

FGT-08

Parts Pulling Procedure

Index Update – Parts Pulling Procedure FGT-08

Update Date	Changed Items
26.04.01	• First Launch
05.03.12	• Update for sandal tool and requirement
	• Update snap button
28.08.2012	• Update with fashion requirements and product safety segmentation
30.	• Safety segmentation placed under review
08.2012	• Inclusion of FGT-08 parts into FGT product safety group
12.09.2012	
29.05.2013	• Changed wording at Evaluation.
	• Added pass/fail pictures for Parts Pulling evaluation
	• Added 6mm flat lace to replace stretch lace
	• Update requirement table
25.9.2013	• Change sandal tool& change picture at figure 4
	• Add lace holder requirement& eye-stay requirement for elastic lace
	• Update requirement table with RBK product level
24.01.2014	• Add eye-stay number in general procedure
	• Revise process step for sandal with straps
14.04.2014	• Update: Requirement Table
11.07.2014	• Update: requirement Table& Weigh for Velcro type
19.11.2014	• Update: Evaluation Table & Requirement Table
04.05.2015	• Update: Evaluation Table
03.06.2015	• Update: Requirement Table – New categories
13.07.2016	• Update: Requirement for Heel Pull Tap raised to 200N
14.09.2016	• Category Outdoor Trail Run added, requirement for Outdoor Sport
23.03.2017	changed.
08.08.2017	• Handball and Snowboarding added
	• Requirement for Handball Junior changed
04.12.2017	• Rock climbing shoes requirements were added
11.09.2018	• Tongue construction for Rock Climbing Shoes differentiated and updated
07.09.2021	• Add test method/requirement of lace lock/lace holder, and annex.
03.22.2022	• Update requirement table (add sheet 2)

Valid for : All parts that receive a pull from the customer during wear or when shoes are put on

Reference: ST-03, ST-07

Purpose

To simulate the way how pulling forces, behave mainly in the eyelet stay area and test Velcro strength

Apparatus

- Tensile machine, compliant with DIN EN ISO 7500-1 standard

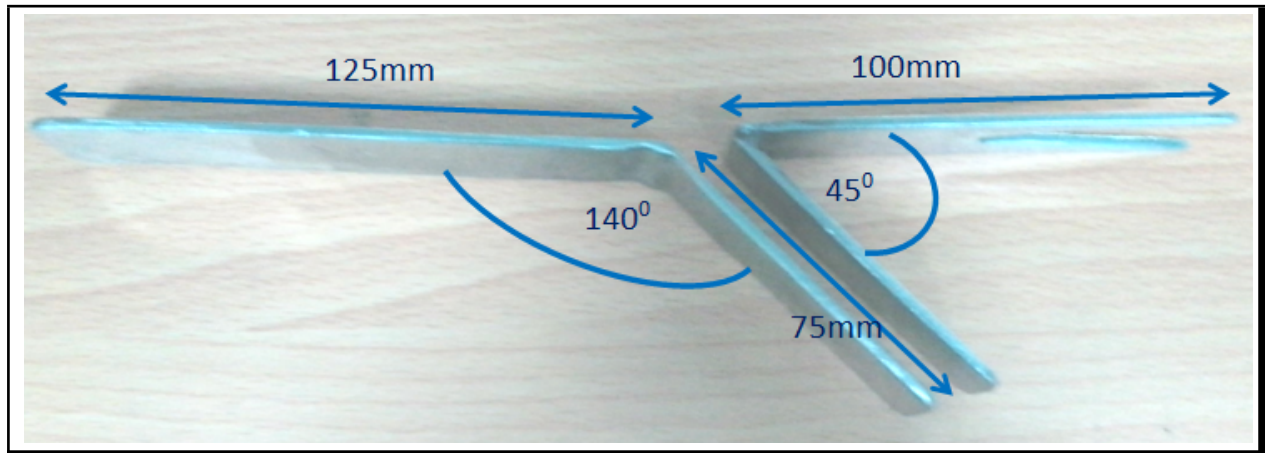
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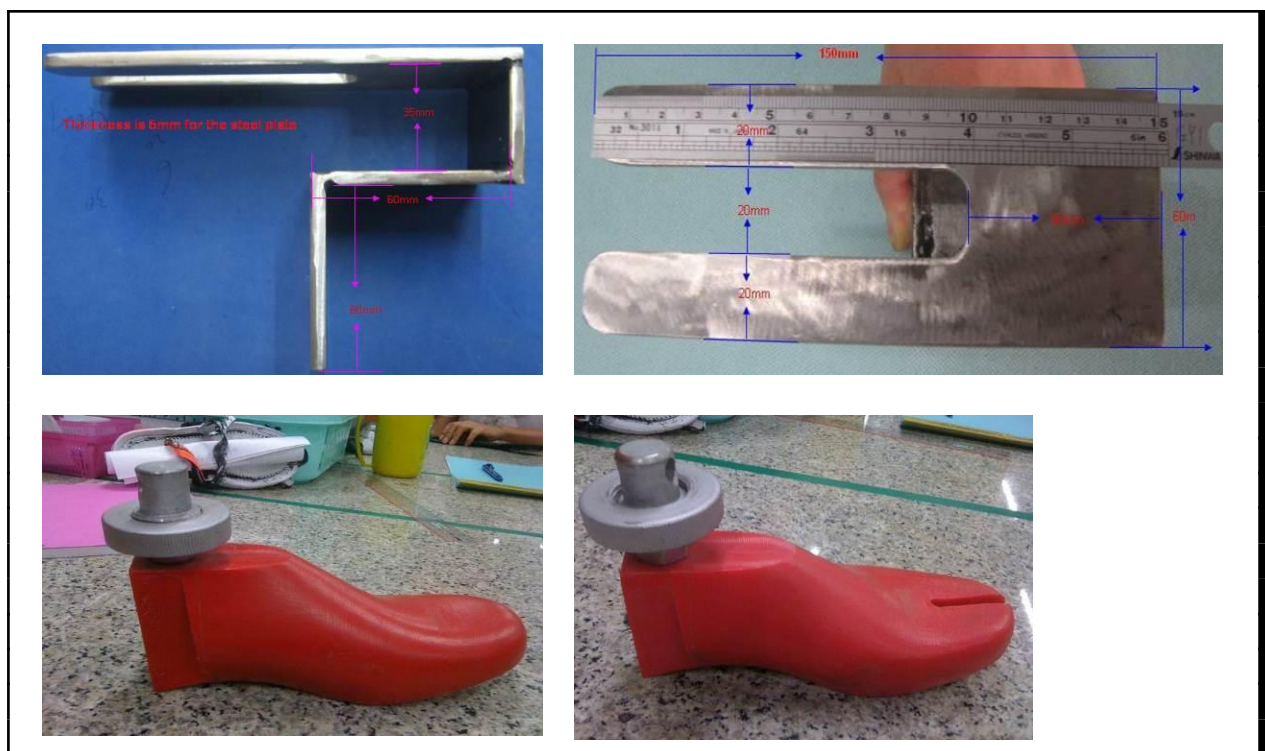
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Parts Pulling Procedure

- Scissors
- Sharp knife
- Testing tools for Sandals strap



- Testing tool for Toe fixed Sandals (Thong-Type), forefoot strap



- Weight 3.3 kg for Velcro type, Adilettes

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Parts Pulling Procedure



Number Of Test Pieces

- According to FGT-Matrix

Test Procedure

All tests are done with the tensile machine and an upwards speed of **100mm/min**

a. General

1. Cut out at least one side of the eyelet stay area out of the shoe.
2. Insert the lace which is specified for the shoe to be tested through one eyelet/hole. Start either at the medial or at the lateral side at eyelet # 1.
In case the lace is too stretchy, use a flat lace in 6 mm from production line.
3. Clamp the specified lace into the upper clamp of the tensile testing machine and clamp the shoe's upper into the bottom clamp as far away from the eyelet as possible, as shown in figure 1.
4. Stop the machine when the material starts to break or the requirement is reached.
5. Repeat the test for eyelet #1, 3, 5,...on the lateral side and for eyelet #2, 4, 6,... on the medium side or the other way round.

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Parts Pulling Procedure

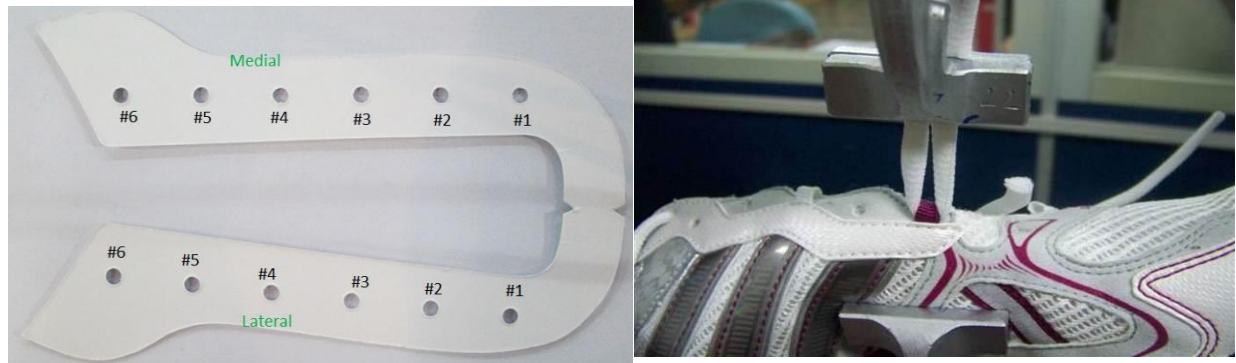


figure 1

b. Heel- and tongue pull tab

1. Thread the lace which is specified for the tested shoe through the pull tab (as shown in figure 2).
2. Clamp the lace into the upper clamp of the tensile testing machine. The tongue or the heel part with the pull tab will be clamped into the lower clamp of the tensile machine. In case the test is done on a complete shoe, tie the shoe with a second lace as shown in the left picture.
3. Stop the test latest after the pull tab is broken or the requirement is reached.



figure 2

c. Stitched through upper decoration plastic parts (i.e. 3-stripes)

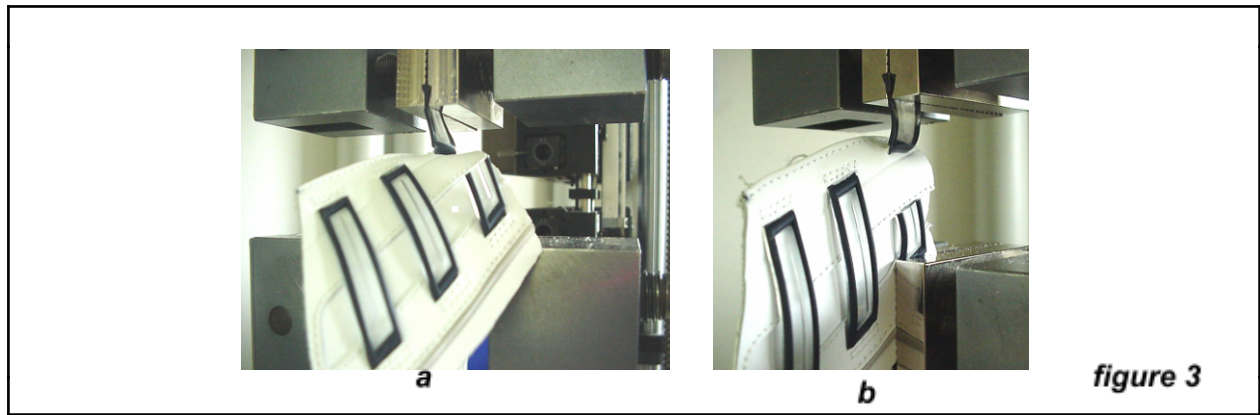
1. Cut the decoration part out of the shoe.
2. Cut the plastic part into half (as shown in figure 3a).
3. Clamp the part of which the seam strength shall be evaluated into the upper clamp of the tensile testing machine. The remaining area of the piece is clamped into the lower clamp (as shown in figure 3b).
4. Stop the test latest after the seam is broken.

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d. Sandals

An additional tool and a strap with a width of 35 mm (like a shoulder strap of a bag) are needed to fix the sandal into the tensile machine (see figure 4 and 5). For sizes $\geq 8,5$ UK the tool must be longer than 210 mm

d1. Sandals with straps

1. Punch a hole with the dimensions of 25x30mm in the sole (figure 4a).
2. Adjust the clamp distance of the tensile machine that the sandal and the testing tool can be fixed in the clamps of the machine. (Figure 4 shows as a reference shows as a reference how the tool will be fixed later in combination with the sandal).



3. Secure the sandal and the testing tool for Sandals strap. Fix the testing tool into the center of the lower clamp as shown in figure 5b/c.

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Parts Pulling Procedure

- Rear strap testing: fix the strap as shown in figure 5 d
- Front strap testing: fix the strap as shown in figure 5 e

Note:..

Forefoot strap testing: Clamp the testing tool for Toe fixed Sandals (Thong Type) to the lower clamp of tensile machine first and afterwards fix the strap as shown figure 5f.

- For sizes <1 UK, use the tool with a width of 4 cm
- For sizes >=1 UK, use the tool with a width of 6 cm

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Parts Pulling Procedure



**a) Punch hole
Strap**



**b) Tool + shoe fixed into
the lower clamp**



**b) Tool + shoe fixed into
the lower clamp**

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Parts Pulling Procedure



d) Rear Strap

e) Front Strap

f) Forefoot Strap

figure 5

4. Let the tensile machine run upwards until the tested strap shows any damage or is broken, or the Velcro is open, or the requirement is reached.

d2. Toe fixed sandals (Thong Type)

1. Clamp the tool into the lower clamp of the tensile machine.
2. Cut the bandage and clamp the shoe as shown in figure 6.

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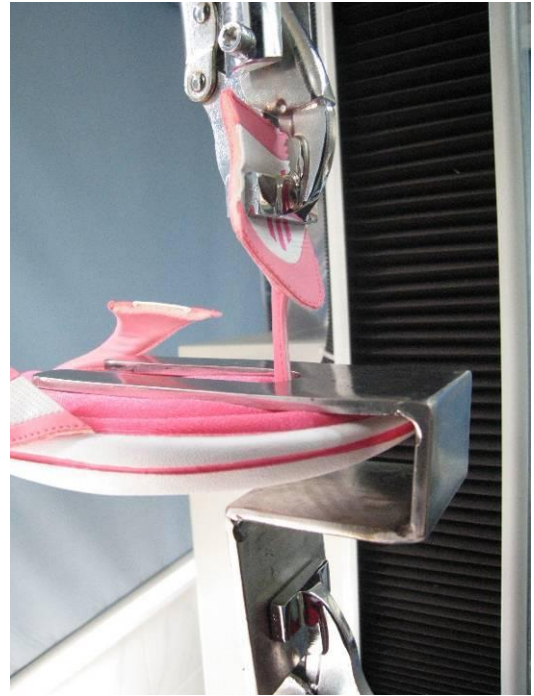


figure 6

3. Stop the test latest after the plastic part is broken or has been torn through the sole.

In addition, the back bands of the thong need to be tested:

1. Use the Thong Type tool and clamp it into the upper clamp of the tensile machine (see also figure 7)
2. Start pulling test; stop the test until one or two end of the thong broken or the requirement is reached.

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figure 7

d3. Velcro-type adilettes and sandals

1. Fix the Velcro parts on the shoe that way that they overlap completely and press them together.
2. Use the 3.3 kg weight and roll it 6 times over the bandage surface
3. Use the Thong Type tool and clamp it into the upper clamp of the tensile machine (see also figure 7)
4. Start pulling test; stop the test until one or two end of the thong broken or the requirement is reached (see figure 8).



figure 8

5. Stop the test latest after the bandage has opened completely.

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Parts Pulling Procedure

Tongue Pulling Test

1. Cut the upper away from the bottom.
2. Clamp the upper into the lower clamp of the tensile machine as far the connection as possible, as shown in figure 9.
3. Take the upper end of the tongue and clamp it into the upper clamp.
4. Let the machine run upwards.



figure 9

Snap button

1. Cut the strap out of the shoe.
2. Clamp the strap into the upper clamp of the tensile machine as shown in figure 10.
3. Clamp the shoe into the lower clamp.
4. Distant of clamp is 76 mm.
5. Let the machine run upwards.

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Parts Pulling Procedure



figure 10

Lace holder/Lace lock

1. Cut or remove the lace holder/lace lock of the shoe.
2. Clamp the specimen as shown in figure 11.
3. Let the machine run upwards.



figure 11

Evaluation

Parts Pulling, Tongue Pulling, Snap button

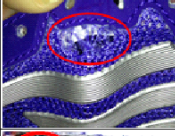
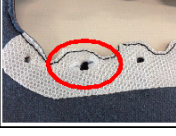
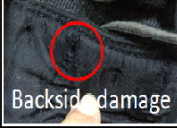
Stop the machine when the material starts to break or the requirement is reached. Take this value as the result. See chart below for pass/fail examples.

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FGT-08 Evaluation					
Type of eyelets	Fail Example Pictures			Evaluation	
				Pass	Fail
Eyestay punch holes (without eyelet component)				Requirement reached, no tear.	Tear visible on upper material around punch holes at or before reaching required force.
With eyelet components (TPU, metal etc)				Requirement reached, no change.	Falling out, deformation, breaking at or before reaching required force.
Any type				Requirement reached, no upper tear due to pulling.	Upper material or seam tear at or before reaching required force.
Any type - backside of eyelets				Requirement reached, no defect on upper side, but backside shows breakage 3mm or less.	Requirement reached, no defect on upper side, but backside shows breakage more than 3mm.

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Parts Pulling Procedure

Requirements

NOTES

- 1) The below requirements are minimum requirements
- 2) Items marked in yellow are part of FGT product safety group (no limited release possible)
- 3) For elastic lace, eye-stay pulling requirement is same as Tensile for that lace
- 4) **RUNNING***: 1ST&2ND Eye-stay require min 300N
- 5) **ZX FLUX**: 1ST&2ND Eye-stay require min 200N



FGT-08 req-v
22-Mar 2022.xlsx

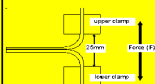
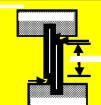
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On straps with touch and close fasteners (not sandals), cut the straps out from the shoe and test the strap acc to ST-07 using the following requirements:

Test Type	adidas Standard	Requirement for dry test from PDM (adults)	Requirement for dry test from PDM (infants)	Evaluation UOM	Mesurements of specimen
Peel strength	ST-07	min 2	min 2	N/cm	
Shear Strength	ST-07	min 9	min 7	N/cm ²	

Test procedures for Fashion shoes



TM108-Top piece strength



TM117-Decorative trim



TM113-Heel detachment



TM118-Toe post



TM120- Strength of attachment of straps



TM181- Strength of Buckle and strap attachment



TM149- Strength of Eyelot facings and other

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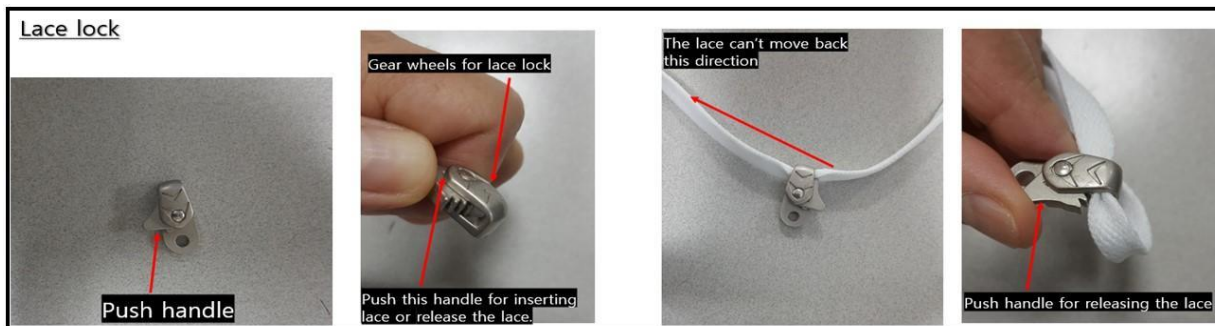
Parts Pulling Procedure

Annex

Definition/Function : Fixing lace without tie a shoelace.



Definition/Function : Prevent the loosening of the shoelace completely.



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