

# Improved fire safety and evacuation safety of mining personnel

13 May 2015



This was taken during a full-scale fire test in a mine in Sala, Sweden. Credit: Andreas Fransson

The results of a research study performed by Rickard Hansen at Mälardalen University (MDH) in Sweden may lead to improved fire and evacuation safety of mining personnel. The most common form of subterranean fires is vehicle fires in mines. Richard Hansen has discovered how to predict how these fires behave and develop.

Until today, there have not been any extensive or in-depth studies regarding fires in mines other than [coal mines](#). Rickard Hansen is now changing this through his doctoral thesis, "Study of heat release rates of mining vehicles in underground hard rock mines." In his study of fire safety in [underground mines](#), he demonstrates the possibility of calculating the total fire effect for mining vehicles.

"These are results that society can benefit from, foremost when designing different fire rescue systems in the mines, such as mobile refuge chambers, stationary refuge chambers and smoke evacuation fans. The air supply of the mobile refuge chambers and the stationary refuge chambers can be made larger to last longer. One

could also increase the number of fans, place them closer together and make them stronger. Thanks to this new knowledge, we can improve the capacity and location of the system. This means increased [fire safety](#) and evacuation safety of [mining](#) personnel. The results could save lives," says Rickard Hansen.

Provided by Expertsvar

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