Computer Models
For
Fire and Smoke

Model Name:	HSLAB
Version:	1.0
Classification:	One-dimensional heat transfer model
Very Short Description:	A model to calculate the transient temperature development in a heated slab composed of one or several materials
Modeler(s), Organization(s):	National Defence Research Institute, Stockholm, Sweden
User's Guide:	A user´s guide for HSLAB: HSLAB – a program for one-dimensional heat flow problems, Foa report C20827, 1990.
Technical References:	A technical reference for HSLAB: HSLAB – a program for one-dimensional heat flow problems, Foa report C20827, 1990.
Validation References:	-----
Availability:	Available from Brandskyddslaget P.O. Box 9196, S-102 73 Stockholm
Price:	There is no cost for the program but there is an appropriate cost for the distribution and documentation of the program.
Necessary Hardware:	IBM compatible MS-DOS computer
Computer Language:	Turbo Pascal
Size:	250 kB
Contact Information:	Bengt Hägglund, bength@telia.com
Detailed Description:	

HSLAB is a user-oriented computer program to be run on a personal computer. The program computes the transient temperature development in a heated slab composed of one or several materials. Various boundary conditions are accounted for. The program is written in Turbo Pascal. The numerical solution is based on difference approximations, such as Crank-Nicholson. A simplified model, inserted into the program, yields the temperature in a shelter room or archive exposed to an external fire.