The Integration of the Performance-Driven European Norm EN 1317 for Vehicle Restraint Systems (Safety Barriers) into National Installation Guidelines

A Challenge for the National Road Authorities

presented by

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Europe respectively the CEN-Member States (States belonging to the European Normalization Committee) have received a Mandate from the European Union (EU) to harmonize the National Standards for Road Safety Systems.

Target:

- Improvement of the Level of Road Safety and
- The destruction of “Barriers to Trade”

within the CEN-Member States

ROAD SAFETY is based on three main pillars, which are

- VEHICLE
- EDUCATION
- INFRASTRUCTURE

As consequence we have sectors of road safety which are

- Vehicle driven

The automotive industry is very active and successful in improving the safety-related devices of their vehicles since many years, already.

- Educational driven
The sector education, training, police, kindergarten, school etc. is extremely important for Road Safety, but a never ending program or goal, comparable to our school system.

- **Infrastructure driven**

  Infrastructure is of different nature and has a direct link with and an immediate impact on the achievable level of road safety.

The harmonized Standard for Vehicle Restraint Systems (VRS) EN 1317 is based on performance only, regardless of design, material or dimensions. There is also no reference to

- Hazards/Dangers
- Installation or
- Professional Qualification

**Further Requirements**

The application of the performance-related EN 1317 requires the corresponding Instructions for the Installation of the Vehicle Restraint Systems.

The core of those Guidelines is the clear definition of (nearly) all potential dangers and hazards on our roads, since they are the starting point within a decision-process aiming to find out the most suitable class of VRS to be applied as a minimum level for protecting us against those identified dangers on our Road Network.

Having experienced that this decision-process is of the same nature in every country I decided to present one of the solutions being developed by the German Committee for Road Safety:
DEMONSTRATION OF THE FLOW-CHART
FURTHER INFLUENTIAL PARAMETERS

Design Speed > 50 km/h
- high risk for accidents/blackspots
  - AADT / Trucks > 3,000 /24h
  - none

Design Speed > 100 km/h
- AADT / Trucks > 3,000 /24h

Design Speed 60-100 km/h
- AADT / Vehicles > 3,000 /24h
  - none
  - AADT / Trucks > 500 /24h

Design Speed 60-70 km/h
- AADT / Vehicles > 3,000 /24h
  - high risk for accidents/blackspots
  - none
  - none

Design Speed > 50 km/h:
- none

Design Speed > 100 km/h
- AADT / Vehicles > 3,000 /24h
  - none
  - yes
  - no
MINIMUM CONTAINMENT LEVEL

H4b
H2
H2
H1
H2
H1
H1
N2
H1
N2
N2
N2
N2
N2
Example of the decision-taking process

Vulnerable Area

High speed train (parallel to the road)

Design Speed > 50 km/h

yes

High risk for accidents/blackspots

AADT/Trucks > 3.000/24h

Containment Class

no

H2
**Conclusion:**

For the most effective and timely suitable realisation of the EU-Road Safety Action Program

- every country needs a national binding regulation for the installation of VRS
- these regulations have to comply with CPD and the EN 1317 for Safety Barriers (but this applies to all other important sectors of Road Safety like Road Marking, Traffic Signs etc, too!)

Most important criteria of these regulations are

- definition of the hazards (dangers) on the road network
- fixation of the minimum protection level (p.e. Level N 2 for Barriers)

**Outlook:**

- The Harmonisation of National Standards for Safety Systems is an important step to start with a European Road Safety Concept
- These Standards like EN 1317 (VRS) are performance-related without any reference to Installation and Maintenance.
- Aiming to improve Road Safety within all EU-Member States requires a minimum level of Infrastructural Road Safety. This can be achieved only, if we agree on
  - EU-wide uniform determination of the roadside hazards and
  - EU-wide minimum installation criteria like length of need, minimum height of barrier system etc.
  - EU-wide minimum containment classes for protection against uniform determined roadside hazards (see above)

This is music for the future, but we have it in hand to make it due now, - as the next step for the realisation of a European Road Safety Concept!

**Petition:**

In consequence of the before described I hereby ask the EU-Authorities **to issue a new Mandate or Work Item for the**
• Harmonisation of the Definition and Terminology of Roadside Hazards and 
• Minimum Protection Levels for Roadside Hazards according to EN 1317.

Final Remark:

Road Safety is part of Human Safety in our Social Environment. It is borderless and to increase the level of Road Safety is for Thailand as important as for Greece, South Africa or Brazil.

Political Concepts and Safety Programs have a strong public impact, but when it comes to reality we need to have the financial and professional resources as well as the adequate tools to take effective and sustainable decisions – the Flow-Chart presented could be one of it!

Many thanks for your attention

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