Computer Models
For
Fire and Smoke

Model Name:	FIGARO II (**Fi**re and **Ga**s Spread in **Ro**oms)
Version:	FIGARO II
Classification:	Zone Model (2-Layer-Model)
Very Short Description:	It is a two-layer model which can be used for single-room and multi-room fire simulation.
Modeler(s), Organization(s):	Dr.-Ing. Thomas Heins Sachverständigenbüro für Brandschutz Boschstraße 16 D-47533 Kleve
User's Guide:	Heins, Th.: Simulationsmodell zur sicherheitstechnischen Beurteilung der Rauchausbreitung bei Bränden in ausgedehnten Räumen. Dissertation, Technische Universtät Braunschweig, 1991
Technical References:	see user's guide
Validation References:	see user's guide
Availability:	Sachverständigenbüro für Brandschutz Boschstraße 16 D-47533 Kleve
Price:	-----
Necessary Hardware:	ordinary computers (Pentium 2)
Computer Language:	Fortran
Size:	-----

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Detailed Description:

The model FIGARO was developed by Thomas Heins at the technical University of Braunschweig. The influence of typical ventilation systems and devices to prevent smoke spread on the fire behaviour is representable. For simulating the escape and rescue situations mass and energy transports between the upper hot gas layer and the lower gas layer are calculated by instability of the layers, by circulation of smoke within the lower layer back to the fire and by upward and downward flow at the walls caused by density changes in the boundary layers. Species concentration can be determined for O_2, CO_2 and CO. Calculation of smoke production and estimation of extinction coefficients is possible.

For more information:
Heins, Th.: Simulationsmodell zur sicherheitstechnischen Beurteilung der Rauchausbreitung bei Bränden in ausgedehnten Räumen. Dissertation, Technische Universtät Braunschweig, 1991