

Hot Smoke Tests

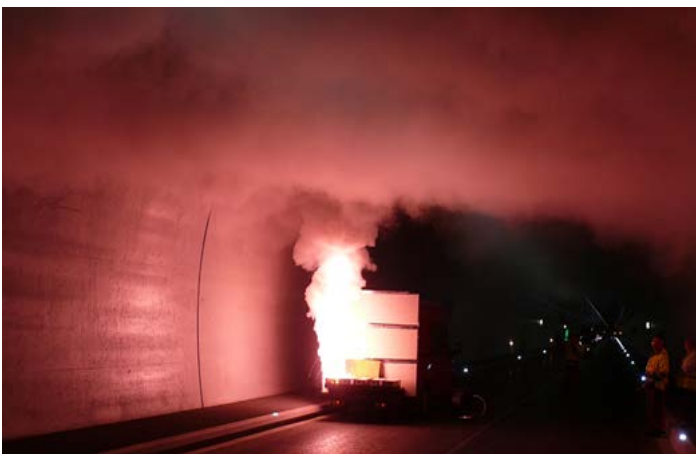
By hot smoke tests, the proper function of fire and smoke detection, as well as that of smoke and heat extraction systems can be assessed. They also serve to visualize the smoke propagation for different scenarios and boundary conditions.

Tunnelventilation.Pro conducts hot smoke tests in buildings, tunnels and industrial plants. The smoke source can be stationary or in motion.



The test smoke used is certified and patented, and meets the following requirements:

- The physical properties of the test smoke, in particular its optical density, are similar to those of smoke from real fires
- The generated heat can be adjusted to allow for simulation of thermal buoyancy and layering effects, without the risk of equipment, surfaces or structures being damaged. Therefore, a thermal insulation of the structure and equipment is not required.
- The test smoke is safe to use, represents no hazard to health, doesn't cause any corrosion nor leave any harmful deposits.



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Reference list: Hot smoke tests (with patented test smoke from K.B.K fire):

*the equivalent heat release refers to the amount of smoke

Date	Place / Country	Object data	Description*
05.2006	Tunnel Sitina, Bratislava SK	2 Tubes Length 1440 m. Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 5 MW
11.2006	Tunnel Klimkovice, Ostrava / CZ	2 Tubes Length 1100 m. Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 5 MW
10.2008	Tunnel Branisko, Prešov SK	2 Tubes Length 4975 m. Concentrated extraction	1 x Stationary source, equivalent rate ca. 15 MW
10.2008	Tunnel Panenská, Petrovice / CZ	2 Tubes Length 2000 m. Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 15 MW
10.2009	Tunnel Panenská, Petrovice / CZ	2 Tubes Length 2000 m. Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 30 MW
11.2009	Tunnel Borik, Poprad SK	2 Tubes Length 1000 m. Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 30 MW
04.2010	Tunnel Valík, Plzeň / CZ	2 Tubes Length 400 m. Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 5 MW
05.2010	Tunnel Cholupice, Praha / CZ	2 Tubes Length 1900 m. Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 30 MW
08.2010	Tunnel Lochkov, Praha / CZ	2 Tubes Length 1600 m. Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 30 MW

Date	Place / Country	Object data	Description*
08.2010	Tunnel Isla Bella, CH	1 Tube Length 2449 m. Concentrated extraction	1 x Stationary source, equivalent rate ca. 30 MW 1 x Stationary source, equivalent rate ca. 5 MW 3 x Moving source, equivalent rate ca. 5 MW
05.2011	Castle Světlov, Bojkovice / CZ	Atrium, area ca. 400 m ² . Natural extraction	2 x Stationary source, equivalent rate ca. 1 MW
09.2011	Tunnel Saas, CH	1 Tube, Length 2577 m. Concentrated extraction	1 x Stationary source, equivalent rate ca. 15 MW 1 x Stationary source, equivalent rate ca. 5 MW 2 x Moving source, equivalent rate ca. 5 MW
10.2011	Tunnel San Bernardino / CH	1 Tube Length 6596 m. Concentrated extraction	3 x Stationary source, equivalent rate ca. 5 MW 8 x Moving source, equivalent rate ca. 5 MW
03.2012	University VUT Brno / CZ	Underground parking, Area ca. 3000 m ² .	1 x Stationary source, equivalent rate ca. 5 MW
08.2012	Husovický Tunnel, Brno / CZ	2 Tubes Length 580 m. Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 5 MW
09.2012	Královopolský Tunnel, Brno / CZ	2 Tubes Length 1250 m. Concentrated extraction	1 x Stationary source, equivalent rate ca. 5 MW
05.2013	NB Reavis, Mošnov / CZ	Warehouse, Area ca. 3500 m ² . Natural extraction	3 x Stationary source, equivalent rate ca. 15 MW
09.2013	Tunnel Løren Oslo / N	2 Tubes Length 915 m. Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 15 MW
10.2013	Tunnel Nøstvedt, Oslo / N	2 Tubes Length 3700 m. Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 15 MW
10.2013	Tunnel Borik, Poprad / SK	2 Tubes Length 1000 m. Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 15 MW
12.2013	Pisárecký Tunnel, Brno / CZ	2 Tubes Length 500 m. Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 5 MW
05.2014	Feldegg Parking Zürich / CH	Underground parking, Area ca. 2 x 4000 m ² .	2 x Stationary source, equivalent rate ca. 3 MW
04.2015	Tunnel Karneid, Bolzano / I	1 Tube Length 1200 m, Longitudinal ventilation	1 x Stationary source, effective rate ca. 5 MW
04.2015	Tunnel Kampenn Bolzano / I	1 Tube Length 1500 m, Longitudinal ventilation	1 x Stationary source, effective rate ca. 5 MW
09.2015	Tunnel Blanka, Prague / CZ	Network with 2 Tubes, Length 5500 m, Longitudinal ventilation and concentrated extraction	2 x Stationary source, equivalent rate ca. 5 MW
12.2015	Tunnel Fäsenstaub / CH	1 Tube Length 1460 m, Concentrated extraction	1 x Stationary source, equivalent rate ca. 30 MW 1 x Moving source, equivalent rate ca. 5 MW
12.2015	Tunnel Cholfirst / CH	1 Tube Length 1260 m, Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 30 MW 1 x Moving source, equivalent rate ca. 5 MW

Date	Place / Country	Object data	Description*
06.2016	Tunnel Küblis / CH	1 Tube Length 2255 m. Concentrated extraction	2 x Stationary source, equivalent rate ca. 30 MW 2 x Moving source, equivalent rate ca. 5 MW 2 x Moving source, equivalent rate ca. 3 MW
10.2016	Tunnel Radejčín / CZ	2 Tubes, Length 620 m, Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 5 MW
12.2016	Flüeler Tunnel / CH	1 Tube Length 2600 m. Concentrated extraction	2 x Stationary source, equivalent rate ca. 30 MW 1 x Stationary source, equivalent rate ca. 5 MW 1 x Moving source, equivalent rate ca. 5 MW
04.2017	Tunnel Sitina, Bratislava SK	2 Tubes Length 1440 m. Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 5 MW
04.2017	Tunnel Landwasser, Davos CH	1 Tube Length 2800 m, Longitudinal ventilation	2 x Stationary source, equivalent rate ca. 30 MW 2 x Stationary source, equivalent rate ca. 5 MW 1 x Moving source, equivalent rate ca. 5 MW
04.2017	Tunnel Branisko, Prešov SK	2 Tubes Length 4975 m. Concentrated extraction	1 x Stationary source, equivalent rate ca. 5 MW
05.2017	Tunnel Poľana / SK	1 Tube Length 900 m, Longitudinal ventilation	1 x Stationary source, equivalent rate ca. 30 MW 2 x Stationary source, equivalent rate ca. 5 MW
05.2017	Tunnel Svrčinovec / SK	1 Tube Length 420 m, Natural ventilation	1 x Stationary source, equivalent rate ca. 5 MW
05.2017	Tunnel Bärenburg / CH	1 Tube Length 1000 m, Longitudinal ventilation	2 x Stationary source, equivalent rate ca. 30 MW 1 x Stationary source, equivalent rate ca. 5 MW 2 x Moving source, equivalent rate ca. 5 MW