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INLAND TRANSPORT COMMITEE

**Working Party on the Transport
of Dangerous Goods
(Seventh-fourth session,
Geneva, 19-23 May 2003)**

PROPOSALS OF AMENDMENTS TO ANNEXES A AND B OF ADR

Chapter 9.4

Transmitted by the Government of Belgium

Scope: The correct loading of dangerous goods is vitally important in the prevention of injury to the drivers and members of the public and the prevention of damage to materials, equipment and the environment.

The ADR legislation has only a limited amount of requirements on load securing **(there are no requirements about the walls in the last sentence of paragraph 7.5.7.1).**

Therefore, it is necessary to define goals for the further development of the ADR legislation in the matter of proper load securing.

The following requirements are proposed to become mandatory under chapter 9.4 of ADR:

A. Technical vehicle requirements

To prevent movement from the forces arising from the vehicle passing over road undulations, changing direction or when it is being braked or accelerated, it is essential that the load is restrained to prevent movement in any direction relative to the vehicle.

The vehicle is considered to play a major role in the prevention of movement of the load. Therefore, any vehicle that is transporting packaged dangerous substances, should be designed to comply with this prevention goal.

The following performance and design requirements for the vehicle are proposed:

1. The loading platform of the vehicle platform has to be designed to accommodate the forces which arise to prevent load movement in any direction relative to the vehicle (tight loading, using the physical properties (strength) of the loading area of the vehicle).

1.1. The headboard has to be designed with a sufficient height and stability to accommodate the forces which arise from the vehicle when it is being braked and as a consequence to obstruct forward movement.

It is being proposed that existing European Standards will be used as a reference (e.g. EN12 642: whereby the headboard should withstand 40% of the horizontal forces, limited at 5000 daN).

1.2. Every vehicle used for the transport of packages loading must be fitted with side boards with a sufficient height and stability to obstruct sidewards movement of the load arising from the vehicle changing direction.

It is being proposed that existing European Standards will be used as a reference (e.g. EN12 642: whereby between 6% to 30% of the payload mass has to be withstood).

1.3. Every vehicle used for the transport of packages loading must be fitted with a rear board with a sufficient height and stability to obstruct backwards movement of the load arising from the vehicle when accelerating.

It is being proposed that existing European Standards will be used as a reference (e.g. EN12 642: whereby the rear board should withstand 40% of the horizontal forces, limited at 3100 daN).

B. Stability

Establishing performance criteria for head, side and rear boards is one way of solving the problem.

The use of performance criteria makes it very difficult for the federal inspectors having authority to establish objectively the violation of the regulation.

Instead of performance criteria, it is proposed to define a mix of performance and design criteria for the construction of the head, side and rear boards on a loading platform of a vehicle. These design criteria should require the use of fixed boards or pivoting boards.

The performance criteria should refer to the existing European Norms.

C. Height

The height of the head, side and rear boards has to relate to the height of the load, its centre of gravity, and the stability over palletized and overpacked goods.

In the case of double stacking of dangerous goods, additional equipment is considered necessary for sufficient load securing.

The use of additional equipment.

Despite the provision of having head, side and rear boards, the energy of the load might be too high to absorb. In this case, additional load securing equipment for lashing and/or adding friction will be necessary.

In order to use lashing, every loading platform of a vehicle should be equipped with sufficient load anchorage points.

It is also recommended that the sideboards should be equipped with rails, in order to mount a transverse beam to prevent the load from shifting.
