

# 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

## 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).

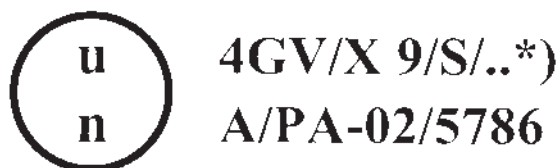
Therefore the mentioned test report is an integral part of this licence:

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

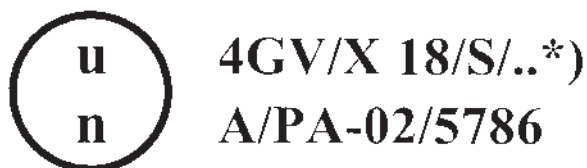
## 7 Marking

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.

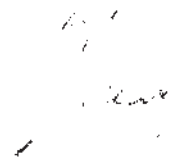
## 10 Licence

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 concern only the specific 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:





## 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).

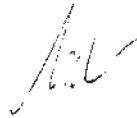
The drop of the packages was done with a drop tester, supplied by Lansmont Corporation, Model PDT-56E, the impact target was a steel plate.

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

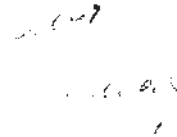
None of the tested samples was leaking or showed any appreciable damage after the tests.  
The inner packagings were leakproof.

Date of test: 2003-09-01

## ÖSTERREICHISCHES INSTITUT FÜR VERPACKUNGSWESEN



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Ing. M. Auer  
Prüfungsverantwortlicher

Wien, 2003-09-03