

TRANSFEU PROGRAMME WP6

Real-scale test 2A+2B

TRANSFEU

Transport Fire Safety Engineering in the European Union
FP7 Contract Number: 233786

Rostock
26 September 2013

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Presentation of measurement devices and results



The connection between the test coach and the control coach for the monitoring system and data acquisition.

Over 180 connections (cables for data acquisition, pipes for air, for constant-temperature water, for propane) were mounted and get in full working order for the test.



2

Fire scenario 2A



Before the test

The coach area where the scenario 2A was reconstructed with the product selected by the WP 6.

The rest of the coach was as the original, to obtain the real effect of the effluents movement.

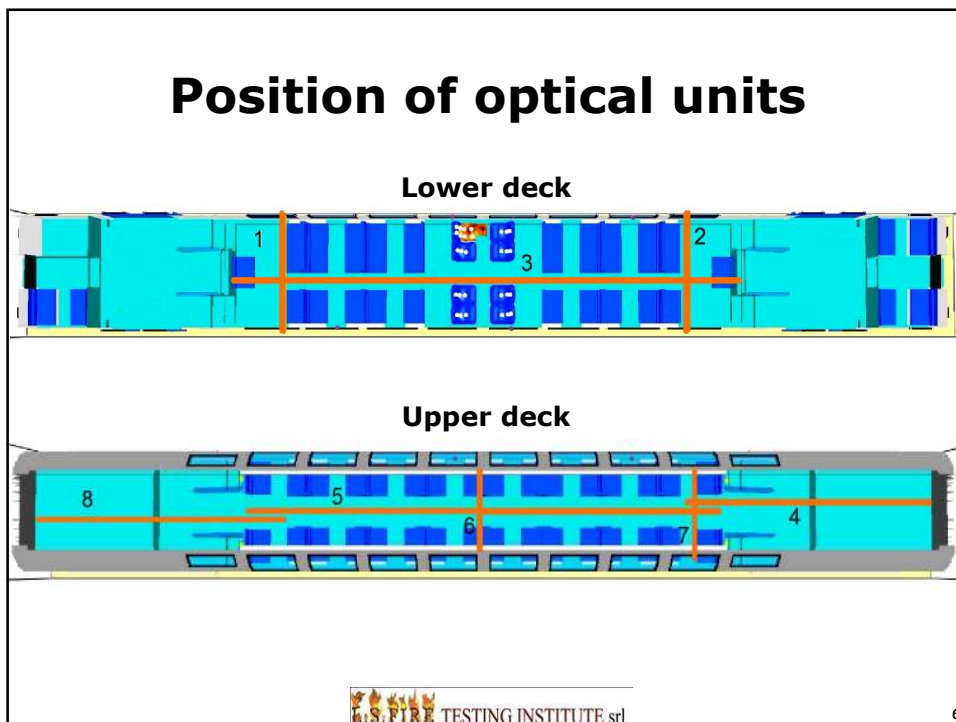
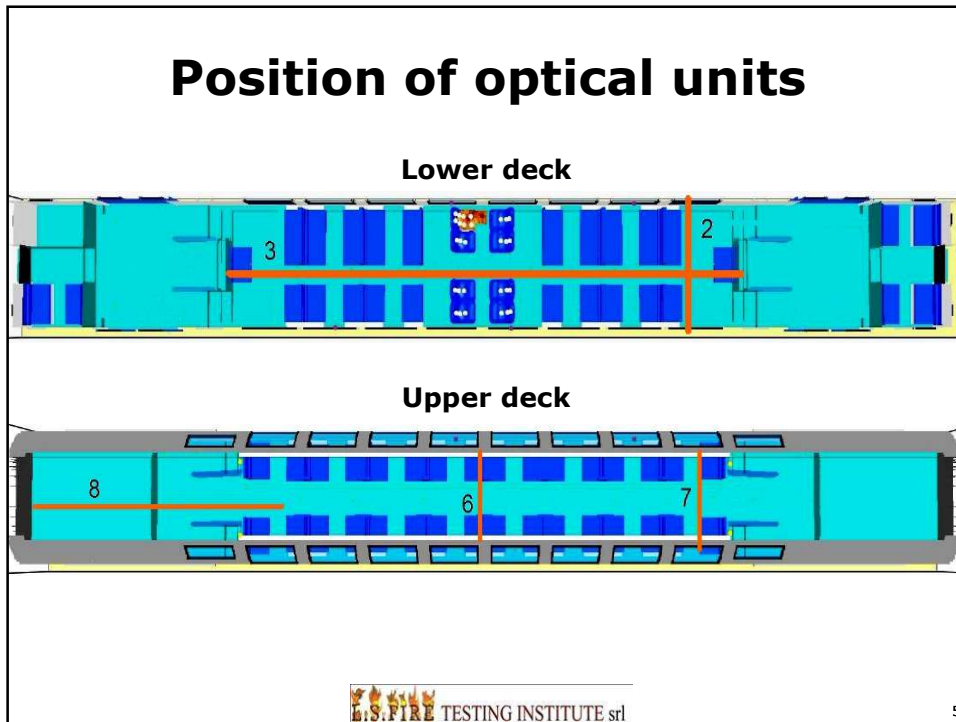


3

Fire scenario 2A



4



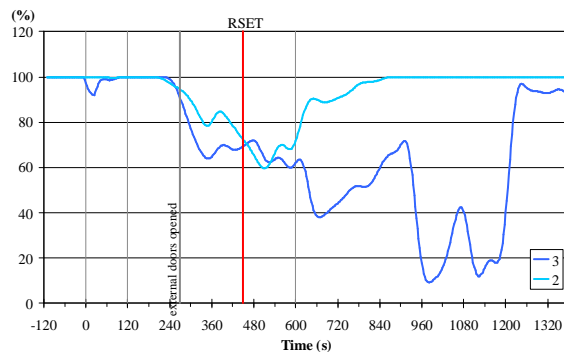
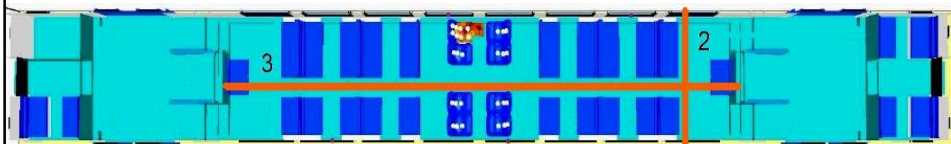
Smokes stratification



After about 9 minutes the effluents are concentrated near the ceiling and they aren't homogeneously distributed in the 150 m³ available.

Loss of visibility graph

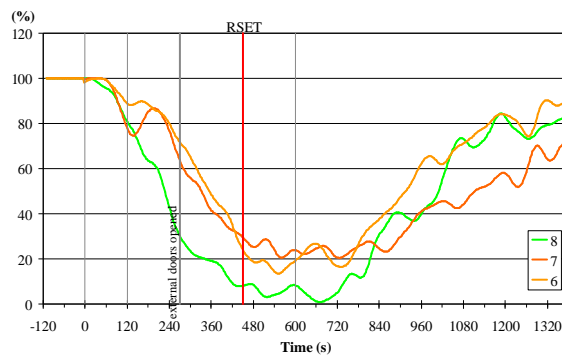
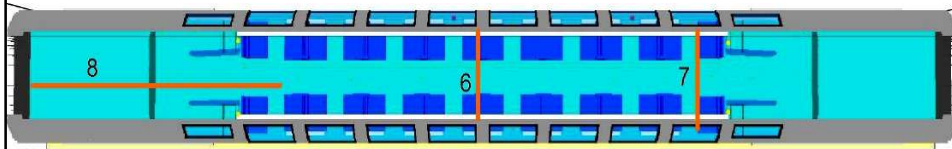
Lower deck



In the lower deck, the smoke (and toxic gases) accumulation is delayed by big quantity of hot effluents that moves, through the stairs, to the foyer and the upper deck.

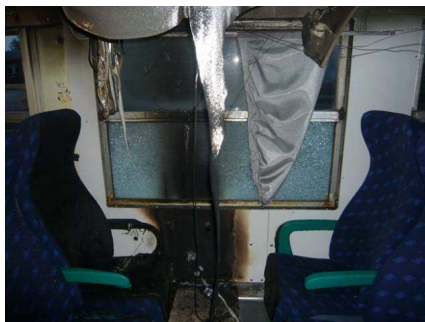
Loss of visibility graph

Upper deck



In the upper deck, the 70% level of transmittance is reached at 156 seconds. At 240 s the level is already at 40% of residual visibility: a lot before the evacuation time RSET (Required Safe Escape Time)

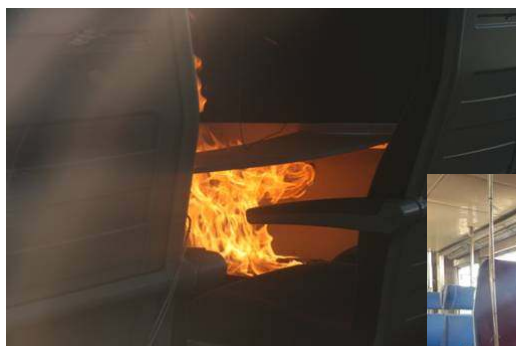
End of the test

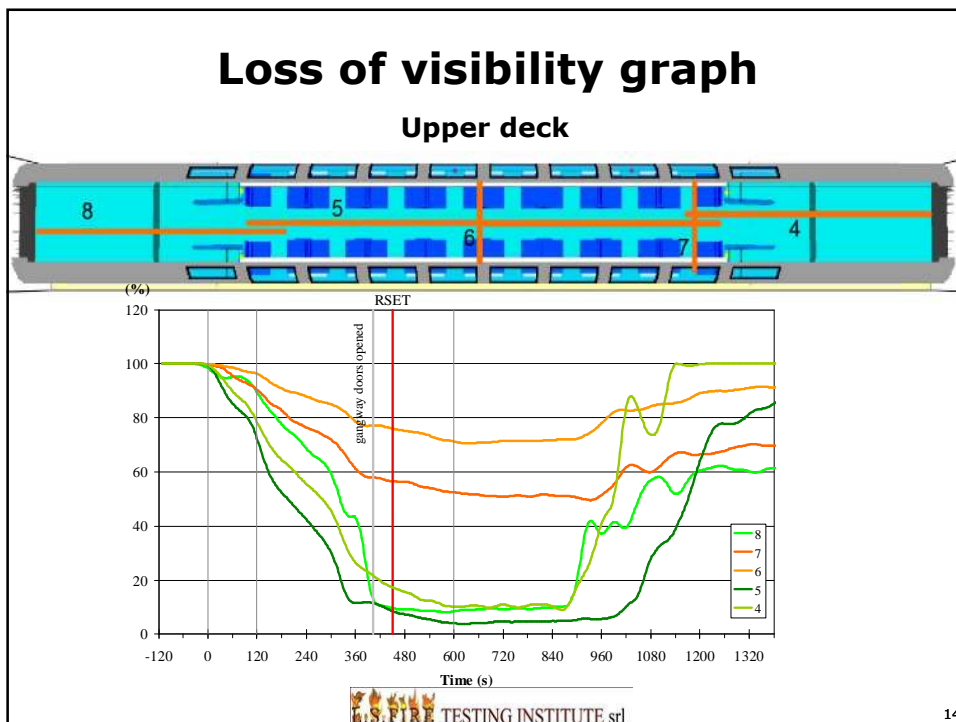
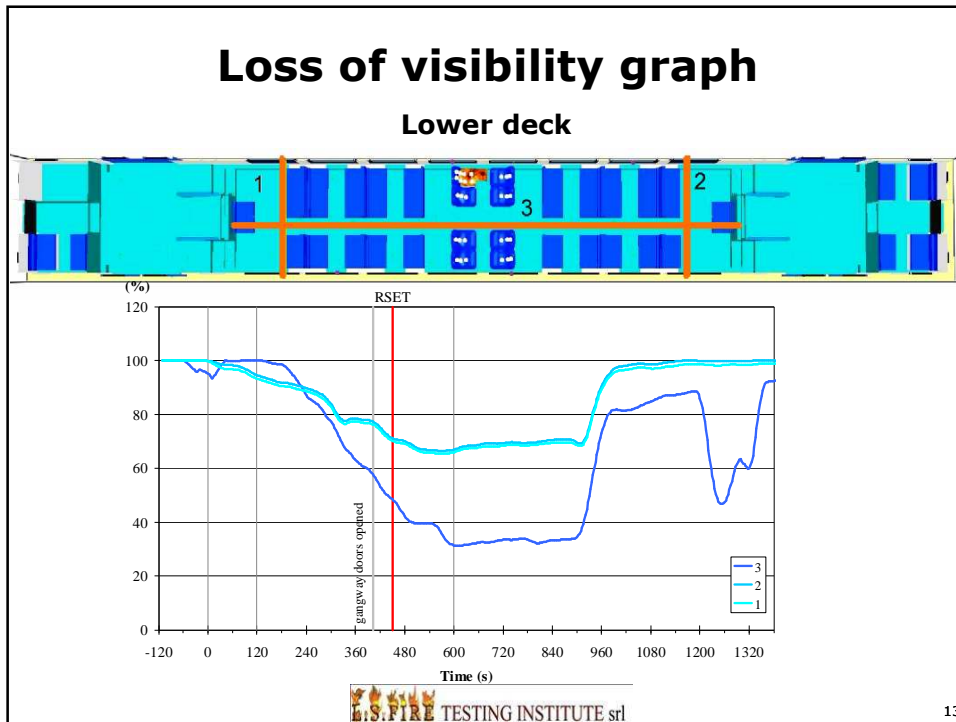


Fire scenario-2B



Fire scenario-2B





End of the test



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End of the test



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End of the test



Equipments in control coach



Control box for optical groups and for 112 thermocouples



Two of 12 optical groups

Equipments in control coach



Apparatus for RHR measurement (O_2 -CO-CO₂)

Equipments in control coach



The two FTIR (Fourier Transform InfraRed) apparatus