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Residential Elevator Child Entrapment Prevention Human Factors Testing

D. B. Brickman and A. C. Mathias

Engineering Systems Inc.
4215 Campus Drive
Aurora, IL 60504 USA

Corresponding author's Email: dbbrickman@esi-il.com

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Abstract: A human factors testing program was performed using live child surrogates to analyze the prevention of residential elevator child entrapment. The tests replaced the original equipment flexible accordion door of a residential elevator with a flat metal scissors gate. The flat metal scissors gate prevented the child surrogates from fully closing the hoistway door (after becoming situated between that hoistway door and the flat metal scissors gate). The primary goal of this investigation is to make residential elevator designers, manufacturers, installers, inspectors, code committee members, and users more aware of the child entrapment danger associated with residential elevator car accordion doors and to identify design alternatives to help reduce the number of these types of injuries.

Keywords: Residential Elevator, Child Entrapment, Injury Prevention