

Einfache Aufzüge zur Nachrüstung in Einfamilienhäusern und im Geschößwohnungsbau

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Short Report

Simple lifts for modernization of detached houses and blocks of flats

A free access to buildings and flats for all inhabitants will be increasingly aimed at in future. This development in residential building construction is, on one side, due to the demographic changes in the population, i.e. the changing age structure of society and on the other hand due to many different life styles in connection with the wish and the demand for a more comfortable and independent utilization of space.

An essential aspect therefore is to create the planning and constructional preconditions in houses and flats, so that, if the necessity or the wish arises, a lift can be installed at a later date.

This study furnishes qualified basic data which are necessary to show cost-saving and reasonable solutions for this problem area. The results demonstrate how a later installation of lifts can be carried out as cheaply and simply as possible.

Firstly the numerous regulations and standards which regulate the planning, execution and commissioning of lifts are explained. These are followed by the presentation of technical planning principles for rope lifts, hydraulic lifts, stair gliders, vertical lifts for the handicapped and for a recent lift development: equipped, as a rope lift, with a small motor in the shaft or with a direct gear beneath the cage and which therefore does not require an upper motive power room.

An important part of the investigation consists of model calculations of the building costs of freely accessible flats in a 4-storey house with 2 flats on each floor. Different staircase types (one-flight, dog-legged stair) with alternative arrangements of the later lift shaft are combined in the ground plan. Each alternative is calculated with and without basement.

In addition to a detailed explanation of the "Simplified lift" in accordance with TRA 1300 (as cheaper solution in comparison with a lift in accordance with TRA 200) a number of cost details follow with respect to the different lift types (rope, hydraulic lifts, stair gliders for the handicapped).

Finally, the operation costs of lifts with their individual structures and absolute heights are presented.

In general it has to be stated that a street-level access to the blocks of flats - combined with a later modernization with a lift - represents a useful and cost-effective measure, which allows a hindrance-free dwelling in the long term.