revenção de Acidentes de Trabalho na Construção: A importância da Fase e Projecto

revention of Work Accidents in Construction: The Importance of Design Phase

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STRACT
world of construction is dangerous for workers and it has many potential risks of life and of corporal damages. The sure to risks of accidents is high and practically constant. For the good of society a culture of safety has to be ed in all phases and processes of construction. All intervening in the construction process should respect the mum requirements of prevention of accidents. Accident prevention in the stages of the project before construction s proactive and effective actions. Analysing the risks of accidents at the beginning of the life cycle of the project ontribute to the provision of safety measures that will benefit the prevention at the stage of implementation, of tenance and of deconstruction. In this paper an approach, chosen from among several available studies, is nted that aims at contributing to filling this need. It is a management framework dealing with the prevention of of construction accidents during the design phase. This framework model was designed after the analysis of about housand accidents in the construction sector. This study was dedicated to identify links between the causes of nts and the decisions taken in the different designs. One of the results of the study is a simple a guide aiming at g designers take adequate decisions in terms of accident prevention. Some conclusions of the research address the tages of accidents that could have been prevented at the design phase and at the planning phase. The number of nts that could have been avoided with measures taken before the execution phase was about two thirds of the total as analysed.

rds: accident prevention; construction; design; risk analysis; safety at work

RODUCTION

ivities of construction are, essentially, different from the other industries in what concerns the mobility of the ce and the repetition of conditions in tasks implemented. For instance, the environment of the operation in tion sites changes constantly due to weather changes and to location of the site. This diversity is considered one nain conditions that induce the insecure behaviour and that can hinder prevention measures. Therefore it is to legislate and to standardize practices for the enormous variety of size and of complexity of the construction The variety of construction organizations and of working structures also contributes as additional difficulty for ia legislation or practice, effectively in preventing accidents in construction.

EMENTATION OF CONSTRUCTION SAFETY AT DESIGN STAGE

truction site owner and project designers should assure in a shared responsibility mode the safe implementation nstruction works at the design phase. Approving in the design phase the architectural options and techniques to the risks of accidents in the execution phase is a difficult task since it collides, in many cases, with the nd technical options of the designers. Sometimes the situation worsens when suggesting more expensive ions to the construction owner due to the goal of preventing accidents. The designers have a fundamental role ice of the safest options and they should consider the relative risks to the execution when they conceive the on works. This relevance of design options is justified for two reasons. The first reason, for questions of ess, has to do with the safety's need to be considered since the beginning of the design creativity. The second intrinsic nature to the accident prevention, is linked with the fact that the activity of safety's implementation gn phase should be coordinated with all types of designs (structures, architecture, foundations, HVAC, etc.).

g the safety implementation there are a set of tasks that could lead to an effective procedure. Most relevant ead and to interpret the several pieces of the construction designs; coordinate the prevention with designers e construction owner; identify and prioritize the risks of accidents; evaluate current risks of the architectural nd adopted techniques; present and to justify solutions to seek the prevention of professional risks; the techniques and the constructive processes; know to apply techniques of administration of conflicts; justify, in the extent of the elaboration of the list of responsibilities, specifications that seek to prevent the idents; analysze the proposals in the environment of the construction site to verify if they consecrate the f accidents; evaluate the inherent costs of prevention in the execution of the work of prevention measures sign phase.

CH STUDY ABOUT SAFETY IN DESIGN PHASE

ntion of answering some of the issues required to assist designers and construction owners directly, this y was done with the aims of producing a model for the integration safety in the design process using a le for designers. This analysis was based on the development of a risk assessment method for the design nvisaged model aimed at contributing in the prevention of risks of accidents in construction during the