

Presented by Hungarian expert

IMPROVING THE REQUIREMENTS OF BUS EMERGENCY EXITS

1. The existing requirements for the bus emergency exits (EE) are summarized in the UN-ECE Regulation 107. The EE's requirements are grouped as follows:
 - type of EEs to be considered (windows, doors, hatches, etc.)
 - required number of EEs
 - their location and distribution on the bus
 - their required minimum dimensions
 - required access to EEs
 - technical requirements of their operation
 - marking of EEs, instructions to their use

When improving the requirements of EEs, all of these sub-groups shall be considered and improved.

2. Hungary already made proposal to the new approach of the required number and location of EEs and also to the reconsideration of the types of EEs in the future. It was proposed to introduce the concept of the usability of EEs in different post accident situations, in different bus categories and also being in different positions on a bus (e.g. side windows on lower or upper deck of a DD bus)
3. Without going into the details it shall be emphasized that the other requirements shall be also reconsidered and improved, because they assume that the bus is standing on its wheels, the passengers are in normal, unaffected position, their moving capabilities are represented by an average adult's capability. It is obvious that an access to an EE, which is acceptable in the standing position of the bus could be insufficient when the bus is lying on its side. The same situation may occur when trying to operate the EE, or to use it (minimum dimensions) or to recognize and read the marking and instructions.
4. Some examples are shown below about real accident situations, way of evacuations, actions of fire brigades, etc.
 - 4.1. The side windows cannot be used as EE without outside help (e.g. ladder). This is the situation in HD and DD coaches and also when the bus is lying on its side. In these cases the minimum required dimensions are insufficient.



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4.2. The minimum dimensions of the escape hatch seem to be good for an active, capable passenger, but could be small, when injured passengers are evacuated using outside and inside help. Panic and fire should be also considered.



4.3. These pictures give good examples about the completely different situation in relation to the passengers and the possible EEs. There is no floor, gangway on which the passengers can move, the seats are obstacles, the passengers are lying on each other having very peculiar position, and some of them are injured.



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4.4. The rear wall window and the windscreen shall have much higher importance as EEs in the future. May be it would be useful and necessary to require them as EE with the belonging technical specifications. In the everyday practice they are used very often as EEs. Unfortunately there is no rear wall window in many coaches, mainly in the HD versions.

