

Improvement of risk management in the marble industry

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Abstract

Ergonomic aspects of the marble enterprise are presented with a focus on improving performance. The general context of the national economy and the new judicial environment of enterprises will have serious repercussions on missions of the enterprise. Activities throughout different technological processes applied in the quarry blocks, in the quarry stone and in the marble's transformation factory have been analysed. Thanks to this approach, the different factors influencing safety and productivity were observed. This permitted to establish the required measures for a better organisation and a new prevention policy.

Introduction

In a number of visited divisions the work conditions were observed with respect to quarry blocks, quarry stone, marble transformation factory and curio manufacturing (Grandjean, 1983). A first focus was on physiology, the protection of the physical integrity of persons at work. An evaluation of the average concentration of marble dust concerning some posts, made by a team of pneumo-phtisiologists in a study about the silicosis in Algeria (SAPPMT, 1988), showed that the admissible norms are widely exceeded in quarry stone and in the factory. The second focus is on psycho-sociology; the quality of life of man at work. The third focus, often undervalued, is of economic, with aim not only to increase the enterprises' adaptation capacities to face the fluctuating market, but also to decrease social costs linked to absenteeism and to work accidents. This also improves work quality and efficiency.

The subsystem "production" includes two major phases in the cycle (CME, 1990): Extraction - Transformation. This cycle begins with quarrying until curio production involving the following structural units: quarry blocks, quarry stone, and marble's transformation factory with curio production. Quarry blocks are a monolithic blocks with dimensions 150x150 by 90 meters of depth delimited in four intervention zones or fronts.

In the quarry stone, blocks are obtained after drilling and explosive shooting. They are cut up and transported to crushing stations. Stations treat the blocks stemmed from the cutting up in three products: granules (of several dimensions), dusts and the