DAkkS Deutsche Akkreditierungsstelle D-PL-11130-01-02

TEST REPORT
No. 20-12865-B

Project Name:	Plastic Case Max 800	
Client:	Plastica Panaro Srl Via Gramsci 438 I-41054, Marano Sul Panaro (MO)	
Involved Persons:	Margit Pochendorfer Stefanie Bächer	(Plastica Panaro Srl) (PAConsult GmbH)

Purpose:

By means of a laboratory simulation one shipping unit *Plastic Case Max 800* is tested to transport strains. The test specifications are given by the client and are described in the ATA 300 Revision 2008, Cat. 1 standard [1].

Summary:

All tests were performed successfully. During the tests visible changes could be observed. Single latches unclenched during the drops, but the case in total did not open. After testing drop edges and corners showed abrasion marks. Additionally Faces 4, 5 and 6 showed damaged bars and on Face 4 a loosened hinge pin was observed. The detailed visual inspection, the final functional tests and the evaluation of the results will be performed by the client.

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List of Revision:

Revision	Date	Reason
0	2020-05-25	Original Document

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1 Specimen

For the tests one shipping unit *Plastic Case Max 800* (see Fig. 1) was provided by the client. Tab. 1 specifies the unit in detail. In the following report the specimen is abbreviated by EUT (**E**quipment **U**nder **T**est) and a corresponding number.

Table 1: Equipment Under Test

EUT No	Specimen	Content	Dimensions in mm			Shipping Unit Construction in kg
			Length	Width	Height	
1	Shipping Unit *Plastic Case Max 800*	foam pad	1177	450	158	Total Weight: 6.20
	Note: The specified dimensions are identification values and not measurement results.					

Figure 1: EUT 1

The incoming goods control showed no visible damages at the specimen.

2. Test and Equipment

The test standards and parameters were given by the client and are described in the ATA 300 Revision 2008, Cat.1. [1]. Table 2 describes the tests and the test sequence.

Table 2: Test Parameters

Prüfung	Prüfparameter	Belastung	Referenz
Drop Test	Drop Height: Face Drops 762 mm Edge Drops 915 mm Corner Drops 915 mm	Face Drops: Face 3, 1, 2 and 4: 27 Drops/Face Face 5 and 6: 26 Drops/Face Bottom Edge Drops: Edge 2-3, 3-4 and 3-5: 7 Drops/Edge Edge 3-6: 6 Drops/Edge Vertical Edge Drops: Edge 2-5 and 4-5: 7 Drops/Edge Edge 2-6 and 4-6: 6 Drops/Edge Top Edge Drops: Edge 1-2, 1-4 and 1-5: 7 Drops/Edge Edge 1-6: 6 Drops/Edge Bottom Corner Drops: 2-3-5, 2-3-6, 3-4-6, 3-4-5 5 Drops/Corner Top Corner Drops: 1-2-5, 1-4-5, 1-4-6,1-2-6: 5 Drops/Corner	ATA 300, 2008 B-2-1 Cat. 1 [1]
Impact Test	Drop Height Projectile 50 cm Projectile: Ø 32 mm Weight: 6 kg	1 Drop on Face 1	ATA 300, 2008 B-2-4 Cat. 1 [1]

2.1. Test Facility

The tests were performed in the laboratory of:

PAConsult GmbH
Site Berlin
Quitzowstr. 47
10559 Berlin

2.2 Laboratory Conditions

All tests were performed under the conditions listed in Table 3, if not stated differently in this test report.

Table 3: Environmental Conditions

Temperature	15°C - 35°C
Relative Humidity	<85 %
Atmospheric Pressure	860 hPa - 1060 hPa

2.3 Equipment used for Test

The test equipment used in the laboratory of PAConsult GmbH in Berlin is listed in Table 4.

Table 4: Test Equipment

Device	Manufacturer	Type	Serial number / Version	Date of last calibration
Drop Table	PAConsult	n/a	n/a	2020/03
Impact Projectile	PAConsult	n/a	n/a	n/a
Scale	MEWA	IT1000	106503	2020/04
The calibration of the laboratory test equipment is performed annually (± 2 months).				

3 Statement of conformity / decision rules

As no decision rules for the statement of conformity for *ATA 300 Revision 2008, Cat. 1 standard* are given, all results for tests were documented as information only.

No additional acceptance criteria are given by the client.

4 Test Procedures

The identification of the test faces, edges and corners of the shipping unit is shown in Figure 2.

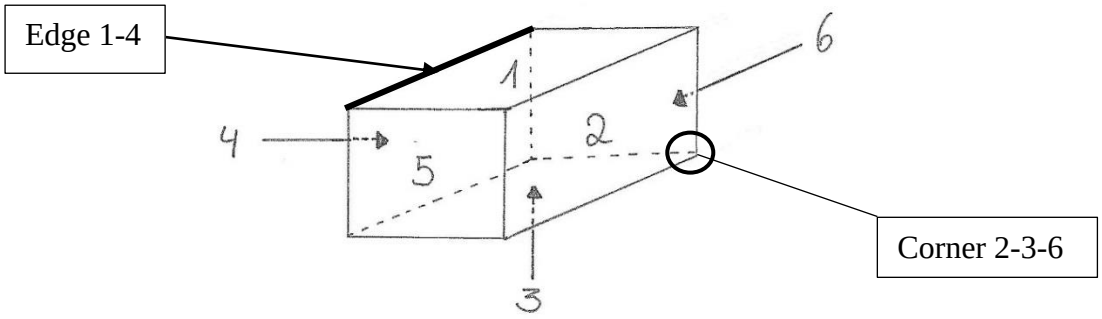

Figure 2: Definition of Faces, Edges, and Corners

4.1 Drop Test

The drops are performed onto a steel plate. Table 5 shows the allocation of the drop number, drop height, and test faces of the shipping unit. Figure 3 exemplarily shows the test setups.

Table 5: Test Parameters Drop Test

Drop Area	Orientation	Drop Height	Drops
Faces	Face 3	762 mm	27
	Face 1		27
	Face 2		27
	Face 4		27
	Face 5		26
	Face 6		26
Bottom Edges	Edge 2-3	915 mm	7
	Edge 3-4		7
	Edge 3-5		7
	Edge 3-6		6
Vertical Edges	Edge 2-5	915 mm	7
	Edge 2-6		6
	Edge 4-5		7
	Edge 4-6		6
Top Edges	Edge 1-2	915 mm	7
	Edge 1-4		7
	Edge 1-5		7
	Edge 1-6		6
Bottom Corners	Corner 2-3-5	915 mm	5
	Corner 2-3-6		5
	Corner 3-4-6		5
	Corner 3-4-5		5
Top Corners	Corner 1-2-5	915 mm	5
	Corner 1-4-5		5
	Corner 1-4-6		5
	Corner 1-2-6		5

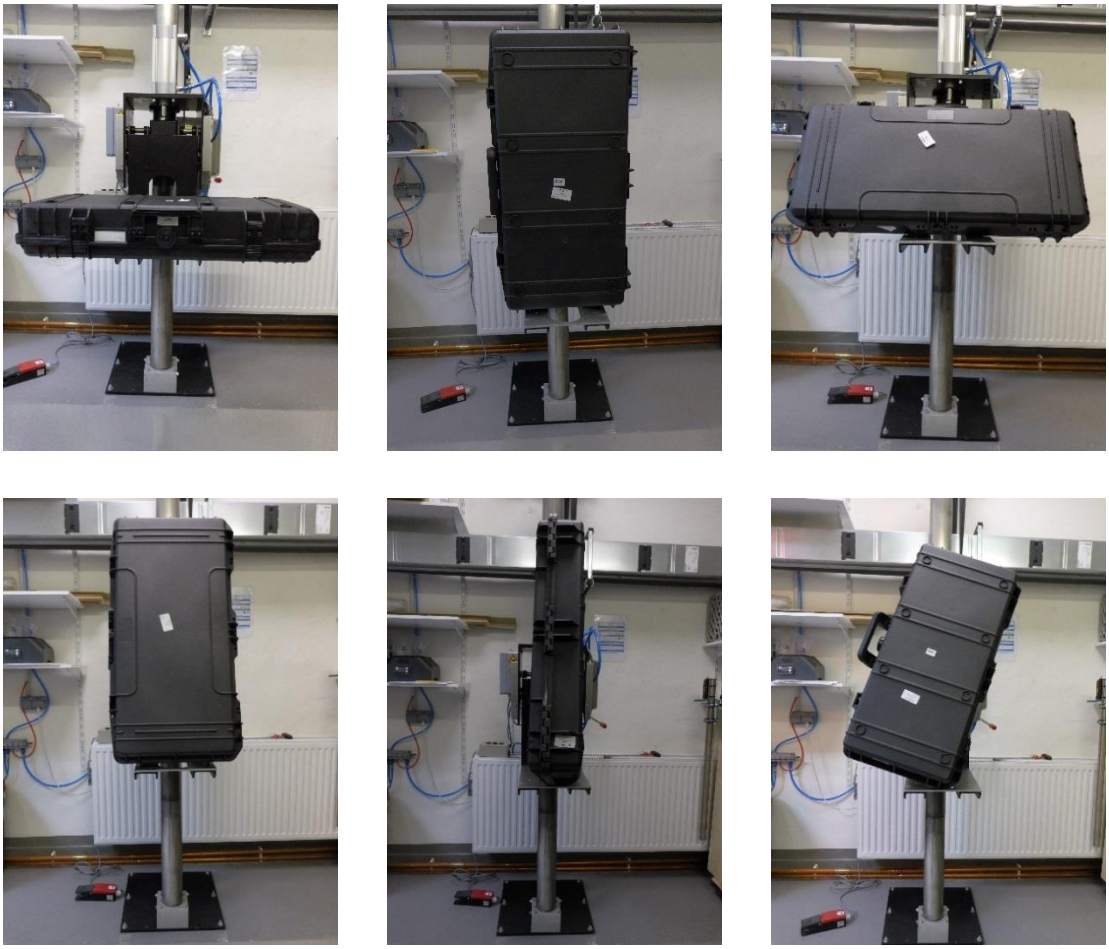

Figure 3: Setup Drop Tests, exemplarily

4.2 Impact Test

The impact projectile is placed onto the drop table, 50 cm above the top surface of the specimen. The drop is performed once onto the top face. Figure 4 shows the test setup.

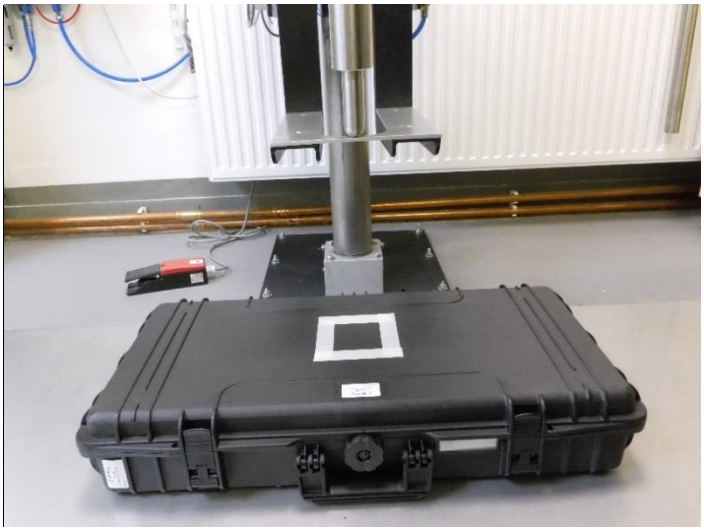

Figure 4: Setup Impact Test

4.3. Acceptance Criteria/ Statement o Conformity

The evaluation of Max 800 is to be performed, according to the procedure in chapter 3.

5 Test and Results

5.1 Drop Test

The test was performed according to the parameters specified in Table 2. During the test visible changes were observed. The latches opened on several drops. Figure 5 exemplarily shows the opened latches on edge 1-2. Faces 4, 5 and 6 showed damaged bars and on Face 4 a loosened hinge pin was observed (see Figure 6). On all edges minor abrasion could be observed (see exemplarily Figure 7).

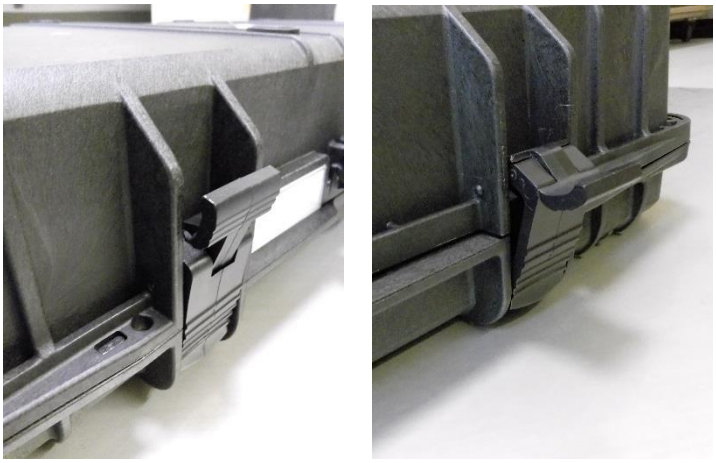

Figure 5: Opened Latches, exemplarily

Figure 6: Damaged Bars and Loosened Hinge Pin

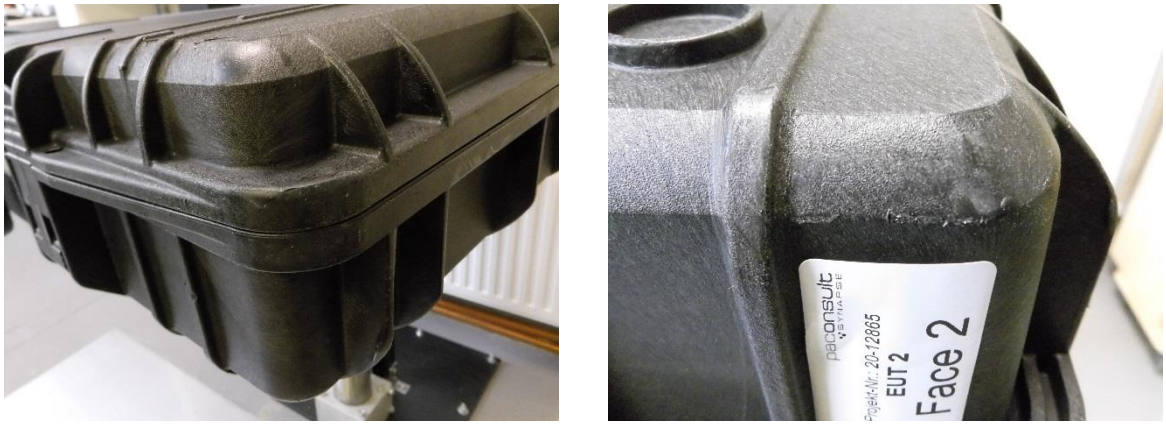

Figure 7: Minor Abrasion, exemplarily

5.2 Impact Test

The test was performed, according to the parameters in Table 2. After the test a minor abrasion could be observed (see Figure 8).

Figure 8: Minor Abrasion

5.3. Acceptance Criteria/ Statement of Conformity

At the conclusion of the testing the following visible changes were observed:

- open latches (see Figure 5)

- dented bars and loose hinge pin (seeFigure 6)

- minor abrasions (see Figure 7)

The contents of the container, its interior shock-absorbing materials and devices did not show any changes that affect their utility. The interior and exterior of the container did not reveal any failure of the container or shifting of the parts.

6 Summary

The tests were performed successfully. Table 6 summarizes the test results.

Table 6: Overview Test Results

Results Environmental Simulation - Plastic Case Max 800 -		
Seq	**Test**	**Result**
1	Drop Test	Visible changes were observed
2	Impact Test	Minor abrasions were observed

The detailed visual inspection, the final functional tests and the evaluation of the results will be performed by the client.

7 References

[1] ATA Specification 300 Revision 2008.1

Note:

This test report may be passed on as a complete version and unchanged only. Extracts require permission of the test laboratory. Test results exclusively refer to the test object specified above. Test reports without signature are invalid.