

LICENCE

for designs of packagings for the carriage of dangerous goods

Licence No.:

5786

Date: 2003-09-03

Designs: 4GV Fibreboard Boxes

Applicant: Duropack
Wellpappe Ansbach GmbH

Robert-Bosch-Straße 3

D 91522 Ansbach



ÖSTERREICHISCHES INSTITUT FÜR VERPACKUNGSWESEN

Versuchsanstalt und staatlich akkreditierte Prüfstelle

A 1090 WIEN, AUGASSE 2-6; Tel. +43/(0)1/317 82 44; ZVR-Zahl: 005600712

Internet: www.verpackungsinstitut.at; Email: pruefstelle@verpackungsinstitut.at



Mondi Wellpappe Ansbach GmbH

November 28th 2012

Robert-Bosch-Straße 3
D 91522 Ansbach

Subject: Change of registered name of the company

We confirm that the issued Certificates, Test Reports and Licences for:

Duropack Wellpappe Ansbach GmbH
(and formerly: Wellpappe Ansbach
Schumacher GmbH & Co. OHG)
Robert-Bosch-Straße 3
D 91522 Ansbach


maintain valid for Mondi Wellpappe Ansbach GmbH.

A reissuing of the Certificates, Test Reports and Licences is not intended by us.

ÖSTERREICHISCHES INSTITUT FÜR VERPACKUNGSWESEN

Dir. Th. Rieder

Head of Institute

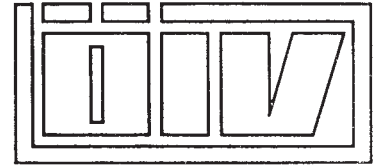
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ÖSTERREICHISCHES INSTITUT FÜR VERPACKUNGSWESEN

AN DER WIRTSCHAFTSUNIVERSITÄT WIEN

STAATLICH AUTORISIERTE VERSUCHSANSTALT

A-1090 WIEN, AUGASSE 2—6 · TELEFON (0222) 34 82 44



TEST REPORT AND LICENCE

Gutachten

Nr. 3780/7/91

**Wellpappe Ansbach
Schumacher GmbH & Co. OHG**

**Robert-Bosch-Straße 3
D-8800 Ansbach, BRD**

1. Submitted Samples

1.1. Applicant

Wellpappe Ansbach
Schumacher GmbH & Co. OHG

Robert-Bosch-Straße 3
D-8800 Ansbach
BRD

1.2. Packaging Manufacturer

Identical to applicant

1.3. Description of the packaging

Folding boxes made of double wall corrugated fibreboard ("AC" flute, sort of corrugated board "6910", composition according to the manufacturer of the packagings: 400 KL/127 FL/300 TL/150 FL/300 KL) with top and bottom flaps meeting;

manufactured with a stitched joint;

Box closure: double-L closure with fibreglass-reinforced plastic adhesive tape (75 mm wide)

1.3.1. Packaging design "28/21"

Outside dimensions: 375 x 280 x 335 mm (L x W x H)

Maximum gross mass of the filled and sealed package:

- for use for Packaging Group I, II and III: 21 kg
- for use for Packaging Group II and III: 30 kg
- for use for Packaging Group III: 40 kg

1.3.2. Packaging design "40/30"

Outside dimensions: 445 x 330 x 335 mm (L x W x H)

Maximum gross mass of the filled and sealed package:

- for use for Packaging Group I, II and III: 30 kg
- for use for Packaging Group II and III: 40 kg
- for use for Packaging Group III: 45 kg

Original filling material: solid materials or inner packagings

For the tests barley (partly together with bags filled with lead shot inserted to increase the mass) was used.

2. Requested Investigations

In accordance with the general packaging regulations laid down in appendix A.5 of the European Agreement concerning the international carriage of dangerous goods by road (ADR) each packaging, except the inner packagings of combination packagings, must conform with a packaging design that has been tested and licenced in accordance with the regulations of section IV of the above named appendix.

Similar regulations are in force for the transport by train (RID), by ship (IMDG-Code) as well as by plane (ICAO-Code), whereby the test requirements regarding the packagings for carrying dangerous goods by the various transport operators have been largely harmonised, because of the acceptance of the UN-Recommendations ("Orange book", Recommendations prepared by the United Nations Committee of Experts on the Transport of Dangerous Goods, sixth revised edition, 1990).

The submitted samples should be tested for the packaging specification 4 G ("fibreboard boxes") for the different Packaging Groups in relation to the gross masses and in case of positive results UN-Markings (packaging licence No.) should be established.

3. Legal Basis

The European Agreement regarding the Carriage of Dangerous Goods by Road (ADR) including the signing record and enclosures, Federal Law Gazette No. 522/1973 in the version of Federal Law Gazette No. 43/1990.

Federal Law regarding the Carriage of Dangerous Goods by Road and amendment of the Motor Traffic Regulation 1967 and the Highway Traffic Regulation 1960 (GGSt), Federal Law Gazette No. 209/1979 in the version of Federal Law Gazette No. 181/1988.

Amendments to the enclosures A and B of the European Agreement regarding International Carriage of Dangerous Goods by Road (ADR), Federal Law Gazette No. 154 of 1985-04-30.

Regulations for the International Transport of Dangerous Goods by Rail (RID) in the version of Federal Law Gazette No. 57/1990.

in connection with:

State-authorization of the Austrian Institute for Packaging (ÖIV) by the Republic of Austria, Federal Ministry for Buildings and Technics (notification of 1970-09-16, Zl. 552.579-III/18/70, finally extended by notification of 1989-08-03, Zl. 91.468/7-IX/1a/89 of the Federal Ministry of Economical Affairs).

Notification of the Republic of Austria, Federal Ministry of Transport, Section IV, concerning the allocation of a short marking to identify packagings which had been tested by the ÖIV in accordance with Federal Law Gazette No. 143 of 1981-03-13 (Notification of 1981-09-21, Zl. 75.170/1-IV/6-81).

4. Investigations Carried out - Results of Investigations

The air-conditioning of the test samples was done under the standard climate condition 23°C/50 % relative humidity till the achievement of constant weight. The tests were carried out under the same climatic conditions.

4.1. Test of Packaging Material

Determination of water absorption capacity - Cobb-Test

The test was carried out in accordance with ISO-standard 535-1976 (see also ÖNORM A 1104), with an exposure time of 30 minutes; the test was carried out only on the outer cover (top surface) of the corrugated fibreboard.

A capacity of water absorption of **101,3 g/m²** resulted as the arithmetical mean of four tests.

4.2. Tests on Filled Packaging

The tests were carried out in accordance with the instructions of the ADR (as described in Appendix A.5 section IV).

4.2.1. Drop-Test

The drop of the packages was started by means of a pneumatic hook, the impact target was a steel plate. Straps were used for the hanging up and the positioning of the samples.

Drop heights (varied according to the required Packaging Group):

- **1,8 m** for packaging design "28/21" with 21 kg and for packaging design "40/30" with 30 kg
- **1,2 m** for packaging design "28/21" with 30 kg and for packaging design "40/30" with 40 kg
- **0,8 m** for packaging design "28/21" with 40 kg and for packaging design "40/30" with 45 kg

None of the tested samples was leaking or showed any appreciable damage after the tests.

4.2.2. Stacking Test

The test was carried out with an electronic box compression tester, type No. 835 supplied by Messrs. Frank, and with a mechanical compression tester. The test samples were subjected to a force applied to the top surface of the test sample equivalent to the total weight of identical filled packages, which might be stacked on it, up to a height of 3 metres (including test sample). Duration of the test: 24 hours. The highest possible gross mass was used in this test.

The following constant pressure loads were applied to the samples:

- packaging design "28/21" (point 1.3.1.) **3130 Newton.**
- packaging design "40/30" (point 1.3.2.) **3520 Newton.**

None of the samples tested showed any appreciable damage. During and after the tests no deformation or other signs of early breakdown were detected that could effect the strength of the cases or could cause an instability of the stack.

5. Evaluation

The evaluation of the testing of the packaging material (water absorption capacity) was effected according to the requirements of Margin-No. 3530, section III, appendix A.5 of the ADR which stipulates a maximum water absorption of 155 g/m². The tested packaging material met these requirements.

The filled packagings also passed the tests according to the requirements of section IV, appendix A.5 of the ADR.

The tested packaging designs are in accordance with the test requirements for packagings for the carriage of dangerous goods as stated in appendix A.5 of the ADR. This also covers the requirements of the RID (for rail traffic) as well as the IMDG-Code (for shipping).

Packagings of this tested designs may be mass-produced. The manufacturer must guarantee that the mass-produced packagings are in accordance with the requirements of this designs.

6. Marking

The corrugated fibreboard boxes, when mass-produced in accordance with the tested designs, must be durably and visibly marked as follows:

- packaging design "28/21"
(point 1.3.1.)



X 21
4G/Y 30/S/..*)/A/PA-02/3780
Z 40

- packaging design "40/30"
(point 1.3.2.)



X 30
4G/Y 40/S/..*)/A/PA-02/3780
Z 45

*) The last two digits of the year of production of the corrugated boxes
All digits and letters must be at least 13 mm in size.

By printing the UN-Marking on the packagings the manufacturer guarantees that the mass-produced packagings meet all requirements of the tested and licenced packaging designs.

In addition to the UN-Marking the packagings have to carry other prescribed markings, symbols and dangerous goods labels.

7. Use

Packagings, mass-produced in accordance with the tested packaging designs and marked according to point 6. may be used for dangerous goods, if such packagings are permitted by ADR (and RID or IMDG-Code). If used for transportation by ship, suitable qualities of papers for liners and flutes should be used and the glue of the corrugated board should be wet strength.

The content of the boxes may be solids or inner packagings, i.e. combination packagings. In this case the packager/shipper has to ensure provable (e.g. by additional drop tests or considering Margin-No. 3558, paragraph 2, ADR, or point 8.1.6, annex I, IMDG-Code) that the filled packages can meet the same requirements as the tested packaging design.

According to the capability of the packagings, dangerous goods to be transported must, depending on the allowed maximum gross mass, be classified in the according packaging groups. The gross mass of the packages must not exceed the values quoted in point 1.3.

The applicant named in point 1.1. has to ensure provable that all conditions concerning the usage of these packagings are well known to everybody who uses/fills these packagings for/with dangerous goods.

AUSTRIAN INSTITUTE FOR PACKAGING



Dir. Univ. Lektor Th. Rieder
Institutsleiter

PB Nr. 3780/7/91

Wien, 1991-08-09

LICENCE FOR DESIGNS OF PACKAGINGS FOR THE CARRIAGE OF DANGEROUS GOODS

1 Legal Basis

Dangerous Goods Carriage Law - Federal Law Gazette I No. 145/1998 in the version of Federal Law Gazette I No. 61/2003.

Roads with public traffic:

Enclosures A and B of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), Federal Law Gazette No. 522/1973, in the version of the revision Federal Law Gazette III No. 265/2002.

Railroad:

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID), Federal Law Gazette No. 137/1967, in the version of the revision Federal Law Gazette III No. 181/2002.

Waterroutes:

Federal Law Gazette I No. 62/1997, in the version of Federal Law Gazette I No. 9/1998 and Federal Law Gazette II No. 429/2002.

Transport by sea:

Federal Law Gazette No. 387/1996, with IMDG-Code, Amendment 31-02.

Civil Aviation:

Federal Law Gazette No. 97/1949, with ICAO-TI, Edition 2003-2004.

in connection with:

State-accreditation of the Austrian Institute for Packaging (ÖIV) as testing laboratory by the Republic of Austria, Federal Ministry for Economical Affairs (Notification of 1995-12-29, Zl.92714/501-IX/2/95 in the version of Notification of 2002-03-26, Zl.92714/181-I/12/02).

Notification of the Republic of Austria, Federal Ministry of Transport, Section IV, concerning the allocation of a short marking to identify packagings which have been tested by the ÖIV in accordance with Federal Law Gazette No. 143/1981 (Notification of 1981-09-21, Zl. 75.170/1-IV/6-81).

2 Applicant

Duropack

Wellpappe Ansbach GmbH

Robert-Bosch-Straße 3

D 91522 Ansbach

3 Packaging Manufacturer

Identical to applicant

4 Description of the Packaging Designs

Folding boxes made of double wall corrugated fibreboard (sort "Concor 69100", composition according to the manufacturer 440 KLB/160 W/300 TLB/160 W/300 KLB, flute CA) with outer top and bottom flaps meeting (FEFCO 0201); in the box a bag made of plastic, filled with absorbent material ("Vermiculite") and sealed hermetically;

manufactured with a stitched joint;

Box closure: Double-L-closure with a glass-fibre reinforced plastic self-adhesive tape (75 mm wide):

4.1 Design "28/21 - 6711"

Inside dimensions: 360 x 260 x 300 mm (L x W x H);

Outside dimensions: 375 x 280 x 335 mm (L x W x H);

Inner Packagings: for the drop test three 500-ml-glass bottles (outside diameter: 82 mm; height <incl. closure>: 166 mm; gross mass of one filled inner packaging: 3.0 kg; with plastic screw closure) were placed in the folding box in such a way that the distances between the bottles and between the bottles and the outside of the folding box were approximately the same;

Maximum gross mass of the filled and sealed package: 9 kg;

4.2 Design "40/30 - 6712"

Inside dimensions: 430 x 310 x 300 mm (L x W x H);

Outside dimensions: 450 x 330 x 335 mm (L x W x H);

Inner Packagings: for the drop test four 1000-ml-glass bottles (outside diameter: 101 mm; height <incl. closure>: 228 mm; gross mass of one filled inner packaging: 6.0 kg; with plastic screw closure) were placed in two rows in the folding box, displaced in such a way that the distances between the bottles and between the bottles and the outside of the folding box were approximately the same:

Maximum gross mass of the filled and sealed package: 18 kg;

Original filling material: articles or inner packagings of any type for solids or liquids;

For the test the glass bottles were filled with water and lead shot.

5 Requirements for the Packaging Designs

The packaging designs must be in conformity with the design types which were tested according to the below-mentioned test report for a design type **4GV** ("Fibreboard Boxes") in accordance with chapter 6.1, Provisions for the construction and testing of packagings of enclosure A to the European Agreement regarding the International Carriage of Dangerous Goods by Road (ADR).

Similar regulations are in force for the transport by train (RID), by ship (IMDG-Code) and by plane (ICAO-Code), whereby the test requirements regarding the packagings for carrying dangerous goods by the various transport operators have been largely harmonised, because of the acceptance of the UN-Recommendations ("Orange book", Recommendations prepared by the United Nations Committee of Experts on the Transport of Dangerous Goods, twelfth revised edition, 2001).

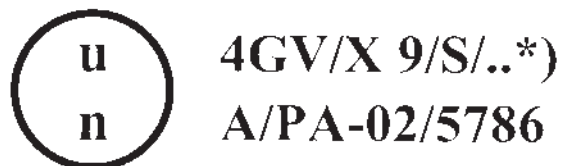
Therefore the mentioned test report is an integral part of this licence:

Test Report No.:	Date:	Testing House:
5786/8/03	2003-09-03	Österreichisches Institut für Verpackungswesen

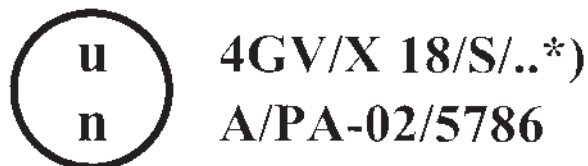
7 Marking

The fibreboard boxes, when mass-produced in accordance with the tested designs, must be durably and visibly marked as follows:

Design "28/21 - 6711"



Design "40/30 - 6712"



*) the last two digits of the year of production of the fibreboard boxes
All letters, numerals and symbols shall be at least 6 mm high.

8 Conditions for the Use of the Packagings

8.1 Packagings, mass-produced in accordance with the licensed packaging designs and marked according to point 7 may be used for dangerous goods if such packagings are permitted by the regulations of the various transport operators. If used for transportation by ship, suitable qualities of papers for liners and flutes should be used and the glue of the corrugated board should be wet strength.

8.2 According to the capability of the packagings, dangerous goods to be transported can be classified in packaging group I, II or III.

8.3 The total gross mass of the inner packagings must not exceed:

Design "28/21 - 6711": 4.5 kg

Design "40/30 - 6712": 12.0 kg

The gross mass of the packages must not exceed:

Design "28/21 - 6711": 9.0 kg

Design "40/30 - 6712": 18.0 kg

8.4 The thickness of cushioning material between inner packagings and between inner packagings and the outside of the packaging should not be reduced below the corresponding thicknesses in the originally tested packaging. If either fewer or smaller inner packagings are used (as compared to the inner packagings used in the drop test), sufficient additional cushioning material should be used to take up void spaces.

8.5 Inner packagings containing liquids should be completely surrounded with a sufficient quantity of absorbent material to absorb the entire liquid contents of the inner packagings.

8.6 In addition to the UN-Marking specified in point 7 the packagings have to bear other prescribed markings, symbols and dangerous goods labels.

8.7 Those parts of packagings which are in direct contact with dangerous substances should not be affected by chemical or by other action of those substances. If necessary, they should be provided with a suitable inner coating or treatment. Such parts of packagings should not incorporate constituents liable to react dangerously with the contents so as to form hazardous products, or to weaken them significantly.

8.8 The applicant named in point 2 must be able to prove that all conditions concerning the usage of these packagings are well known to everybody who uses/fills these packagings for/with dangerous goods.

8.9 Direction is made to the necessary observation of the manufacturing of packagings of this packaging designs according to the "BAM - Regeln zu den Vorschriften über die Beförderung gefährlicher Güter", "BAM-GGR 001 - Überwachung und Qualitätssicherung der Herstellung von Gefahrgutverpackungen und Großpackmitteln (IBC)".

9 Others

The packaging designs are in accordance with the test requirements for packagings for the carriage of dangerous goods as stated in the international agreements for traffic by road (ADR), rail (RID), sea (IMDG-Code) and air (IATA-DGR/ICAO-TI). This also covers the test requirements laid down in the Recommendations of the United Nations (UN).

This licence is given but may be revoked at any time.

10 Licence

The packaging designs as prescribed in point 4 are licensed under the condition that the requirements of point 5 - 8 are fulfilled.

ÖSTERREICHISCHES INSTITUT FÜR VERPACKUNGSWESEN



Dir. Univ. Lektor Th. Rieder
Institutsleiter



Ing. M. Auer
Sachbearbeiter

This licence No. 5786 consists of 7 pages.



TEST REPORT

No. 5786/8/03

Duropack

Wellpappe Ansbach GmbH

Robert-Bosch-Straße 3

D 91522 Ansbach

The results of the investigations can be put only on the concrete submitted sample

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If the client refers to this test report, he has to add: Österreichisches Institut für Verpackungswesen an der Wirtschaftsuniversität Wien (ÖIVT) and the following article:



AKKREDITIERT FÜR DIE FACHTGEBIETE SCHUTZ VOR GEFÄHRLICHEN GÜTERN, VERPAKUNG UND TRANSPORT IM ALLGEMEINEN
VERPACKUNGSMATERIALIEN, ZUBEHÖR, VOLLSTÄNDIGE VERPACKUNGS- UND TRANSPORT-EINHEITEN, PAPIER- PAPPEN
DURCH DAS BUNDESMINISTERIUM FÜR WIRTSCHAFTLICHE ANGELEGENHEITEN I. E. BESCHIED ZL. 92714/91 EX 2/98 VOM 29. DEZEMBER 1995
IN DER FASSUNG DES I. ÄNDERUNGSBESCHIEDEN ZL. 92714/91-I.12.02 VOM 26. MÄRZ 2002

1 Submitted Samples

1.1 Applicant

Duropack
Wellpappe Ansbach GmbH

Robert-Bosch-Straße 3
D 91522 Ansbach

1.2 Packaging Manufacturer

Identical to applicant

1.3 Description of the Packaging Designs

Folding boxes made of double wall corrugated fibreboard (sort "Concor 69100", composition according to the manufacturer 440 KLB/160 W/300 TLB/160 W/300 KLB, flute CA) with outer top and bottom flaps meeting (FIEFCO 0201); in the box a bag made of plastic, filled with absorbent material ("Vermiculite"; design "28/21 - 6711" approx.

2.86 kg, design "40/30 - 6712" approx. 3.94 kg) and sealed hermetically;

manufactured with a stitched joint;

Box closure: Double-L-closure with a glass-fibre reinforced plastic self-adhesive tape (75 mm wide);

1.3.1 Design "28/21 - 6711"

Inside dimensions: 360 x 260 x 300 mm (L x W x H);

Outside dimensions: 375 x 280 x 335 mm (L x W x H);

Inner Packagings: for the drop test three 500-ml-glass bottles (outside diameter: 82 mm; height <incl. closure>: 166 mm; gross mass of one filled inner packaging: 3.0 kg; with plastic screw closure) were placed in the folding box in such a way that the distances between the bottles and

between the bottles and the outside of the folding box were approximately the same;

Gross mass of the filled and sealed package: 13.06 kg;

1.3.2 Design "40/30 - 6712"

Inside dimensions: 430 x 310 x 300 mm (L x W x H);

Outside dimensions: 450 x 330 x 335 mm (L x W x H);

Inner Packagings: for the drop test four 1000-ml-glass bottles (outside diameter: 101 mm; height <incl. closure>: 228 mm; gross mass of one filled inner packaging: 6.0 kg; with plastic screw closure) were placed in two rows in the folding box, displaced in such a way that the distances between the bottles and between the bottles and the outside of the folding box were approximately the same;

Gross mass of the filled and sealed package: 29.48 kg;

Original filling material: articles or inner packagings of any type for solids or liquids;
For the test the glass bottles were filled with water and lead shot.

2 Requested Investigations

In accordance with the provisions for the construction and testing of packagings of chapter 6.1, laid down in enclosure A of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), each packaging, except the inner packagings of combination packagings, must conform with a packaging design that has been tested and licensed in accordance with the regulations of chapter 6.1 of the above named enclosure.

Similar regulations are in force for the transport by train (RID), by ship (IMDG-Code) and by plane (ICAO-Code), whereby the test requirements regarding the packagings for carrying dangerous goods by the various transport operators have been largely harmonised, because of the acceptance of the UN-Recommendations („Orange book“, Recommendations prepared by the United Nations Committee of Experts on the Transport of Dangerous Goods, twelfth revised edition, 2001).

The submitted samples should be tested for the packaging specification **4GV** („Fibreboard Boxes“) for the Packaging Groups I, II and III, and in case of positive results UN-Markings (packaging licence Nos.) should be established.

Additionally the outer cover (top surface) of the corrugated fibreboard should be tested in the respect whether it complies concerning its water absorptiveness with the requirements of subclause 6.1.4.12 of enclosure A of the European Agreement regarding the International Carriage of Dangerous Goods by Road.

3 Investigations Carried out - Results of Investigations

Receipt of test samples: 2003-08-21

The air-conditioning of the test samples was made under the standard climate condition 23 °C/ 50 % relative humidity till the achievement of constant weight. The tests were carried out under the same climatic conditions.

The submitted samples (UN 4G/X 21/Y 30/Z 40/S/03/A/PA-02/3780, resp. UN 4G/X 30/Y 40/Z 45/S/03/A/PA-02/3780) were folding boxes, which were tested and licensed in connection with our certificate No. 3780/7/91. Considering the fact, that samples of this kind were tested in the respect of the determination of water absorptiveness - Cobb-Test and with a stacking test, with empty packages and with much higher testing load than now required, a newly test was disclaimed.

3.1 Drop Tests

The tests were carried out in accordance with the instructions of the ADR (as described in section 6.1.5, Test provisions for packagings).

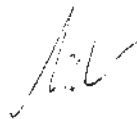
The drop of the packages was done with a drop tester, supplied by Lansmont Corporation, Model PDT-56E, the impact target was a steel plate.

The drop height was (according to the required packaging groups) **1.8 m**.

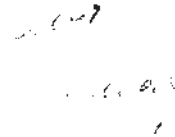
None of the tested samples was leaking or showed any appreciable damage after the tests.
The inner packagings were leakproof.

Date of test: 2003-09-01

ÖSTERREICHISCHES INSTITUT FÜR VERPACKUNGSWESEN



Dir. Univ. Lektor Th. Rieder
Institutsleiter



Ing. M. Auer
Prüfungsverantwortlicher

Wien, 2003-09-03