

Prevent the reduction of fire safety in railway tunnels across Europe: Europacable urges to safeguard B2ca,s1a,a1 classification as the minimum requirement for exposed cables

Europacable comments on ERA Draft Recommendation 006REC1078 on the revision of the technical specification for interoperability relating to 'safety in railway tunnels'

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Brussels, 11 October 2018

Europacable, the voice of Europe's leading wire and cables manufactures, is deeply concerned that, if adopted, the Draft Recommendation 006REC1078 would unduly reduce fire safety levels of electrical cables installed in railway tunnels across Europe.

Europacable strongly opposes that the suggested wording of article 4.2.1.3. (a) (3) (quote: *"Exposed cables shall have the characteristics of low flammability, low fire spread, low toxicity and low smoke density"*) of the Proposal for a revised technical specification included in the Draft Recommendation 006REC1078, omits the clear fire class categorisation.

- ***We call upon all relevant stakeholders to re-insert the explicit B2ca, s1a, a1 classification as the minimum requirement for exposed electrical cables installed in tunnels in the Draft Recommendation as stated in Commission Regulation (EU) No 1303/2014 so as to not lower fire safety protection measures in tunnels.***

We understand that the above-mentioned article is based upon ERA Technical Opinion ERA/OPI/2018-2. Hence some of the Europacable comments will relate to specific sections of the ERA Technical Opinion.

Europacable welcomes the opportunity to participate in the open consultation on the proposal of the European Union Agency for Railways (ERA) for a revised technical specification for interoperability relating to safety in railway tunnels of the Union rail system¹.

In summary, Europacable wishes to make the following comments:

- ***Commission Regulation (EU) 1303/2014 explicitly stipulates that "existing safety levels shall not be reduced in a country". We are concerned that – if adopted – the proposed revised technical specification would clearly contradict this stipulation.***
- ***Europacable believes that omitting the current clear, precise B2ca,s1a,a1 categorisation and reverting to a mere description of fire performances, would open the possibility to install cables with lower fire performance requirements than the existing fire safety requirements as set by Commission Regulation (EU) 1303/2014.***
- ***In view of the volumes of cables installed per kilometre of subway and train tunnels longer than 1 km, Europacable strongly believes that a reduction of fire safety performances of exposed cables would lead to an increased fire risk for train passengers as well as onboard staff.***

¹ DRAFT ERA RECOMMENDATION 006REC1078

The concern that the omission of clear requirements will unduly increase the fire risk is supported by the analysis provided by the Dutch Fire Service Academy as part of the Netherlands Institute for Safety (IFV) which is submitted separately in this consultation.

Furthermore, we are also convinced that the steps taken to arrive at the B2ca,s1a,a1 classification in the 2014 technical specification for interoperability relating to safety in railway tunnels of the Union rail system followed due process. Please find a more detailed outline of our consideration here below.

Sincerely yours,

1) FIRE SAFETY PERSPECTIVE:

First and foremost, Europacable firmly believes that – if adopted – the Draft Recommendation would unduly reduce fire safety levels in railway tunnels across Europe

a) The proposed recommendation will reduce fire safety requirements for exposed electrical cables in tunnels

Commission Regulation (EU) No 1303/2014 concerning the technical specification for interoperability relating to ‘safety in railway tunnels’ of the rail system of the European Union explicitly requires cables to meet the B2ca,s1a,a1 category as a minimum requirement thereby defining clear and consistent fire safety requirements which are to be complied with.

By omitting this precise categorisation and reverting to a mere description of fire performances, the European Union Agency for Railways (ERA) in its proposal for a revised technical specification for interoperability relating to safety in railway tunnels of the Union rail system² opens room for lowering the required fire safety performance level for exposed electrical cables installed in tunnels.

According to Europacable the following interpretations are generally accepted:

- According to EN 60332-1-2, CPR classes Eca to Bca may comply with the proposed requirement “Low flammability”;
- According to EN 50399, CPR classes Cca and Bca may comply with the proposed requirement “Low fire spread”;
- According to EN 50399, EN 61034-2 and acidity test EN 60754-2, CPR additional classifications s1 or s2 and a1 and a2 may comply with the proposed requirement “Low toxicity and low smoke density”.

Comparing CPR fire safety classes according to EN 13501-6 clearly shows that fire safety classes C and D have lower fire safety performances. Notably class D has no given limit for fire propagation at all. Furthermore class C and D values for heat release, peak heat release and FIGRA are considerably higher which means that a fire can develop significantly faster.

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| <p>Class B2ca a) EN 60332-1-2 no flame spread (H) in excess of or equal to 425 mm before the test flame extinguishes. b) EN 50399 with 20,5 kW flame source FS ≤ 1,5 m THR1200s ≤ 15 MJ Peak HRR ≤ 30 kW FIGRA ≤ 150 Ws-1</p> | <p>Class Cca a) EN 60332-1-2 no flame spread (H) in excess of or equal to 425 mm before the test flame extinguishes. b) EN 50399 with 20,5 kW flame source FS ≤ 2,0 m THR1200s ≤ 30 MJ Peak HRR ≤ 60 kW FIGRA ≤ 300 Ws-1</p> | <p>Class Dca a) EN 60332-1-2 no flame spread (H) in excess of or equal to 425 mm before the test flame extinguishes. b) EN 50399 with 20,5 kW flame source FS ---- THR1200s ≤ 70 MJ Peak HRR ≤ 400 kW FIGRA ≤ 1 300 Ws-1</p> |
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- **Europacable therefore believes that omitting the current clear, precise B2ca,s1a,a1 categorisation and reverting to a mere description of fire performances will open the possibility to install cables with lower fire performance requirements than the existing fire safety requirements as set by Commission Regulation (EU) 1303/2014.**

² DRAFT ERA RECOMMENDATION 006REC1078

b) These reduced fire performance requirements for electrical cables will increase fire risks in railway tunnels

Lower fire safety performance requirements for cables will only result in a higher fire risk in rail tunnels, if the fire load of the cables concerned represent a substantial hazard.

Notwithstanding a concrete risk analysis, Europacable believes that this will be the case, due to the substantial volumes of cables installed in railway tunnels. Based on our understanding, the following indicative volumes of cables are installed per kilometre in subway and railway tunnels longer than 1 km in Europe:

- Subway tunnels: 20 to 40 km cable/km
- Long distance train tunnels: 10 to 20 km cable/km

These volumes include the following electrical cable types

- low- and medium voltage power cables;
- power and control cables for fire alarm, sprinkler systems and public address functions;
- power and control cables for illumination, signalling and video controls; and
- possibly power and control cables for autonomous driverless trains.

In addition, telecommunication cables for mobile networks and emergency systems may be installed.

- ***In view of the volumes of cables installed per kilometre of subway and train tunnels longer than 1 km, Europacable strongly believes that a reduction of fire safety performances of exposed cables would lead to an increase of fire risk for train passengers as well as onboard staff.***
- ***Any such reduction would clearly contradict Commission Regulation (EU) 1303/2014 which explicitly stipulates that “existing safety levels shall not be reduced in a country”.***

Concluding, Europacable wishes to underline that tragic accidents demonstrate that trains will not always be able to leave a rail or subway tunnel or get to a safe spot in case of fires as is assumed in the Technical Opinion ERA/OPI/2018-2 upon which article 4.2.1.3. (a) (3) of the Proposal included in the ERA Draft Recommendation 006REC1078 is based. ERA correctly formulated “*whenever possible the train leaves the tunnel*”: the fact that this will not always be possible prohibits increasing fire risks – as would be the case with the current proposal.

Moreover, even if not directly covered by the scope of the TSI, a reduction of fire safety in tunnels in case of fire would also lead to a higher risk for higher structural damages in tunnels in case of fire, longer service outage times.

Europacable believes that the above considerations are supported by the detailed comments submitted by the Dutch Fire Service Academy as part of the Netherlands Institute for Safety (IFV).

2) PROCEDURAL PERSPECTIVE:

Europacable believes that the requirement for cables of category B2ca,s1a,a1 in the revised SRT - TSI 2014 does not represent a new requirement but merely a clarification.

Europacable understands procedurally the following steps have been taken:

- **SRT TSI 2008** defined specific requirements for cables by referring to specific performances and making references to specific fire tests which also includes defined requirements. Quote: “*In case of fire, exposed cables shall have the characteristics of low flammability, low fire spread, low toxicity and low smoke density. These requirements are fulfilled by compatibility of the cables with EN 50267-2-1 (1998), EN 50267-2-2 (1998) and EN 50268-2 (1999)*”

- **2011 – 2013 Revision of SRT TSI proposed:**
Quote: *“In case of fire, exposed cables shall have the characteristics of low flammability, low fire spread, low toxicity and low smoke density. These requirements are fulfilled when the cables fulfil as a minimum the requirements of classification B2, s1a, a1, as per Commission Decision 2006/751/EC”*
- **COM Regulation (EU) No 1303/2014:**
Quote: *“In case of fire, exposed cables shall have the characteristics of low flammability, low fire spread, low toxicity and low smoke density. These requirements are fulfilled when the cables fulfil as a minimum the requirements of classification B2CA, s1a, a1, as per Commission Decision 2006/751/EC.”*

Europacable therefore firmly believes that the move from STR TSI 2018 to SRT TSI 2014 was merely a precision of the requirements related to cables taking into account technical progress (New fire tests and fire classes in accordance to Constructive Product Regulation).

- ***Therefore there was no need for a cost/benefit analysis and the process was handled correctly.***

Indeed, the 2013 revision was accepted by ERA and was considered by ERA itself as a clarification, not a change: Quote report accompanying ERA recommendation: *“The TSI 2008 does not require a particular category of cables (...). It is necessary to clarify which category specified in the standards is being required (...). Therefore, the category has been clarified in the revised TSI”.*

In return, merely from a procedural perspective, Europacable is convinced that the new proposal from ERA to remove the B2ca,s1a,a1 classification is not justified by a cost benefit analysis which would, however, be necessary for such a reduction – which then would conflict with Commission Regulation (EU) 1303/2014.

Concluding, Europacable would like to highlight that ensuring continued high fire safety levels in railway tunnels across Europe is of highest importance. Tunnel fires may be rare, but when they do occur they risk to be fatal. We may not step back on fire safety performances achieved. On the contrary, technical progress should be applied to continuously improve this to the benefit of rail passengers as well as onboard staff but also to limit fire damages and related cost for the society.

- ***Therefore, Europacable firmly believes that article 4.2.1.3. (a) (3) of the Proposal for a revised technical specification for interoperability relating to safety in railway tunnels of the Union rail system included in the ERA Draft Recommendation 006REC1078 is not in coherence with the objectives defined in Commission Regulation (EU) 1303/2014.***
- ***Europacable calls upon all relevant stakeholders not to support the current recommendation but to safeguard the current, strict and clear fire safety performance requirements for exposed cables in tunnels.***

For further information please contact:

About Europacable

Europacable is the voice of all leading European wire and cable producers. Europacable members include the largest cable makers in the world providing global technology leadership, as well as highly specialized small- and medium sized businesses from across Europe. Globally our members employ over 80.000 people of which more than 50% in Europe generating a worldwide turnover over € 70 billion in 2017. The product scope of our members covers the full range of energy and communication cables. Europacable is listed in the European Commission's transparency register under 453103789-92. We are a partner of CENELEC. www.europacable.eu