Deutsche Akkreditierungsstelle D-PL-11130-01-02

TEST REPORT
No. 20DE-00548-01

Test Specimen:	Max 505	
Client Reference No:	n/a	
Client:	Plastica Panaro S.r.l Via Gramsci 438 41054 Marano Sul Panaro (MO)	
Responsible Persons:	Margit Pochendorfer Stefanie Bächer	(Plastica Panaro S.r.l) (PAConsult GmbH)

Purpose:

By means of a laboratory simulation, one shipping unit Plastic Case Max 505 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 A [1].

Summary:

The tests were performed according to the specification. During the tests visible changes could be observed. Single latches unclenched during the drops but the case in total did not open. After testing the drop edges and corners showed abrasion marks.

After all tests, the package was not opened for a visual inspection. The final visual inspection of the content and the evaluation of the results will be performed by the client.

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Written:	Stefanie Bächer (Project Leader)	Signature	December 01, 2020
Reviewed / Approved:	Torben Hintze (Head of Laboratory)	paconsult signed per pro by: Torben Hintze on: 2020-12-15 at: 13:55:27 +01	

List of Revision:

Revision	Date	Reason
0	2020-12-01	Original Document

Table of Contents:

1 Specimen

For the tests, one shipping unit (see Figure 1) is provided by the client. Table 1 specifies the shipping unit. In the following designation, the specimen is abbreviated by EUT (**E**quipment **U**nder **T**est).

Table 1: Specimen[c]

EUT No	Specimen	Content	Dimensions in mm			Shipping unit construction in kg
			Length	Width	Height	
1	Shipping Unit *Plastic Case Max 505*	Foam Pad and Granulate	555	428	211	Total Weight: 13.9

Figure 1: EUT 1

The incoming goods control showed no visible damages at the plastic case.

[c] Information provided by the customer; not verified by PAConsult GmbH

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, according to the specification.

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, if not stated differently in the test report, under the conditions listed in Table 3.

Table 3: Environmental Conditions

Temperature	15 °C – 35 °C
Relative Humidity	< 85 %
Air Pressure	860 hPa – 1 060 hPa

2.3 Equipment used for Test

The test equipment used in the laboratory of PAConsult GmbH 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 Acceptance Criteria

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

No additional acceptance criteria are given by the client.

4 Test Procedures

Figure 2 specifies the faces, edges, and corners, according to the test standard. The package is marked in its most stable orientation. This can be different from the intended shipping orientation.

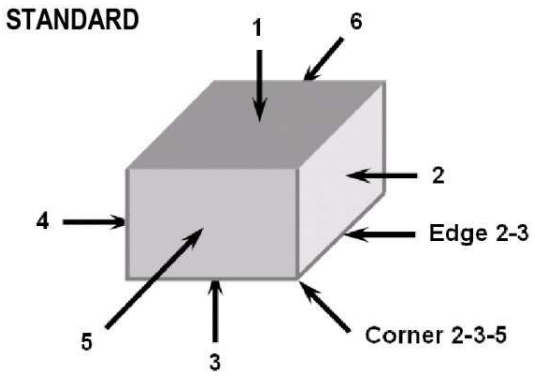

Figure 2: Definition of Faces, Edges, and Corners

4.1 Shock - 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 to Figure 6 exemplarily shows the test setups.

Table 5: Allocation 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

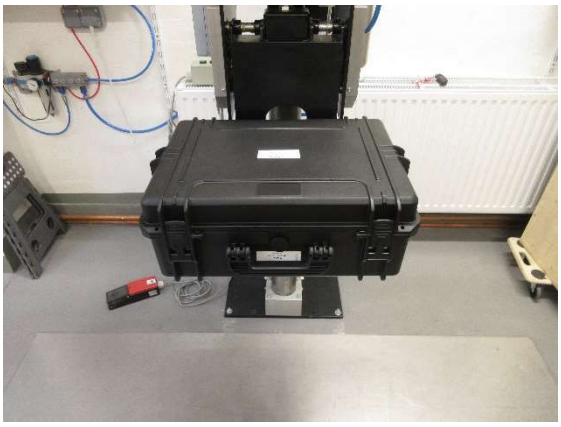

Figure 3: Setup Drop Tests, exemplarily

Figure 4: Setup Drop Tests, exemplarily

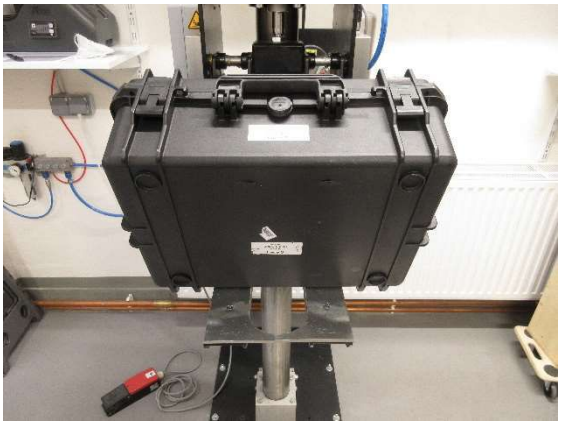

Figure 5: Setup Drop Tests, exemplarily

Figure 6: 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. A single drop is performed onto the top face. Figure 7 shows the test setup.

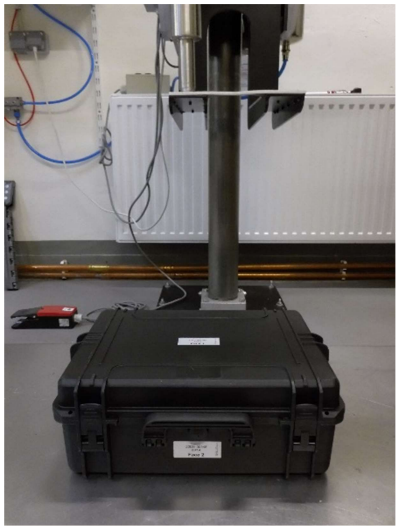

Figure 7: Setup Impact Test

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5 Test and Results

5.1 Shock - 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 8 and Figure 9 exemplarily shows the open latches. On all edges minor abrasion could be observed (see exemplarily Figure 10 to Figure 13).

Figure 8: Opened Latches, exemplarily

Figure 9: Opened Latches, exemplarily

Figure 10: Minor Abrasion, exemplarily

Figure 11: Minor Abrasion, exemplarily

Figure 12: Minor Abrasion, exemplarily

Figure 13: 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 14).

Figure 14: Minor Abrasion Marks

5.3 Acceptance Criteria

No acceptance criteria were defined by the client. Therefore, the visual inspections are documented (see Table 6).

6 Summary

The tests were finished according to the specification. During the tests, visible changes were observed. Table 6 summarizes all test results.

Table 6: Summary

Results Environmental Simulation - Max 505 -		
Seq	**Test**	**Result Visual Inspection**
1	Drop Test	Open latches and minor abrasions were observed (see Figure 8 to Figure 13)
2	Impact Test	Minor abrasions on the edges were observed (see Figure 14)

The final visual inspection of the content 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 only be reproduced in its entirety and without alterations. Publication in parts is subject to the approval by the test laboratory. The test results refer exclusively to the designated test specimens. Test reports without signature are not valid.