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*Place: University of Novi Sad*

# Knowledge **FOR** Resilient soCiEty

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# *Fire protection and OHAS in Slovak republic*



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## Fire of a Lumber Yard with Finished Products

*On Tuesday (7 August) evening, a fire broke out in the industrial area in the center of Banská Bystrica. The fire engulfed the storage shed and some wooden pallets stored in the vicinity of the shed caught fire as well.*

*"One floor as well as the roof were affected by the fire. Pressure vessels, which were found in the compound at the time of the arrival of our members, complicated the situation," said Milan Hrudka from the Operations Center of the regional directorate of Fire and Rescue Corps (HaZZ) in Banská Bystrica.*

*The clean-up ended late at night. The extent of the damage is not known as yet. 24 fire-fighters along with 8 voluntary firemen intervened at the scene. 12 pieces of equipment were used.*





## Fire of a Lumber Yard with Finished Products

*The fire broke out in a lumber yard storing wood-fiber boards. Fire spread quickly along the roof and the whole yard. As a result of the thermal load, the roof caved in and the radiant heat was endangering the neighboring buildings.*

*To locate and to extinguish the fire, the fire-fighters of Banská Bystrica were forced to call back-ups. Fire-fighters from Zvolen, Brezno, Žiar nad Hronom, Lučenec and Banská Štiavnica as well as the members of private fire brigade from Harmanec were called in.*

*From the very beginning, the operations focused in particular on extinguishing the fire inside the yard, on cooling the adjacent buildings and consequently on putting out the roof fire of the neighboring building.*



# Fire of a Lumber Yard with Finished Products



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## Fire of a Lumber Yard with Finished Products



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## The Explosion and the Fire at Vojenský opravárenský podnik a. s., Nováky (VOP)

- *According to the information available, 49 employees of VOP were at work at that time. 3 people have been confirmed dead and 5 people are still missing. 1 person suffered serious injuries and more than 40 people suffered minor ones.*
- *The leakage of harmful substances from the chemical warehouse located in the compound has been confirmed, however, the leakage level is not detrimental to human health.*





## The Explosion and the Fire at Vojenský opravárenský podnik a. s., Nováky (VOP)

*Further reconnaissance showed that a large number of unexploded ammunition and explosives was still to be found in the compound.*

*Three more major and many small fires were detected.*

*According to a VOP employee, the fire was caused by 15t of trinitrotoluene.*



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## The Explosion and the Fire at Vojenský opravárenský podnik a. s., Nováky (VOP)

*The causes of the Friday explosion at VOP in Nováky are unknown even to the management.*

*There was more ammunition stored at the compound at the time of the explosion than permitted.*

*Four days following the incident, the causes of the tragedy resulting in at least 3 deaths are to be investigated. 5 people are still missing.*

*It is still not clear what the cause of the explosion was.*





## The Explosion and the Fire at Vojenský opravárenský podnik a. s., Nováky (VOP)



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**Act no. 314/2001 Coll.** On protection against fires

**Decree of the Ministry of the Interior no. 121/2002  
Coll.** on Fire Prevention



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# HaZZ and its organization structure

Presidium of the Fire and  
Rescue Corps (HaZZ)

branches

facilities

regional directorate

Fire Expertise Institute of  
Ministry of Interior of  
Slovakia

rescue teams

district directorate

Malacky, Žilina,  
Humenné

Secondary school of Fire Protection of  
Ministry of Interior of Slovakia

Military training center in Lešť

Fire and Rescue Department  
in Bratislava



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## Act no. 314/2001 Coll. On protection against fires

- to ensure routine fire inspections in buildings and other compounds and to remove these deficiencies;
- to implement fire protection measures concerning: the places where the risk of fire is higher; the activities associated with an increased risk of fire or the time intervals when the risk of fire is higher; the events with greater number of participants;
- to determine the places where the risk of fire is higher and to issue the respective regulations, interdictions and instructions;
- to implement measures protecting the facility against a fire outside working hours,
- to provide fire safety trainings and to test the staff and the people authorized by a legal person or a natural person-entrepreneur to sojourn on the premises;







## **Act no. 314/2001 Coll. On protection against fires**

- *to prepare, keep and maintain fire protection documentation to match actual conditions and to specify fire safety requirements for building use;*
- *to allow the authorities carrying out national fire supervision to enter the building and the premises to carry out an inspection regarding fire protection obligations and to supply them with the necessary documentation, fire protection documentation and any related documents and information;*
- *to comply with the measures eliminating the deficiencies which were imposed by the authorities carrying out national fire supervision or by the town representatives within the set period,*
- *to operate technical and technological equipment, to ensure its regular maintenance and inspection from the point of view of their fire safety and to remove the given deficiencies according to the manufacturer's instructions,*
- *to identify and to have the use of fire technical characteristics of the products and substances - the manufacturer*





## **Act no. 314/2001 Coll. On protection against fires**

*to ensure that the fire safety requirements are observed - starting from the project documentation up to the construction itself and the changes in building use;*

*when changing the building use, it is necessary to make sure that the fire safety of the building or its parts is not impaired, that the safety of persons is not reduced and that the potential intervention of the fire-fighters will be made possible at all times,*

*to clean and inspect chimneys regularly; the inspection needs to be carried out by a qualified professional before connecting a fuel appliance to the chimney, before switching from the fuel appliance to the central heating system or individual central heating, before changing the fuel type and after construction changes on the chimney*



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## **Act no. 314/2001 Coll. On protection against fires**

*to observe the technical conditions and requirements of the fire protection when connecting and using fuel appliances, electrothermal appliances and central heating system and in the construction and use of chimneys, flues; to ensure that the chimney is labeled;*

*to observe fire protection regulations when handling and storing any flammable substances and fire-supporting substances, any technical equipment containing flammable substances or fire-supporting substances*



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## Act no. 314/2001 Coll. On protection against fires

### Forest Owner and Fire-fighting Intervention

- *to ensure a sufficient amount of fire-fighting equipment,*
- *to ensure that each machine used for wood processing was equipped with at least one portable fire extinguisher with the weight of the extinguishing agent of at least 5 kg,*
- *to maintain forest transport network and water sources for fire fighting purpose so that it is possible for the fire machinery to access the area and intervene if necessary,*
- *to create strip cuts and firebreaks in a forest.*





## **Act no. 314/2001 Coll. On protection against fires**

### **Forest Owner and**

### **Fire-fighting Intervention**

*to build safe fire pits, to mark such places, to put NO CAMPFIRE sign outside these designated areas*

*to state all important information on fire protection into maps, to update it and to provide it to the given regional directorate on request*

*to patrol the area at times when the fire hazard is higher*

*to prepare special fire protection measures for the forest area previously affected by a natural disaster*



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## Act no. 314/2001 Coll. On protection against fires

### SANCTIONS

*PART EIGHT of Act No. 314/2001 Coll. Articles 59 - 65*

***Fines - for legal persons and natural persons-entrepreneurs only - not for natural persons***

8298 EUR (250 000 Slovak crowns)

16 596 eur (500 000 Slovak crowns)

the fine doubles in the case of repeated violations within the period of 3 years

*Pursuant to Article 59, the fine can be imposed within 1 year of the date on which the infringement of the obligation was revealed by a supervisory body, but not later than three years from the date on which the infringement was revealed.*

*Offenses – applying to natural persons*

*Reprimands*

*Fine (up to 99 EUR; up to 165 EUR; up to 331 EUR)*

*On-the-spot-fine 100 EUR – no appeal against the decision possible*



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## Decree of the Ministry of the Interior no. 121/2002 Coll. on Fire Prevention

### Effective Fire-fighting

*to procure and install appropriate types of fire fighting equipment, fire-extinguishers and other means of fire protection in the buildings and inside the premises, to maintain them in operational condition, to ensure it is examined and maintained by a qualified professional if enacted by the law, and to maintain and keep the maintenance documentation*

*escape routes, emergency exits, emergency response routes, boarding platforms, distribution boxes for electric power, gas, water and the fire fighting equipment - all of them have to be marked and kept clear*

*to allow alarm systems serving as a protection against fire for an adequate compensation*





## Decree of the Ministry of the Interior no. 121/2002 Coll. on Fire Prevention

### Effective Fire-fighting

- *to keep the access to water sources used for fire fighting purpose clear*
- *to allow alarm systems serving as a protection against fire for an adequate compensation*
- *to carry out a mock fire warning in the premises owned by a legal person and a natural person-entrepreneur in which the evacuation of the occupants might be more difficult*







## Decree of the Ministry of the Interior no. 121/2002 Coll. on Fire Prevention

### Effective Fire-fighting

- *to set up the necessary number of fire call centers*
- *on the basis of the decision issued by regional directorate of the Fire and Rescue Corps (hereinafter referred to as the "regional directorate"), the owner is supposed to make a fire risk analysis for the buildings and premises and to establish a private fire-fighting brigade if he is imposed to do so by a regional directorate*
- *to establish qualified fire patrols and to make sure they carry out their duties as necessary*
- *to notify, without undue delay, the relevant district directorate of HaZZ (hereinafter referred to as "district directorate") of every fire occurring in the buildings, premises or on possessions which they own, administer or use*
- *to provide the necessary documents, cooperation and assistance in order to ascertain the cause of fire*



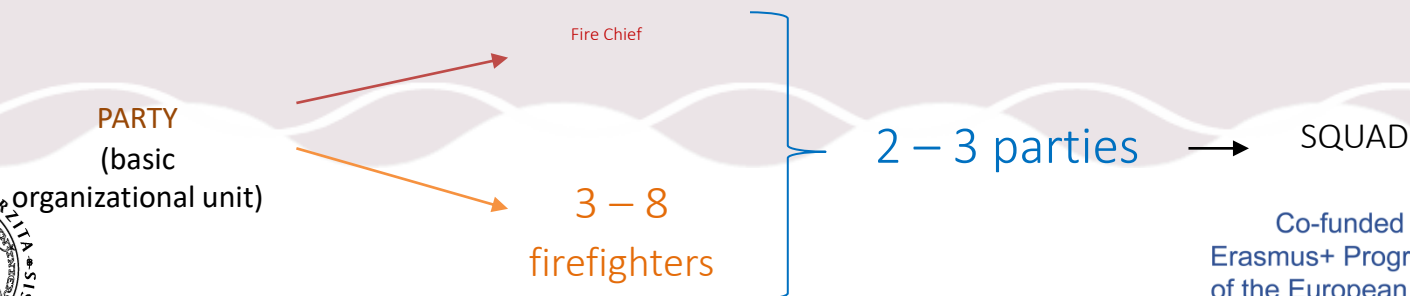


## Decree of the Ministry of the Interior no. 121/2002 Coll. on Fire Prevention

### Fire-fighting Parties

*Organizations with specially trained personnel, vehicles and equipment used to extinguish fires and to tackle other types of emergencies:*

- Fire and Rescue Corps (HaZZ) (members of HaZZ come under a special regulation → employees)
- Private Fire Brigade (employees of a legal person or a natural person-entrepreneur → employees, i.e. profession=employment)
- Fire Brigade (employees of a legal person or a natural person-entrepreneur → members, i.e. volunteers)
- Local Volunteer Fire Department (members of Volunteer Fire-fighters)



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## Decree of the Ministry of the Interior no. 121/2002 Coll. on Fire Prevention Physical Trainings

### MEN

- 50 m run (s)
- standing jump (cm)
- sit-ups in 60 s (repeats)
- **chinning** (repeats)
- **12 min. run (m)**
- 10 m swim (min.)

### WOMEN

- 50 m run (s)
- standing jump (cm)
- sit-ups in 60 s (repeats)
- **chinning** (repeats)
- 2 min. run (m)
- 10 m swim (min.)





## Decree of the Ministry of the Interior no. 121/2002 Coll. on Fire Prevention Fire-fighting Parties and Their Services

### Machinery Service:

- in operational condition,
- its maintenance, repairs and inspection,
- documentation and records concerning the operation, maintenance, repairs and inspections.
- *to secure liquid fuels, grease and other operational materials, extinguishing substances, spare parts and other materials,*
- *to provide trainings,*
- *to carry out test-drives and to retrain drivers*
- *to submit proposals for changing and completing the registration documents and driving licenses*





## Decree of the Ministry of the Interior no. 121/2002 Coll. on Fire Prevention Fire-fighting Parties and Their Services

### Anti-gas service

chemical and technical tasks relating to the protection during intervention if the air is unbreathable and the environment is detrimental to human health and in the handling of chemicals, radioactive, biological and dangerous substances

- chemical analysis,
- to suggest the method and the extent of the protection,
- to determine working procedures,
- decontamination and disinfection,
- to plan, maintain, repair and inspect,
- to keep the documentation and records regarding the use, the operation, the maintenance, the repairs, and the inspections.





## Decree of the Ministry of the Interior no. 121/2002 Coll. on Fire Prevention Fire-fighting Parties and Their Services

### Switchboard Operator:

- communication between the fire squad and special forces,
- to draw up a maintenance plan and its implementation; to try out and inspect the equipment,
- to keep the documentation.



# Decree of the Ministry of the Interior no. 121/2002 Coll. on Fire Prevention Fire-fighting Parties and Their Services



## Flood Emergency Service:

- to carry out rescue operations during floods, accidents and other incidents concerning water (...?),
- to plan and conduct maintenance, repairs and inspections,
- to prepare flood plans of the rescue operations,
- to submit the proposals concerning the modernization and replenishment of the equipment,
- to provide trainings



## Fire Brigade:

- carries out rescue operations and provides assistance where the environment, the life or the health of the people are in danger (using the necessary equipment and having the right qualifications).





## Act No. 124/2006 Coll. on Occupational Health and Safety



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# Labour safety system division from the point of view European Union (EU)

**European Union**

**Slovakia**

**Contract EU**

Article 94, 95, 137, 138

**Directive EU**

98/37/ES      89/391/EHS

Harmony of law

**Laws**

**Rule of government**

**Ordinances**

norm, technical rules, STN

Information about Health and safety



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1 x National Labour Inspectorate (NLI) + 8 x locals Labour Inspectorates



**National  
Labour Inspectorate  
Kosice**

**Bratislava Capital  
city**



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Ministry of Labour, Social Affairs and Family  
of the Slovak Republic

National Labour Inspectorate



\*LI – Labour Inspectorate



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## Labour Inspectorate



### Tasks

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- Using Slovak laws about safety
- Inspection of workplace and construction site
- Consultations with the employer

### Competencies

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- Right for inspection of workplace and construction site in every time
- Power of inspection of all documents
- Sampling

When you break the  
rules



### Remedy

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- Criminal act against employer
- Request to remove the setbacks



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## EU FRAMEWORK DIRECTIVE (only mains)

- **Council Directive 89/391/EEC** on the introduction of measures to encourage improvements in the safety and health of workers at work

The Council Directive on the introduction of measures to encourage improvements in the safety and health of workers at work (Council Directive 89/391 EEC) adopted in 1989 was a substantial milestone in improving safety and health at work. It guarantees minimum safety and health requirements throughout Europe while member states are allowed to maintain or establish more stringent measures.

## SLOVAK LEGISLATION (only mains)

- Constitution of Slovak Republic
- Act No. **311/2001 Coll. Labour Code** as amended by later regulations
- Act No. **124/2006 Coll. on Occupational Health and Safety** and on amendment and supplement to selected laws as amended by later regulations
- Act No. **125/2006 Coll. on Labour Inspection** and on amendment of the Act No. 82/2005 Coll. on Illegal Work and Illegal Employment and on amendment of certain acts as amended by later regulations
- Act No. **355/2007 Coll. on Protection, Support and Development of Public Health** and on the Amendment and Supplement to Selected Laws as amended by later regulations





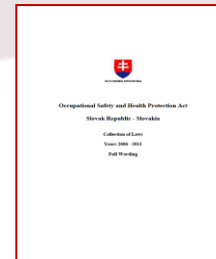
## Health and safety in the workplace is mostly governed by Act No. 124/2006 Coll. on Occupational Safety and Health Protection.

### This mainly regulates the following areas:

- Measures to ensure occupational safety and health protection at the pre-production stage.
- Preventative principles.
- Employers' general health and safety obligations.
- Employers' obligations in relation to an immediate and serious hazard to life or health of workers.
- Safety conditions for constructions, working premises, installations and working procedures.
- The provision of occupational health services.
- Safety requirements for technical equipment.
- Activity execution certificates and activity execution permits.
- Employee safety representatives or a commission for safety and health protection at work.



Labour code  
Act. No. 311/2001



Occupational safety  
Act. No. 124/2006



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## Health and safety in the workplace is mostly governed by Act No. 124/2006 Coll. on Occupational Safety and Health Protection.

Labour inspectorates are state administration bodies that oversee the performance of **labour inspection** with employers and natural persons who are entrepreneurs and are not employers. They have regional competence for the tasks established by Article 7 of Act **No. 125/2006**.

Scope of labour inspection is focused on the supervision over observance of:

- labour-law provisions governing labour-law relations in particular their establishing, change and termination, wage conditions and working conditions of employees inclusive of working conditions for women, adolescents, home employees, persons with disability and persons under the age of fifteen and collective bargaining,
- legal provisions regulating civil service,
- legal provisions and other provisions for securing occupational safety and health protection, including the provisions which govern factors of the working environment,
- legal provisions governing prohibition of illegal work and illegal employment,
- obligations arising from collective agreements



Labour inspection  
Act. No. 125/2006

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# Occupational safety

## General part



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## General responsibilities of an employer

- Make a remedy for safety labour
- Determinate risk and eliminate the risk.
- Provide Personal protective equipment (PPE)
- Determinate technology, labour method
- Break work when it is risky or dangerous for labour,
- Safe use of chemical, physical and biological materials during the work
- Inform about labour injury
- Make education about health and safety,
- To give the possibility to employee to make his work safely





## Responsibilities of an employer



Employer's obligation is to make education (training) of employee in health & safety and fire protection.

Also the employer must inspect keeping of these duties.

This education must be regular at least once in two years.





## Responsibilities of an employer



- **Secure safety**

**Technical – employees use only those machines that satisfy the Slovak technical rules and Slovak technical norms (e. g. machine, attest of product)**



**Administrative – locate danger and risk, specify a risk and make a documents about this risks  
- free using of personal protective equipments**





## Responsibilities of an employer

### *Original responsibility of employer:*

*In the place where are stored dangerous materials, technology and equipment which failure can be dangerous for employee the employer must do this:*

- Find out where are is risk and dangerous place*
- Accept measure for safety and health*
- Make education about this risk to labour*

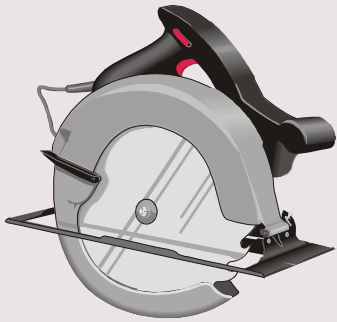




## Responsibilities of an employer



- Operate jobs, work with machine according to the instructions from the producer, which are the component of the knowledge of employee



- Safe work, use safety machine
- Use personal protective equipment and care on this safe tools





## Responsibilities of an employee

- **Care about own safety**, also about health and safety of another employee
- **Be present at education of safety and health** which makes employer and make a test
- *Employer may in an internal rule determine the regularity of an education of health and safety. This education will take place at least once in two years.*

<https://www.youtube.com/watch?v=rjojYZnx5xo&list=PLaGROF3abmFsKYtRFZbTxpK5Nm8pUEp1F8index=1>





## Responsibilities of an employee

### Submit to medical inspection

Entrance medical inspection – before entrance to the job

Periodic medical inspection

Final medical inspection – when the employee finishes the job in the corporation

*This inspection will be made „contractual doctor“ which work for the employer. This doctor makes only entrance, periodic and final medical inspection.*





## Personal Protective Equipment - firefighter

- Working garment
- Fire-fighting helmet
- Fire-fighting garment
- Fire-fighting shoes
- Fire-fighting gloves
- Fire-fighting Nomex pupa
- Fire-fighting belt
- T-shirt (long sleeve)
- T-shirt (short sleeve)
- Cap
- Working helmet
- Working gloves
- Working shoes
- Protective glasses
- Ear protector





**Department of Fire Engineering  
UNIZA**

*Test equipment according to STN EN 367 - 1996*



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## Department of Fire Engineering UNIZA

### Test equipment according to STN EN 367 - 1996

- Fire-fighting uniform and the assessment of its characteristics based on test methods and the tests carried out under laboratory conditions.
- We estimated the age of the uniform at 15 years including the five years of its use. The main test criteria were heat resistance requirements.
- One of the main tasks and requirements for fire-fighting protective clothing is the highest possible level of protection against any form of flames and heat.
- Materials used for making protective clothing may react differently in contact with the flame e.g. catch fire, drip-off, melt, shrink, smolder, char, change the color, etc.





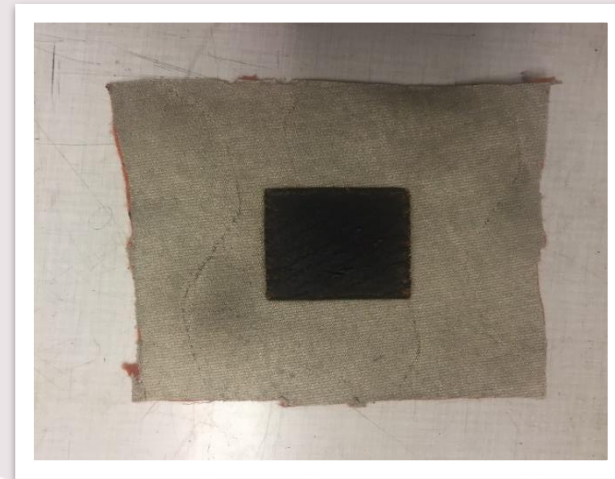
Test specimen - inner layer of the uniform



Test specimen - outer layer of the uniform

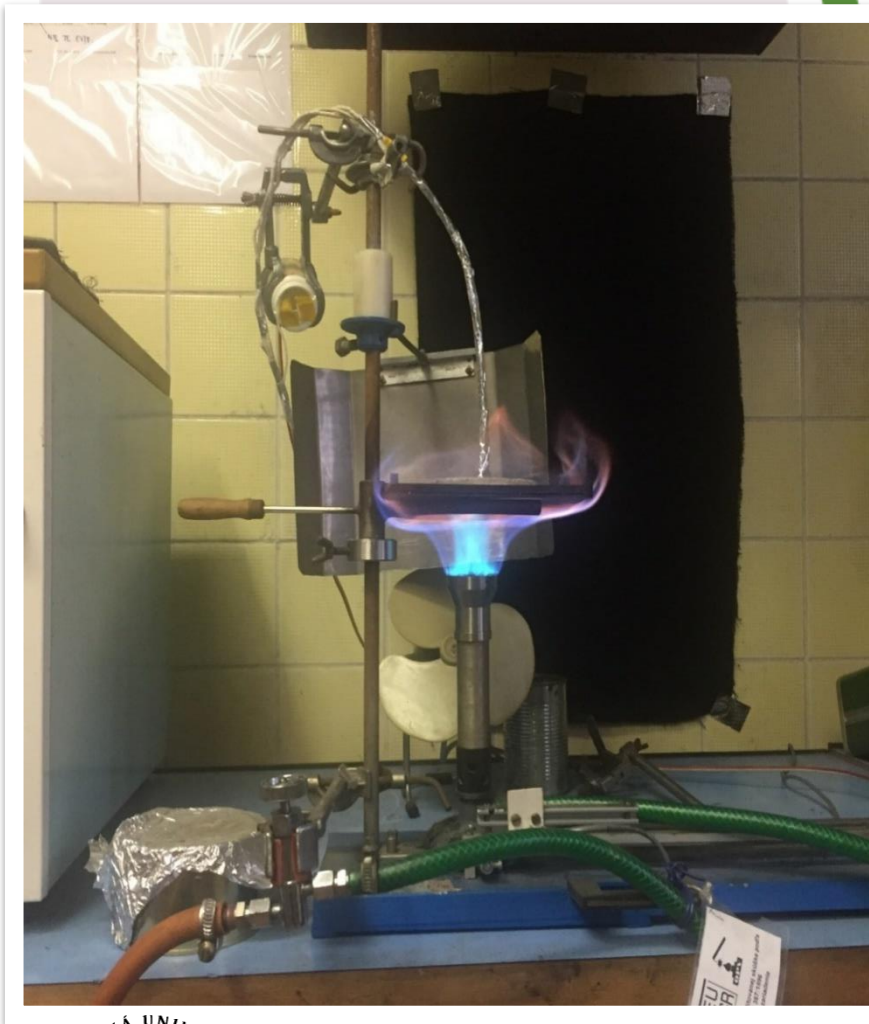


Test specimen with reflective strips and inscription



Test specimen -  
the middle layer of the uniform





Test equipment according to STN EN 367 - 1996

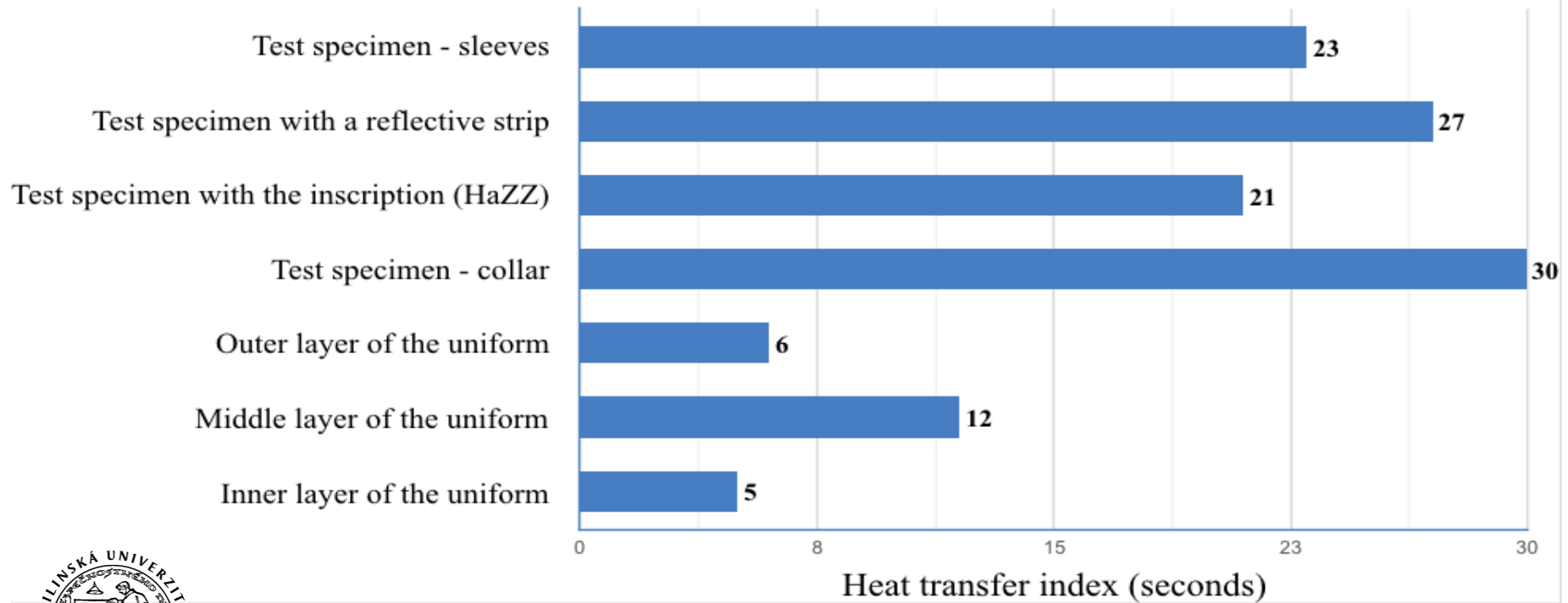
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Chart index - heat transfer for each sample



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Thank you for your attention.



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