

THE ACTIVITIES OF THE WORKING GROUP OF CZECH WELDING SOCIETY CALLED "SAFETY AND WORK HYGIENE DURING WELDING"

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ABSTRACT

The Chairman of the Czech Welding Society's Working Group which is dealing with the problems around safety and work hygiene of welders and other persons provides a brief overview of the activities of that group dealing with: safety regulations and education of welders in welding courses, fire prevention regulations and hazards of breaking of the regulations for work safety and health protection, the system of legislation of work safety in the Czech Republic and in other countries of the European Union, workplace hygiene during welding and separation of materials, and the control system for the enforcement of regulations of work safety of welders.

IIW-Thesaurus keywords: *Welding; Health and safety; Fume; Occupational health; Toxic materials; Manganese; Occupational diseases; Reference lists.*

1 INTRODUCTION

The Czech Welding Society consists of professionals in the field of joining and separation of materials. At present there are approximately 700 individual members and 42 companies registered with the Society. It has 11 working groups and commissions. I would like to present here the activities of the working group that I have the honour to chair and which is dealing with the problems around safety and work hygiene of welders and other persons. These activities can be sorted into five main topics:

- safety regulations and education of welders in welding courses,
- fire prevention regulations and hazards of breaking the regulations for work safety and health protection,
- the system of legislation of work safety in the Czech Republic and in other countries of the European Union,
- workplace hygiene during welding and separation of materials,
- the control system for the enforcement of regulations of work safety of welders.

2 SAFETY REGULATIONS AND EDUCATION OF WELDERS IN WELDING COURSES

Safety and protection of human health is one of the important factors of social policy. The introduction of various technologies has direct impact on the variety of

injuries of workers and so it is very important to have not only valid but also enforced safety, technical, hygienic, health, and fire prevention regulations.

Czech Workplace Law states in some of its articles many obligations of the company management regarding work safety, and also puts full responsibility in the field of work safety on the employers. These are mainly the tasks of risk evaluation and a choice and realization of preventive measures. The employer has the obligation for the creation of a safe workplace, of education of employees in professional courses, and also of prevention of employees from the work that they are not qualified to do.

The obligation of employees according to the Czech Workplace Law is to take part in professional courses and subsequent tests arranged by the employer in the area of work safety. It is one of the characteristics of welding that there are more risks combined, which brings also a higher number of potential injuries and work-related illnesses.

The Czech regulation for work safety during welding of metals is called CSN 050600-01-10-30-50. This system of norms consists of a common basic norm that covers all problems related to the projects and preparation works of workplaces from the point of view of safety. Then there is the norm covering the operation of welding workplaces, which is followed by the separate norms for different methods of welding. These norms contain supplements related to the special characteristics of different methods of welding.

The former system of Czech work safety norms as a binding law expired at the end of 1999, and it has been since continually replaced by government by-laws cor-

responding to the harmonised system of the European Union legislation. For example, on the 1st July 2000 the by-law of the Czech Ministry of Interior No. 87/2000 Sb came into effect. This states the conditions of fire prevention during welding. The main goal of this system is to create conditions for prevention of injuries and harmful impacts on human health.

During welding courses and testing, the importance of work safety has been thoroughly stressed. Course attendees are informed about all preventive measures included into the regulations for work safety and health protection. One of the main reasons is to guarantee the same conditions of education of our welders as in other European Union countries.

3 FIRE PREVENTION REGULATIONS AND HAZARDS OF BREAKING THE REGULATIONS FOR WORK SAFETY AND HEALTH PROTECTION

Fire prevention during welding is covered by the already mentioned by-law of Czech Ministry of Interior No. 87/2000 Sb, which relates to the welding and separation of metal and non-metal materials done by flame, electric arc, plasma, electric resistance, laser, friction, and aluminothermic welding. This by-law covers specific fire safety measures at welding workplaces, fire prevention and supervision for welding outside the workplaces, and also the conditions of starting and finishing of welding at the places with high fire and explosion danger. It contains also the manual for appropriate use of fire exhaust equipment. This by-law was created using the evaluation of long-term statistics of fires and welding injuries collected by the Fire Brigades Administration of the Ministry of Interior. The main outcome of these statistics is that the majority of fires are caused by human fault and underestimation of hazards listed in work safety regulations. Prevention of fires and injuries caused by breaking the regulations is the main reason why all welders are informed in detail about this by-law during welding courses and subsequent testing.

4 THE SYSTEM OF LEGISLATION OF WORK SAFETY IN THE CZECH REPUBLIC AND IN OTHER COUNTRIES OF THE EUROPEAN UNION

It has been already mentioned that the base of the Czech legislation for work safety and health protection is the Workplace Law that has been continually and many times amended since 1965. The most important change was Act No. 155 from the year 2000 that guaranteed full harmonisation with the European Union legislation, namely with the Directive of the EEC No. 89/391/EEC from June 1989. This Directive states that full responsibility in the field of work safety is on the employers. Czech Workplace Law states only basic rights and duties of employers and employees, and more

detailed specifications are guaranteed by government by-laws harmonised with the EU legislation.

5 WORKPLACE HYGIENE DURING WELDING AND SEPARATION OF MATERIALS

Welding has many potential risks that welders and other persons at workplaces face daily. The risks are listed in hygienic regulations; for example harmful chemicals, electromagnetic radiation, high-frequency electric field, noise, and vibrations. Also listed are physiological problems such as unfavourable working positions and so on. Titles of presentations on these topics are:

- work-related illnesses of welders – working hazards and their evaluation,
- the harmful health effects of ozone during welding by the MIG/MAG method, primarily of aluminium materials and their alloys,
- low-frequency magnetic field during welding process.

6 CONTROL SYSTEM FOR THE ENFORCEMENT OF REGULATIONS OF WORK SAFETY OF WELDERS

The enforcement of work safety regulations for welding is done by the Czech Office of Work Safety through its Regional Inspectorates. The experience gained from regular inspections of workplaces, as well as from the investigations of work-related injuries, confirms that the absolute majority of the injuries could have been prevented by appropriate prevention and organization of work. That is the reason why the agenda of work safety and health protection at the workplaces is done by specially voted representatives of employees that closely cooperate with employers on the elimination of all possible problems. At the same time, there is a specialized Czech government agency under the Ministry of Works and Social Affairs called "The Institute of Technical Inspection" that guarantees the professional supervision of the safety of special technical equipments. The operation of bodies and organizations of State professional supervision relates to all organizations and individuals engaged in this field. As regards welding, the supervision is directed namely on the observance of the already mentioned system of work safety norms for welding of metals called CSN 050600-01-10-30-50, and also CSN 078304 that covers metal containers for gas transport.

7 CONCLUSION

Let me conclude with the statement that our working group regularly invites to its meetings the leading specialists and professionals from various areas to obtain as much information as possible that would help us to make working conditions of welders and other related workers better.