

Use of roller doors in residential areas

It is common knowledge that the use of roller doors or roller door profiles in steel or other metals for closure in residential areas is not without problems. This is particularly true for underground garages or in the immediate vicinity of bedrooms and living rooms.

The characteristics of such closure, with use of thin sheet metal on one hand and unavoidable friction in the large number of seams on the other usually excludes silent operation.

In addition, with the use of electrical drives and safety contacts, motor noise and switching of the contacts can lead to considerable annoyance.

When using profiles of this kind in such locations it thus makes sense to bear the following in mind:

- The largest possible tubes should be selected. The less the slat profiles bend away from the perpendicular when rolling up and down, the less noise there will be from friction. The so-called minimum bale diameters listed in our tables should not be used in these extreme situations under any circumstances. The same applies to structural calculations for the bale. Calculations for small door weights and widths often result in extremely small tube diameters, but they must be avoided at all costs. The profiles may be capable of winding this tightly, but the risk of creating noise increases.
- Lubrication of the profile friction areas with an appropriate lubricant (at least in the upper portion of the door) must not be neglected, since dry friction, especially with lightweight metal in locations with heavy dust exposure, is bound to lead to irreparable damage. To a lesser extent, this also applies to the guide rails.
- When using a single-walled profile, one with a so-called reinforcing corrugation (e.g. our profile 1.1440 / 1.1460 / 1.1620) should be used as possible. This corrugation takes on a supporting function during up or down rolling and improves the movement properties of the door. A further considerable reduction in movement noise can be achieved with the use of plastic-coated profiles. The 200 µ film coating represents the best version. However, **given the supplementary high self-damping, the insulated profile 1.100 D is particularly recommended for such purposes.**
- Care must be taken to ensure that the guide rails are installed vertically under the outside diameter of the tube and not under the outside diameter of the rolled-up door. The advantageous negative lead-in is achieved with appropriate backing of the guide rails. Otherwise there is a risk of additional stress caused by the crescent-shaped sag of the profile in the unsupported area that increases the tendency toward more noise.
- When installing drive and support brackets, appropriate means should be used to ensure that noise and vibration transfer to adjacent building elements is minimised by, for example, use of vibration isolation plates, rubber, or other isolating material. Installation of a simple protective covering seldom produces the desired sound insulation.

Naturally, adherence to these tips in the case of all other roller doors will also positively influence their functionality.