Prüfbericht - Produkte
Test Report - Products

Prüfbericht-Nr.: *Test report no.*:	**CN248CJ4 001**	**Auftrags-Nr.:** *Order no.*:	170380168	Seite 1 von 11 *Page 1 of 11*
Kunden-Referenz-Nr.: *Client reference no.*:	N/A	**Auftragsdatum:** *Order date:*	2024.06.11	
Auftraggeber: *Client*:	Guangdong Wireking Household Products Co.,Ltd No.12, Zhi'an North Road, Jun'an, Shunde, Foshan, Guangdong, China			
Prüfgegenstand: *Test item*:	Step stool			
Bezeichnung / Typ-Nr.: *Identification / Type no.*:	WK2284-2, WK2284-3			
Auftrags-Inhalt: *Order content*:	Mechanical Safety Test			
Prüfgrundlage: *Test specification*:	EN 14183:2003 excluding clause 7&8			

Wareneingangsdatum: *Date of sample receipt*:	2024.06.11
Prüfmuster-Nr.: *Test sample no:*	A003736349-001~002
Prüfzeitraum: *Testing period*:	2024.06.11 - 2024.06.19
Ort der Prüfung: *Place of testing*:	Guangzhou
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (GuangDong) Ltd.
Prüfergebnis*: *Test result**:	Pass

überprüft von: *tested by*:		**genehmigt von:** *authorized by*:	
Datum: 2024.06.19 *Date:*	Mark Zeng	**Datum:** 2024.06.19 *Date:*	
Stellung / Position:	Mark Zeng / Engineer	**Stellung** / Position:	Charles Xue / Reviewer

Sonstiges / *Other*:

Zustand des Prüfgegenstandes bei Anlieferung: *Condition of the test item at delivery*:	Prüfmuster vollständig und unbeschädigt *Test item complete and undamaged*

* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhaft
	P(ass) = entspricht o.g. Prüfgrundlage(n)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
** Legend:*	*1 = very good*	*2 = good*	*3 = satisfactory*	*4 = sufficient*	*5 = poor*
	P(ass) = passed a.m. test specification(s)		*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.
This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.

TÜV Rheinland (GuangDong) Ltd. · No.199 Kezhu Road, Guangzhou Science City · Guangzhou · 510663, P.R. China
Mail: service-gc@tuv.com · Web: www.tuv.com

Prüfbericht-Nr.: CN248CJ4 001
Test report no.:

Anmerkungen
Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. *The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system.* *Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.*
2	Wie vertraglich vereinbart, wurde dieses Dokument nur digital unterzeichnet. Der TÜV Rheinland hat nicht überprüft, welche rechtlichen oder sonstigen diesbezüglichen Anforderungen für dieses Dokument gelten. Diese Überprüfung liegt in der Verantwortung des Benutzers dieses Dokuments. Auf Verlangen des Kunden kann der TÜV Rheinland die Gültigkeit der digitalen Signatur durch ein gesondertes Dokument bestätigen. Diese Anfrage ist an unseren Vertrieb zu richten. Eine Umweltgebühr für einen solchen zusätzlichen Service wird erhoben. *As contractually agreed, this document has been signed digitally only. TUV Rheinland has not verified and unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TUV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged.*
3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. *Test clauses with remark of * are subcontracted to qualified subcontractors and descripted under the respective test clause in the report.* *Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.*
4	N/A.

Prüfbericht-Nr.: CN248CJ4 001
Test report no.:

Produktbeschreibung
Product description

1	**Produktdetails** *Product details*	Step stool
2	**Maße / Gewicht** *Dimensions / Weight*	WK2284-2: 345 x 453 x 380mm / 1.72kg WK2284-3: 367 x 592 x 572mm / 2.40kg
3	**Bedienelemente** *Operating elements*	N/A
4	**Ausstattung / Zubehör** *Equipment / Accessories*	N/A
5	**Verwendete Materialien** *Used materials*	Metal and plastic
6	**Sonstiges** *Other*	Test sample(s), as well sample information, description, product details and intended usage was provided by customer.
7	**Prüfmusterbereitstellung**: *Test sample obtaining:*	☒ Sending by customer ☐ Sampling by TÜV Rheinland Group ☐ others:

Product photos

WK2284-2

WK2284-2

WK2284-3

WK2284-3

Absatz *Clause*	**Anforderungen - Prüfungen /** *Requirements - Tests*	**Messergebnisse – Bemerkungen /** *Measuring results - Remarks*	**Ergebnis** *Result*

1 Scope

This European Standard specifies the requirements for step stools, stairtype steps and dometype steps stools. This includes design characteristics, dimensions, materials, performance requirements, test methods and the declaration of suitability of use. The standard excludes ladders and stepladders as defined by EN 131-1:1993.

The requirements are based upon the maximum total load of 150 kg.

2 Normative references

3 Terms and definitions

4 Functional dimensions, designations, requirements

4.1 General

P ☒
F ☐
N/A ☐
N/T ☐

The drawings are examples only and products need not correspond.
However, dimensions are binding. Step stools shall only be fitted with steps that are uniformly spaced to within a tolerance of ± 2 mm.
If the top surface is less than 240 mm x 400 mm, the step stool or stair type steps with a height of more than 750 mm shall have a handrail.
All types of products covered by this standard may be fitted with castors and wheels.

Table 1 — Nomenclature and symbols

Symbols	A	Step stool with fixed legs
	B	Step stool with folding legs that are braced when in use
	C	Stair type steps
	D	Step stool with fold-out steps
	E	Step stool with pull-out steps
	F	Dome type step stool
Quantities	h	Height from the floor to the top surface of the platform or seat
	a	Height from the floor to the top surface of the lowest step and between the top surfaces of subsequent steps, platform or seat
	b_1	Width of platform or seat
	b_2	Width across the outer edges of legs at floor level
	b_3	Width of each step
	b_5	Depth of platform or seat
	b_6	Depth across the outer edges of the legs at floor level
	b_7	Depth of all steps
	b_8	Depth of stair type step stools
	α	Angle between the horizontal and the leading edges of all climbing supports.
	β	Angle between the horizontal and an imaginary line drawn between the rear edge of the rear legs at floor level and the rear edge of the platform or seat.

Table 2 — Functional dimensions for all types of step stools

Dimensions in millimetres

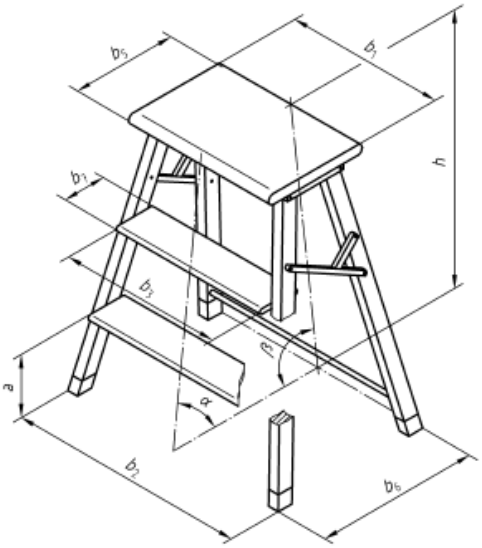
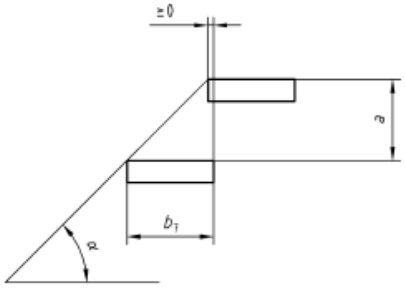
	h	a	b_1	b_2	b_3	b_5	b_6	b_7	b_8	α	β
min.	—	—	300	$b_1 + 0{,}1\ h$	250	200	$b_5 + 0{,}1\ h$	80	150	45°	45°
max.	1 000[a]	250	—	—	—	600	—	—	—	70°[b]	87°

[a] 500 mm for dome type step stools
[b] 80° for heights ≤ 500 mm

Absatz *Clause*	**Anforderungen - Prüfungen /** *Requirements - Tests*	**Messergebnisse – Bemerkungen /** *Measuring results - Remarks*	**Ergebnis** *Result*

	h	a	b_1	b_2	b_3	b_5	b_6	b_7	α	β
WK2284-2	378	190	300	345/ 345	318	202	453	80.5	69.2°	71.3°
WK2284-3	568	190	300	367/ 367	318/ 338	202	592	80.5	69.3°	71°

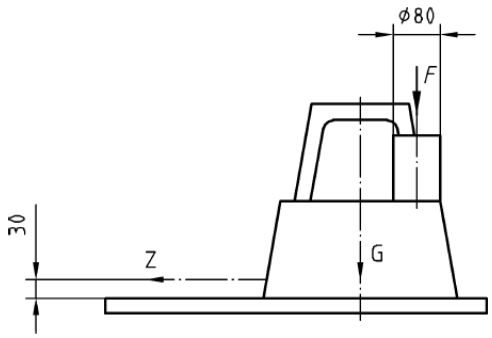
4.2	**Step stool with fixed or folding legs** There shall be no gap between the projection of the steps to the ground (see Figure 1b). Designation of a step stool with fixed legs (A) with three steps: Step stool EN 14183 — A—3 Designation of a step stool with folding legs that are braced when in use (B) with three steps: Step stool EN 14183 — B—3	For both models: Fulfilled.	P ☒ F ☐ N/A ☐ N/T ☐

Absatz *Clause*	**Anforderungen - Prüfungen /** *Requirements - Tests*	**Messergebnisse – Bemerkungen /** *Measuring results - Remarks*	**Ergebnis** *Result*
	 Figure 1a — Step stool with fixed or folding legs  Figure 1b — Overlapping of steps for step stools		
4.3	**Rigid or folding stair type steps**		P ☐ F ☐ N/A ☒ N/T ☐
4.4	**Fold-out/pull-out step stool**		P ☐ F ☐ N/A ☒ N/T ☐
4.5	**Dome type step stool**		P ☐ F ☐ N/A ☒ N/T ☐
5	**Additional requirements**		
5.1	**Materials**		
5.1.1	**General** The requirements for materials only apply to load-bearing components.		

Absatz *Clause*	**Anforderungen - Prüfungen /** *Requirements - Tests*	**Messergebnisse – Bemerkungen /** *Measuring results - Remarks*	**Ergebnis** *Result*
5.1.2	**Plastic** When using plastic materials, ageing and temperature resistance have to be taken into account. Glass-fibre reinforced plastics shall be protected against penetration of water and dirt. The surface shall be smooth. The fibres shall be embedded.	For both models: Provided the ageing report.	P ☒ F ☐ N/A ☐ N/T ☐
5.1.3	**Steel** Parts made of steel shall have a thickness of at least 0,90 mm.	For both models: Fulfilled.	P ☒ F ☐ N/A ☐ N/T ☐
5.1.4	**Aluminium** Parts made of aluminium shall have a thickness of at least 1,20 mm.	For both models: Fulfilled.	P ☐ F ☐ N/A ☒ N/T ☐
5.2	**Steps and platforms** Top surfaces of steps and platforms shall have resistance against slipping. The contact surface of the coverings shall adhere firmly to the steps. Steps and platforms shall be firmly and durably connected to the stiles. When loaded as specified in 6.2, the platform and the steps shall show no signs of damage, such as fractures, or cracks.	For both models: Fulfilled.	P ☒ F ☐ N/A ☐ N/T ☐
5.3	**Slip resistance**		
5.3.1	**Feet or bottom end of stiles** Feet or bottom ends of stiles shall be soled with a slip resistant material (e. g. rubber). Requirements of 5.3 are considered to be met if successfully tested according to 6.3	For both models: Bottom-ends of the product are antiskid with plastic feet mat.	P ☒ F ☐ N/A ☐ N/T ☐
5.3.2	**Rollers and wheels** Where rollers or wheels are fitted, step stools and rigid steps shall be designed so as to prevent any accidental displacement when loaded. Rollers shall either be automatically locked or automatically disabled once the step stool or rigid steps are loaded.	For both models: No rollers and wheels.	P ☐ F ☐ N/A ☒ N/T ☐

Absatz *Clause*	**Anforderungen - Prüfungen /** *Requirements - Tests*	**Messergebnisse – Bemerkungen /** *Measuring results - Remarks*	**Ergebnis** *Result*
5.4	**Opening restraint and compression security devices** Step stools and stair type steps shall be prevented from unintended folding when deployed for use.	For both models: Checked ok.	P ☒ F ☐ N/A ☐ N/T ☐
5.5	**Design** Finger traps (shearing points) shall be avoided as far as possible. All connections shall be durable and have a strength corresponding to the strain. The connections shall be designed in a manner that arising notch tensions remain low. Screws and nuts shall be secured against self-acting slackening, e. g. by means of safety devices with a blocking effect or being positive. Welding of joints is permitted if welding procedures and welding personnel are suitable. EN 719 and EN 729-1 to EN 729-4 shall be observed.	For both models: Fulfilled. No screws and nuts. No welding joints.	P ☒ F ☐ N/A ☐ N/T ☐
5.6	**Surface finish** In order to avoid injuries, accessible edges, corners, and protruding parts shall be free of burrs, chamfered or rounded. Metal parts susceptible to corrosion shall be protected by means of a paint coating or other coating. Under normal conditions aluminium alloy products are not likely to corrode and need no protection. If wooden parts are coated, the coating shall be transparent and permeable to water vapour.	For both models: Fulfilled. No wooden parts.	P ☒ F ☐ N/A ☐ N/T ☐
5.7	**Hinges (turning points)** Hinges shall connect the legs of the step stool durably. Hinges shall be designed in such a manner that no abutment of the step stool parts over the hinges is formed during use of the step stool. The hinge pin shall be secured against unintentional loosening. The diameter of steel hinge pins shall not be less than 5,0 mm or screw M 6. Pins of other materials shall have at least the same strength. If the pin has several shearing points (piano hinge) there is no restriction as to the hinge pin diameter.	For both models: Fulfilled. Not piano hinge.	P ☒ F ☐ N/A ☐ N/T ☐

Absatz *Clause*	**Anforderungen - Prüfungen /** *Requirements - Tests*	**Messergebnisse – Bemerkungen /** *Measuring results - Remarks*	**Ergebnis** *Result*
5.8	**Padding** An assembled seat may have padding, which shall not exceed a thickness of 20 mm in an unloaded state.	For both models: No padding.	P ☐ F ☐ N/A ☒ N/T ☐
6	**Test methods**		
6.1	**General** An uncertainty of measurement of ± 1,0 mm is permitted for the tests specified in 6.2, 6.3 and 6.4.		P ☒ F ☐ N/A ☐ N/T ☐
6.2	**Vertical static load test of steps and platforms** All types of products covered by this standard shall be subjected to this test on each step, platform and seat. The padding of a padded seat shall be removed for this test. The product shall be placed on a firm, flat surface and deployed for use as detailed in the instructions for use. Loading shall be applied centrally and evenly distributed over an area of 100 mm × 100 mm. Firstly apply a pre-load of 200 N for the duration of 1 min. After this remove the pre-load and set measuring equipment to read the resulting position of the surface as a datum. Apply a load of 2 600 N for the duration of 1 min and then remove the load. Measure and record the permanent deflection from the datum. Also measure the width of the surface being tested. Examine and record any cracks or ruptures of materials. Any permanent deflection of metal or plastic parts shall be max. 0,5 % of the width of the platform or the step . Measurement shall be carried out 1 min after load removal.	WK2284-2: Permanent deflection: Platform: f_{max}=1.50mm Step: f_{max}=1.59mm Platform: 0.27 mm<1.50 mm Step: 0.35mm<1.59mm WK2284-3: Permanent deflection: Platform: f_{max}=1.50mm Step: f_{max}=1.59/1.69mm Platform: 0.09 mm<1.50 mm Second step: 0.12mm<1.59mm Frist step: 0.37mm<1.69mm	P ☒ F ☐ N/A ☐ N/T ☐
6.3	**Determination of friction coefficient** Position the product on a 2 mm plain decorative high-pressure laminate (HPL) HPL EN 438-S333. Apply a load F of 125 N to the centre of the bottom step (positioned as in 6.2). Using appropriate measuring equipment measure the minimum horizontal pulling force Z required to overcome friction and cause the product to slide. Measure the weight of the product in Newtons G. Calculate the coefficient of friction using:	WK2284-2: Z=55 N, μ=0.39 WK2284-3: Z=60 N, μ=0.40	P ☒ F ☐ N/A ☐ N/T ☐

Absatz *Clause*	**Anforderungen - Prüfungen /** *Requirements - Tests*	**Messergebnisse – Bemerkungen /** *Measuring results - Remarks*	**Ergebnis** *Result*
	Friction coefficient $\mu = \frac{Z}{G+F}$ shall be ≥ 0,20 where μ is the friction coefficient Z is the horizontal pulling force in Newtons G is the weight force of the step stool in Newtons F is an additional load of 125 N Test temperature (20 ± 5) °C. Duration: 1 min.		
	Dimensions in millimetres  **Figure 6 — Determination of friction coefficient using a dome type step stool**		
6.4	**Seat Suitability Test** This test only applies to step stools with padded seats. To test the seat as suitable for use as a climbing support, place a disc with a mass of 0,1 kg and a diameter of 100 mm on the centre of the seat. Place a cylindrical mass of 2 kg with a diameter of 100 mm on the disc. Measure and record the settlement of the disc due to the 2 kg mass after 1 min. When tested, the settlement shall not exceed 10 mm.	For both models: No padded seats.	P ☐ F ☐ N/A ☒ N/T ☐
7	**Instructions for use** Suitable instructions for use have to be provided by the manufacturer. This shall include the maximum total load of not more than 150 kg. NOTE: A standard for user information for ladders is in preparation as prEN 131-3.	For both models: Not required by client.	P ☐ F ☐ N/A ☐ N/T ☒

Absatz *Clause*	**Anforderungen - Prüfungen /** *Requirements - Tests*	**Messergebnisse – Bemerkungen /** *Measuring results - Remarks*	**Ergebnis** *Result*
8	**Marking** All marking shall be clear and durable and prominently positioned on the product. The marking shall include: - manufacturer's declaration of suitability of use. The manufacturer shall advise of any limit of use to which the product is allowed and any environment for which it is unsuitable (e.g. "for indoor use only"); - name of the manufacturer and/or supplier; - product designation in accordance to clause 4; - year and month of manufacture and/or serial number; - maximum total load. Only products that comply with this standard may be marked "EN 14183".	For both models: Not required by client.	P ☐ F ☐ N/A ☐ N/T ☒

---END---