

# ELABORATION OF THE CABLE EVACUATION DEVICE EQUIPPED WITH THE AUTOMATION ADJUSTMENT SYSTEM OF SPEED ADMISSION

## Description

The scientific group of the Department of Transportation of Special Types, Reliability and Diagnostics of the Mining Institute in 2004 obtained the first results during work on the above-mentioned problem. In 2008 as a result of these investigations it was elaborated an original evacuation device, an experimental specimen was created and theoretical investigation and laboratory tests were conducted that persuasively showed that it was possible on the basis of the elaborated original design to manufacture a beneficial and competitive product for mass production – automatic cable evacuation device.

The main distinctive property of the device from the existing ones is in the automatic adjustment mechanism of evacuation speed that provides a fast evacuation of people.

## Innovative Aspects and Main Advantages

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## Areas of Application

- In the military sphere – during fast and safe landing of troops and cargoes from helicopters. One must note that during landing the soldier on rope is given a full possibility to take active part in combat as the landing can be implemented in automatic mode;
- During implementation of various high-rise vertical assembly work;
- For safe evacuation of passengers from moving cable cars;
- For evacuation of people from high-rise buildings and engineering installations in emergency cases (for example: fires, terrorist actions, earthquakes and disasters of other types) when the implementation of rescue operations of other types is impossible or is extremely limited;
- In the extreme kinds of sports – mountain climbing, vertical speleology, canyoning, jumping etc. – during vertical descending.

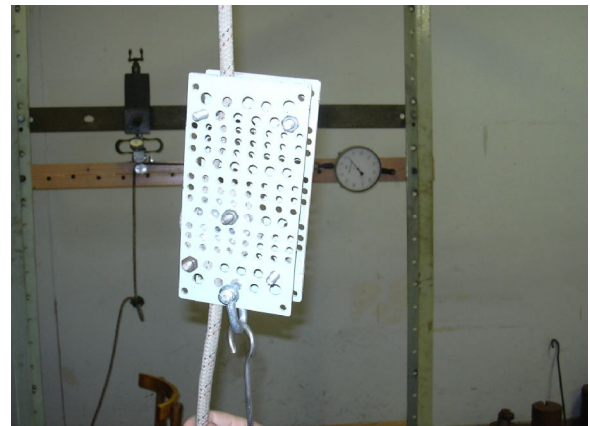


Fig. 1. The experimental model of automation evacuation device.

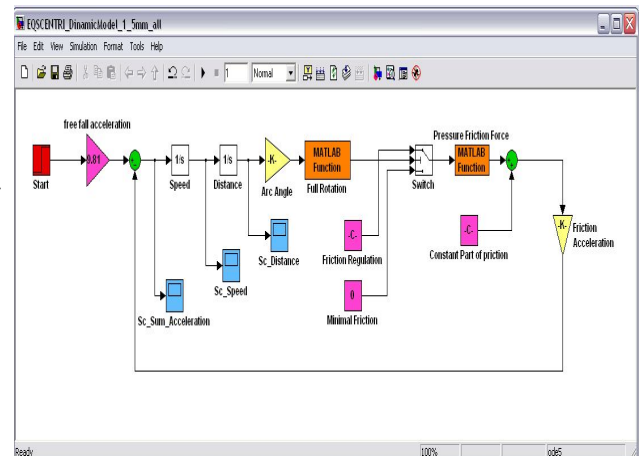


Fig. 2. Modelling of functioning of the cable evacuation system by (SYMULINK).

## Stage of Development

A test specimen has been manufactured and tested in laboratory conditions.

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