

**Professional scientific sessions for art, architecture and urban planning Thursday evenings**

**Held in: Conference hall of Herampey Consulting Engineers**

**Date: 29.05.2014**

**Title: Buildings' fire protection**

**Speakers and panel members: Mrs. M. Mokhtari, Mr. S. Bakhtyari and Mr. M. J. Ashtyani**

One of the most important parameters that must be taken into consideration during the design and construction of the buildings, is the capability to resist and delay the fire expansion of the fire in the buildings and the adjacent spaces and buildings. To achieve this vital goal there are many aspects like the design, safety rules, the materials, that must be considered very seriously. During the 20<sup>th</sup> session of He-rampey Thursdays evenings the speakers spoke about this argument.

The first speaker was Mrs. M. Mokhtari who told the history of an incident that happened to the building where she and her family lived too. She stressed the fact that this was the fourth time that this building was involved in a car caused incident. Mrs. Mokhtari explained that the traffic authorities did not find out the final causes of this incident, but probably the %20 slope of the street could be one of the principal reasons. It was a miracle that a gas explosion did not occur, and for the fire fighters was a hard challenge to take out the car from the building. They had to demolish some parts of the building to make it possible.

Fortunately there were just two injured in this incident.

Mrs. Mokhtari criticized the municipality's responsible approach that in her opinion was not appropriated.

Talking about this kind of incidents Mr. M. M. Mahmoudi expressed the idea that most of these incidents happened because the designers (building or town planners) did not pay enough attention to consider and respect the rules and standards.

The second speaker was Mr. S. Bakhtyari who began his speech talking about the absence or deficiency of rules related informations and statistics of the similar incidents that should be analyzed and prevented. These statistics are not available even for the experts and engineers that must use these informations.

Mr. Bakhtyari continued his speech talking about the history of the fire incidents in the world, like the fire occurred in a building in Madrid in 2005. In the stories that fire protection rules were applied, the damage was limited, but in the upper stories these damages were considerable. Mr. Bakhtyari spoke about the international experiences and rules to prevent fire incidents.

Talking about the incidents in Iran even though the information are not classified, he mentioned the fire incident happened in an 800 units building near Teheran, where the fire caused because of use of non-standard materials.

Mr. Bakhtyari talked about the history of the fire preventing and fighting rules in different eras and countries, beginning from the fire happened in London in 1189.

Mr. Bakhtyari classified the goals of buildings' fire protection generally and in the E.U. in particular.

He described the details that should be considered during the design of the building to avoid fire risks, and evaluate the fire expansion probabilities in the buildings, of course the principal matter is the use that these buildings are destined to.

Mr. Bakhtyari presented the goals and the activities of the research centers established in the road, habitation and town planning ministry, to prevent and fight fire incidents in the buildings. These studies were sponsored by the U.N. representative.

Ending his speech Mr. Bakhtyari stressed the necessity and importance of the safety rules edition, considering the experience of other countries like Japan, Australia, the U.S.A. and etc. These rules are to be edited by the research Center where Mr. Bakhtyari is responsible.

The last speaker was Mr. M.J. Ashtyani who spoke about the rule of the design principles and sprinklers modeling.

Speaking about the sprinklers use Mr. Ashtysni explained the reasons of their importance, as the obligation of the use of these tools in some special buildings, discounts applied by the insurance companies for fire insurance coverage, in case of sprinklers use. The capacity of the sprinklers to isolate and limit the fire expansion and similar cases that make the choice of these tools a clever choice.

Continuing his speech Mr. Ashtyani talked about the history of the sprinklers from 1955 when some changes were made to improve the operation quality of the old sprinklers. These sprinklers were called Standard spray sprinklers, followed by the Residential sprinklers design in 1970 and the new generation of sprinklers in 1983 with a up graded operation capacity.

The different type of sprinklers are:

- humid pipes system.
- pre acting system.
- torrential system.

Continuing his speech Mr. Ashtyani explained how to choose the best position of the sprinklers.

Ending his speech he talked about the National Building rules (part 3), where the sprinklers positioning modalities were explained and dictated.