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THREATS AT CAR SPRAYER JOB

The preparation and painting of car bodywork is a very important stage of production and repair, because it has a huge impact on durability, the look and safety of the vehicle. This operation is not performed only at the production stage, but also during vehicle repairs and restorations. Unfortunately, due to the technologies used, it is a very harmful and dangerous process for the life and health of the painter. Threats related to work in bodyshops are quite a serious problem, because in Poland is a great demand for their services. The reason for this is the growing number of cars in Poland i.e. about 22 mln, and a great number of collisions and road accidents in our country i.e. 32 760 road accidents and 436 469 collisions. These are data for 2017 given by the Polish National Police.

The paint shop's workplace is factory halls or private car refinish workshops. Both of them must fulfill strictly defined ecological standards. Air exchange is carried out through a natural ventilation system, which arises as a result of natural forces or forced forces, which is the result of the operation of mechanical devices introducing air into motion. At each factory hall or in a private car refinishing company, it is also necessary to provide fire-fighting instructions and provide first aid resources. The permissible concentration of harmful substances must be observed in the spray booth. Spray booths must be equipped with self-regenerating filters.

At each stage of the work, the car sprayer is subjected to the harmful effects of by-products formed during the entire painting process. It is for example: chemical and toxic substances contained in varnishes, primers, solvents and other chemical agents used during the work. Dust and metal particles created during grinding and surface leveling.

Worker is forced on hitting by car, injuries of musculoskeletal, mental fatigue. It can be reduced by personalization of work place. In paint shop is a great risk of explosion and fire because flammable substances are used in process of repair. In the event of fire are used extinguishing agents for example: fire extinguishers, fire blankets, etc.. During works performed by the paint shop employee, various chemical agents are used, such as varnishes, primers, solvents. They are extremely dangerous for the health and life of the person exposed to their effects. Such factors can be divided due to the way they affect the human body, i.e.: toxic, irritant, sensitizing, carcinogenic and mutagenic.



Fig.1. Personal protective equipment 1-mask, 2-glasses, 3-gloves, 4-overalls, 5-protective footwear [1]

Environmental conditions	Amplitude current [V]	Direct current [V]
normal	50	120
particular	25	60

Table 1. Safety voltage [2]

The most harmful substances get into the body through the fumes that are inhaled with the air by the worker and further through the respiratory tract and circulatory system are distributed throughout the body. It can be reduced by using special personal protective equipment (Figure 1).

There is a high risk of fire or electric shock in the premises of the painting facility. Danger of electric shock exists in all electrical devices where the operating voltages exceed the values of safe voltages (Table 1).

There are many threats in the work of a car painter that are dangerous to the employee's life and health. Actions aimed at limiting their impact are very important due to the large number of people working in such facilities.

References

[1] www.stadox.com [July 12, 2018]

[2] http://nop.ciop.pl/m6-10/m6-10_4.html [July 15, 2018]