

Product development applied to collectors of recyclable materials: a case study in Florianópolis, Brazil

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Abstract: The manual hoisting of loads continues to be an activity requiring attention in view of the harmful effects it exerts on the human body. Collectors of recyclable materials are still a key factor in the amount of materials recycled today, but they are unfortunately subject to highly inappropriate working conditions. This paper reports on a study of the Recyclable Material Collectors Association of the city of Florianópolis, SC, Brazil, conducted in response to the City Hall's interest in analyzing the current situation with a view to providing better working conditions and safety and fostering a more efficient performance. This study involved a sampling of 15 workers representing 25% of the total number (60) of collectors. Various techniques and methods were applied to this group of workers to obtain information about their activities and the different body postures and movements they use. The survey revealed that the workers suffer from pains and aches in various parts of the body, basically caused by hoisting heavy weights, by the conditions of the streets where they work, by the effort involved in their physical activities, the distances they travel, the duration of their work day, and especially the conditions under which they load their vehicles. A vehicle adapted to the anthropometric characteristics of the population of recyclable material collectors is proposed here.

Keywords: product development, ergonomics, recyclable residues

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