

# DEKRA Automobil GmbH Page 1 of 4

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By: Rudolf Sander 00 49 / 171 / 9 70 65 41	To: Dr. Kersten	Augsburg, 08.01.08
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**DEKRA Certificate 0226 / 001605 / 702073 / 1805851021**  
**Cargo securing for sacks and big bags unit loads of the**  
**FEDERAL PLASTER INDUSTRY ASSOCIATION (BDG)**

<b>1. Legal requirements fulfilled:</b>	
⇒ Section 22 German Road Traffic Regulations:	"Cargo is to be secured"
⇒ Section 23 German Road Traffic Regulations:	"Duties of the vehicle driver"
⇒ Section 30 German Road Traffic Regulations:	"Vehicle composition"
⇒ Section 31 German Road Traffic Regulations:	"Operational responsibility"
⇒ Section 412 German Transport Reform Act:	"Operationally safe loading"
<b>2. Fulfilled technical regulations and standards:</b>	
⇒ VDI 2700 :	Securing of loads on road vehicles
⇒ VDI 2700 Sheet 2 :	Calculating lashing and securing forces
⇒ VDI 2700 Sheet 3 :	Cargo securing devices
⇒ VDI 2700 Sheet 4 :	Cargo distribution plan
⇒ VDI 2700 Sheet 5 :	Quality assurance systems for cargo securing
⇒ DIN-EN 12195-1:	Calculating lashing and securing forces
⇒ DIN EN 12195-2 :	Web lasing of artificial fibres
⇒ DIN EN 12640:	Lashing and attachment points on commercial vehicles
⇒ DIN EN 12642:	Commercial vehicle bodies Code L and/or Code XL Appendix A / B
⇒ Section 22 Accident Prevention Regulations 29:	Health and safety regulations for commercial vehicle bodies
<b>3. BDG Series of tests A 14.11.07 – 1 - 14</b>	
Series of tests – dynamic:	Testing of 0.5g in all directions, to 0.8g forwards. Unit loads loaded without using form fit methods (4.1, 4.3). Unit loads loaded using form fit methods (4.2). 1g = 9.81m/s <sup>2</sup>

## 4. BDG load units with loading & securing:

### 4.1 a) Sacks on EURO or CP 1 pallets not stretched / not shrink wrapped or form fit forwards

- Sack weight 25 kg, 5 grouped together, 10 layers, 1,270 kg
- Sack weight 30 kg, 5 grouped together, 8 layers, 1,220 kg
- Sack weight 25 kg, 7 grouped together, 6 layers, 1,070 kg
- Sack weight 40 kg, 3 grouped together, 8 layers, 980 kg
- Sack weight 50 kg, 3 grouped together, 7 layers, 1,070 kg
- Sack weight 25 kg, 6 grouped together, 8 layers, 1,220 kg
- Sack weight 40 kg, 5 grouped together, 5 layers, 1,020 kg

Deviating BDG load units sacks with low numbers of layers are also covered by this certificate as they have a more favourable centre of gravity for purposes of lashing down. The bonding of sacks with each other did not display a fundamental improvement in the stability of the load unit in comparison with non-bonded sacks.

To ensure uniform pressure distribution use large corner protectors in a longitudinal direction corresponding to the load or pallet length.

Securing of a maximum of 2 load units next to each other with 2 lashing devices by means of lashing down. The web lashing is to be applied symmetrically to the corner protector.

Standard hand force  $S_{HF} = 50$  daN at a pre-tension force of  $S_{TF} = 500$  daN.



### 4.1 b) Sacks on EURO or CP 1 pallets stretched / shrink wrapped without form fit forwards

- Sack weight 25 kg, 6 grouped together, 8 layers, 1,220 kg
- Other: see DEKRA Certificate 313 / 11068 YF 180-3954862-3

Securing of a maximum of 2 load units next to each other with 1 lashing device without corner protectors.



## 4.2 Sacks on EURO or CP 1 pallets not stretched / not shrink-wrapped using form fit forwards

To ensure uniform pressure distribution use large corner protectors in a longitudinal direction corresponding to the load or pallet length. Securing of a maximum of 2 load units with a lashing device by means of lashing down.

The web lashing is to be attached symmetrically, i.e. centrally, to the corner protector. Standard hand force SHF  $S_{HF} = 50 \text{ daN}$  at a pre-tension force of  $S_{TF} = 500 \text{ daN}$ .



Alternative securing of a load unit by a pallet placed on top.

Forwards form fit also applies to the arrangement in the following picture:



## 4.3 Securing of palletised big bags

In general, big bags, approx. 1500 kg, are to be secured by means of two lashing devices. The web lashing is to be attached symmetrically to the big bag without corner protectors. Standard hand force  $S_{HF} = 50 \text{ daN}$  at a pre-tension force of  $S_{TF} = 500 \text{ daN}$ .



## 5. BDG – transport vehicles:

Transport vehicles:  
(with dust and broom-swept loading surface)

- The vehicle body (apart from the facing wall) is primarily NOT used to secure the cargo.
- Optional and alternative platform vehicles with side walls, body stability min as per DIN-EN 12642 Code L. preferably in accordance with DIN –EN 12642

# DEKRA Automobil GmbH Page 4 of 4

	<p>Code XL</p> <ul style="list-style-type: none"> <li>→ Facing wall stability min 0.4 x payload</li> <li>→ Side wall stability min 0.3 x payload</li> <li>→ Rear portal stability min 0.25 x payload</li> </ul>
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## 6. DEKRA loading and securing instructions:

Load the individual BDG load units using form fit methods laterally to the longitudinal direction of travel. Securing is effected by means of form fit methods forwards and without pallet overhang by means of lashing devices or with pallet overhang and without employing form fit methods forwards by means of two lashing devices. Basically every load unit / every row (2 load units next to each other) is to be secured with a polyester strap LC = 2500 daN and long lever ratchet  $S_{HF} = 50$  daN with a  $S_{TF} = 500$  daN in accordance with Din EN 12195-2 by means of lashing down. Lashing points in accordance with DIN-EN 12640, lashing point interval recommended 500 mm.

Additional rearward cargo securing measures are not required.

Spaces of up to 50 mm in the direction of travel do not act negatively on the cargo securing if the required form fit is also applied.

Lashing devices are to be re-tensioned after having travelled 50 km at the latest. Check cargo and retension the lashing devices as required following emergency braking or evasive manoeuvre.

## 7. DEKRA instructions & stipulations:

This certificate serves as handling and operating instructions for the certified BDG load units and their BDG loading and securing variants. It must be issued by the loader along with the freight documents to the freight carrier and must be carried by him. It expires upon the coming into force of new statutory provisions, alterations of key components of the BDG packing, loading and securing regulations. Fundamental changes or new developments of the BDG packing, loading and securing variants must be subject to recertification by DEKRA Automobil GmbH.

The certified additional cargo securing systems and devices, such as, for example, the polystyrene lashing devices are to be annually inspected, for example, during the main vehicle inspection in accordance with Section 29 of the Road Traffic Licensing Regulations by DEKRA Automobil GmbH, by the manufacturer or companies authorised by him. It is essential to observe and follow the accident prevention regulations of the BGV D 29 when conducting loading operations.

## 8. DEKRA Certification Centre:

<p>DEKRA Expert:</p>   <p>Dipl.-Ing. (FH) Rudolf Sander</p>	<p>DEKRA Automobil GmbH Automotive engineering / road accident analysis / cargo securing Am Mittleren Moos 45 Branch D-86167 Augsburg Phone: 00 49 / 821 / 7 48 92-46 Fax: -50 Email: rudolf.sander@dekra.com</p>
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## 9. BDG – member company:

<p>Stamp and signature</p>	<p>Vehicle registration number: .....</p> <p>Freight carrier: .....</p> <p>Loader .....</p>
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