of stainless steel that is fixed and has at least the size of the test item.	
23.9	Hinged rails and arm supports (18 18 11)	NA
23.10	Height-adjustable plinths and brackets (18 15 06)	NA
24	Static APPHs	-
24.1	General  This clause specifies requirements and test methods for static APPHs in addition to those specified in Clauses 4 to 21.  The requirements and test methods for APPHs in this clause apply to the following divisions of ISO 9999:2011 (in brackets):  — raised toilet seats mounted on frame (09 12 12);  — toilet seats inserts (non fixed) (09 12 15);  — toilet seats with built-in raising mechanism to help standing up and sitting down (non fixed) (09 12 21);  — bath/shower chairs (without wheels), bath boards, stools, back supports and seats (09 33 03).	Pass
24.2	Stability and strength tests for static APPHs  General conditions for the relevant tests in addition to the general part shall be as follows:  a) in the stability and strength tests, a constant force shall be applied or the force	Pass



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Clause	Test Item/Test Requirement / Test Method	Test Result
	shall be increased gradually; b) in the strength tests, the force shall be applied with negligible dynamic load; b) c) for an APPH that has a dimension adjustment mechanism, the APPH shall be adjusted to the most adverse position in relation to the test.	
24.3	Toilet seats inserts (non fixed) (09 12 15)	
24.3.1	<b>Description</b> Raised toilet seats (loose attachments) placed directly on the toilet pan/toilet seat where the APPH can be easily removed from the toilet pan/toilet seat.	
24.3.2	Impact	
24.3.2.1	Requirements The APPH shall meet the requirements in 16.6.1 and 24.2. In addition to the requirements in 16.6.1, the APPH shall not fall from the position of intended use. If the product becomes dislocated from the position of intended use, it shall go back into the position of intended use after placing the 60 kg test mass on the front edge of the product as described below (see Figure 34).	NA
24.3.2.2	Test methods  The following describes one test method for assessing the stability of a toilet seat insert, which has no fixation to the toilet, during a user's transfer onto the APPH from standing. As this is not a validated test method the risks associated with a loosely attached raised toilet seat shall be addressed in the risk analysis (see 4.1). Set up the APPH in the position of its intended use onto a suitable surface with characteristics to represent standard toilets in shape and surface texture. Position the raised toilet seat impact test pendulum (see 4.8.14 and 4.8.15) with the edge of the pendulum in contact with the surface of the APPH on either the front or side (see Figure 33).  Support the pendulum so that the rigid bar is at an angle of 30°±2° to the vertical and then allow it to fall once F1 freely and strike the APPH. The impact load shall be applied to the front of the APPH and to one of its sides (see Figure 32).	
24.4	Toilet seats with built-in raising mechanism to help standing up and sitting dow 12 21)	n (non-fixed) (09
24.4.1	Description  Toilet seats that have a built-in lifting mechanism to help a person to sit down onto and get up from the toilet.	
24.4.2	Durability  The ascending and descending movements of the raising mechanism will be considered as one cycle(two movements per cycle). The number of cycles is specified in the formula in 16.3 together with Table 7 and Table 8.  The tests are to be performed according to 16.5.2.3 with requirements stated in 16.5.1.	NA
24.5	Bath/shower chairs (without wheels), bath boards, stools, back supports and s	eats (09 33 03)
24.5.1	<b>Description</b> APPHs for supporting sitting during bathing or showering.	
24.5.2	Materials  Bath seats shall not float in water.	Pass
24.5.3	Stability  APPHs which are designed to be placed on the floor, such as shower chairs and	Pass



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Clause	Test Item/Test Requirement / Test Method	Test Result
	stools, shall meet the stability requirements in Clause 17.  APPHs which are designed to be supported by the sides of a bathtub, such as bath boards/seats and transfer benches, shall meet the stability requirements in 24.5.4. In addition, such APPHs which also feature a back support, shall meet the requirements of the backward stability test in 24.5.4.5.  APPHs which are designed to be placed on the floor of a bathtub, such as bath seat inserts, shall meet the stability requirements in Clause 17.	
24.5.4	Stability tests for APPHs designed to be supported by the sides of a bathtub	
24.5.4.1	Requirements The APPH shall not overturn after the force is applied.	NA
24.5.4.2	Forward stability test method  This test does not apply to rim-mounted bath benches or bath boards.  The transfer bench or bath board/seat shall be placed on the supporting stand (4.8.15) in the position of intended use. The angle of the supporting stands will be adjusted, if required, for the intended use of the APPH. A force of 600 N (F1) shall be applied vertically on the seat using the seat loading pad (4.8.12.4). In addition, a force of 60 N (F2) shall be applied horizontally extending forward from the seat (see Figure 35) to test for overturn.  APPHs with height adjustable legs shall have the height set to the maximum level or the most adverse position.	
24.5.4.3	Sideward stability test method for transfer bench without a handle  The transfer bench or bath board/seat without a handle shall be placed on the supporting stand (4.8.15) in the position of intended use. The angle of the supporting stands will be adjusted, if required, for the intended use of the APPH. A force of 600 N (F1) shall be applied vertically on the seat using the seat loading pad (4.8.12.4), according to Figure 36. In addition, a force of 60 N (F2) shall be applied horizontally extending sidewards from the seat (see Figure 36) to test for overturn.  APPHs with height adjustable legs shall have the height set to the maximum level or the most adverse position.	
24.5.4.4	Sideward stability test method for transfer bench with a handle  The transfer bench or bath board/seat with handle shall be placed on the supporting stand (see 4.8.15) in the position of intended use. The angle of the supporting stands will be adjusted, if required, for the intended use of the APPH. A force of 250 N (F1) shall be applied vertically on the seat using the seat loading pad in a postion for intended use (4.8.12.4), according to Figure 37. Next, a force of 350 N (F2) shall be applied vertically to the centre of the handle using a loading pad (see 4.8.12.4). In addition, a force of 60 N shall be applied horizontally extending sidewards from the seat to test for overturn (see Figure 37 for horizontal handle and Figure 38 for vertical handle).  APPHs with height adjustable legs shall have the height set to the maximum level or the most adverse position.	
24.5.4.5	Backward stability test method (when back support is provided)  The transfer bench or bath board/seat shall be placed on the supporting stand (4.8.15) in the position of intended use. The angle of the supporting stands will be adjusted, if required, for the intended use of the APPH. The weight of 60 kg (F1) shall be put at the position 175 mm forward from the centre of rear edge of the seat according to Figure 39. A force of 140 N (F2) shall be applied horizontally in a	



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	backward direction from the centre of the top edge of the back support (see Figure	
	39) to test for overturn.	
	APPHs with height adjustable legs shall have the height set to the maximum level or	
24.5.5	the most adverse position.  Strength test of brackets	
	Requirements	
24.5.5.1	See 16.4.1.	NA
24.5.5.2	Test method The transfer bench, bath board/seat or bench-type bathtub shelf shall be placed on the supporting stand(s) (4.8.15) in the position of intended use. The angle of the supporting stands will be adjusted, if required, for the intended use of the APPH. The force of 200 N (F1) shall be applied vertically to the centre of the seat using the seat loading pad (4.8.12.4). Next, a force of 400 N (F2) shall be applied horizontally along the length of the APPH and repeated 10 times in alternate directions. The force shall be maintained each time for at least 10 s. After removing the test force, the APPH and its parts shall meet the requirements listed in 16.4.1 (see Figure 40, Figure 41 and Figure 42).  APPHs with height adjustable legs shall have the height set to the maximum.	
24.5.6	Friction test of bath board/seat	<u> </u>
24.5.6.1	Requirements The static friction coefficient shall be 0,3 or more.	NA
24.5.6.2	Test method The bath board/seat shall be placed on the supporting stand(s) (4.8.15) in the position of intended use. The angle of the supporting stands will be adjusted, if required, for the intended use of the APPH. A force of 200 N (F1) shall be applied vertically to the seat using the seat loading pad (4.8.12.4), according to Figure 43. A force shall be applied horizontally in the backward direction (F2) (see Figure 44).  Measure three times the force at which the bath board/seat starts to slip along the support stand.  The friction coefficient shall be calculated by using the mean value of the three times according to the following formula: $\mu = \frac{F}{9,8 \times W}$ where $\mu \qquad \text{friction coefficient;}$ $F \qquad \text{mean value of forces at start of slip (N);}$	
	W total mass (kg).	
24.5.7	W total mass (kg).  Static horizontal force test on handle  Requirements	



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Clause	Test Item/Test Requirement / Test Method	Test Result
24.5.7.2	Test method The transfer bench or bath board/seat shall be placed on the supporting stand (4.8.15) in the position of intended use and prevented from movement. The angle of the supporting stands will be adjusted, if required, for the intended use of the APPH. A force of 400 N (F1) shall be applied horizontally to the handle using the loading pad (4.8.12.1) according to Figure 43, at the centre of the handle, 10 times. The horizontal force shall be maintained each time for at least 10 s. After removing the test force, the APPH and its handle shall meet the requirements listed in 16.4.1 APPHs with height adjustable legs shall have the height set to the maximum.	
24.5.8	Static vertical force test of handle of bath and transfer boards	
24.5.8.1	Requirements See 16.4.1.	NA
24.5.8.2	The transfer bench or bath board/seat shall be placed on the supporting stand (4.8.15) in the position of intended use and prevented from movement. The angle of the supporting stands will be adjusted, if required, for the intended use of the APPH. A force of 800 N (F2) shall be applied vertically to the handle using the loading pad (4.8.12.1) 10 times using the loading pad (see 4.8.12.4) at the centre of the handle, according to Figure 44. The vertical force shall be maintained each time for at least 10 s. After removing the test force, the APPH and its handle shall meet the requirements listed in 16.4.1. APPHs with height adjustable legs shall have the height set to the maximum.	

**Remark:** 1. NA = Not applicable.

2. NT = Not tested as per client's request.



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