

Elkuch DoorSystems



Quality • Innovation • Safety

 SWISS MADE


ELKUCH GROUP



From development to maintenance

Tunnel doors and gates are subject to the highest safety requirements. No compromises can be made in terms of material, manufacturing and quality. We rise to this challenge.

Development. All constructions and construction details are developed by Elkuch engineers and made ready for production. In cooperation with independent testing institutes, the doors and gates are tested and certified appropriately in order to provide an optimal solution for each customer.

Engineering. Already at the tendering stage we prepare construction and planning documents which clarify and simplify the price-performance overview required with the quotation request.

Manufacturing. From steel coil to the finished door, everything comes from Elkuch. Quality and delivery dates are ensured by our internal value chain.

Pre-assembly. To ensure that the doors can be installed efficiently and without delay on the construction site, the doors and gates are pre-assembled and tested in the factory. In units suitable for transport, we deliver all components directly to the installation site.

Assembly. In addition to specially trained personnel, we also possess various special devices and aids available for the assembly of doors and gates. The installation work is planned and coordinated in close cooperation with the local site management. With the realisation of the Lötschberg and Gotthard Base Tunnel, Elkuch has proven its competence in complex logistics challenges in large-scale tunnel projects.

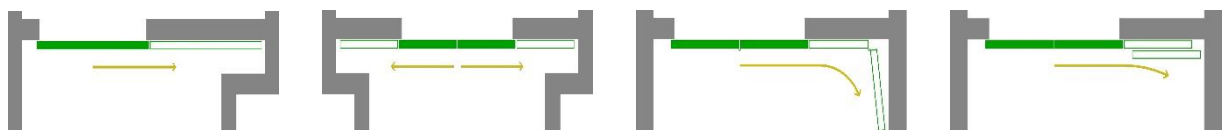
Maintenance. To ensure a proper and durable function of the door systems, regular maintenance is necessary. Whether it is achieved by training of your personnel or with a maintenance contract from Elkuch, we are pleased to support you reliably in this area as well.



Sliding door

Sliding doors are characterized by their solid and durable design. They withstand even the highest pressure and suction loads. At the same time, the sliding door can be opened with minimum effort from both sides even if different pressures are applied, ensuring a safe escape in the event of an incident.

| Performance characteristics | Sliding door road | Sliding door railway | Link-sliding door | Sliding gate |
|---|---------------------------------------|---------------------------------------|---------------------------------------|---|
| Number of door leaves | 1 / 2 | 1 / 2 | 1 / 2 | 1 / 2 |
| Fire resistance | Up to EI90 | Up to EI120 | Up to EI120 | Up to EI90 |
| Pressure- and suction load | Up to +/- 2.5 kPa | Up to +/- 20 kPa | Up to +/- 20 kPa | Up to +/- 20 kPa |
| Load exchange | > 1 Mio. | > 1 Mio. | > 1 Mio. | > 1 Mio. |
| Opening force | < 100 N with opening aid | < 100 N with opening aid | < 100 N with opening aid | < 100 N (wicket door) |
| Leakage | < 20 m ³ / hm ² | < 20 m ³ / hm ² | < 20 m ³ / hm ² | Upon customer request |
| Drive for automatic door opening | Optional available | Optional available | Optional available | Optional, depending on size recommended |
| Self closing | Mechanical | Mechanical | Mechanical | With drive |
| Escape door function | Yes | Yes | Yes | Possible with wicket door |



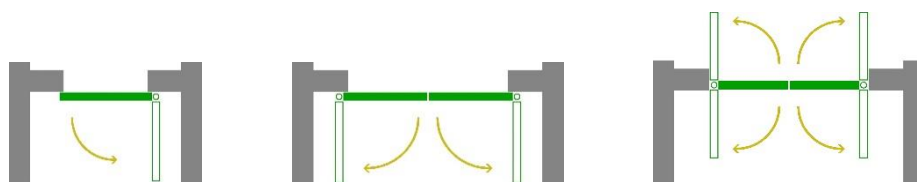
We also offer a suitable solution for your customer-specific requirements.
We look forward to your enquiry.



Swing door

Whether as a technical room door or as a cross-cut door with high pressure requirements; the swing door is versatile. We also offer the right solution for doors in various sizes and with the highest requirements.

| Performance characteristics | Swing door road | Swing door railway | Swing door railway MAX | Swing gate |
|---|---------------------------------------|---------------------------------------|---------------------------------------|---|
| Number of door leaves | 1 / 2 | 1 / 2 | 1 / 2 | 1 / 2 |
| Fire resistance | Up to EI120 | Up to EI120 | Up to EI120 | Up to EI120 |
| Pressure- and suction load | Up to +/- 2.5 kPa | Up to +/- 5.5 kPa | Up to +/- 20 kPa | Up to +/- 20 kPa |
| Load exchange | > 1 Mio. | > 1 Mio. | > 1 Mio. | > 1 Mio. |
| Opening force | < 100 N | < 100 N | < 100 N | < 100 N (wicket door) |
| Leckage | < 20 m ³ / hm ² | < 20 m ³ / hm ² | < 20 m ³ / hm ² | Upon customer request |
| Drive for automatic door opening | Optional available | Optional available | Optional available | Optional, depending on size recommended |
| Self closing | Mechanical | Mechanical | Mechanical | With drive |
| Escape door function | Yes | Yes | Yes | Possible with wicket door |



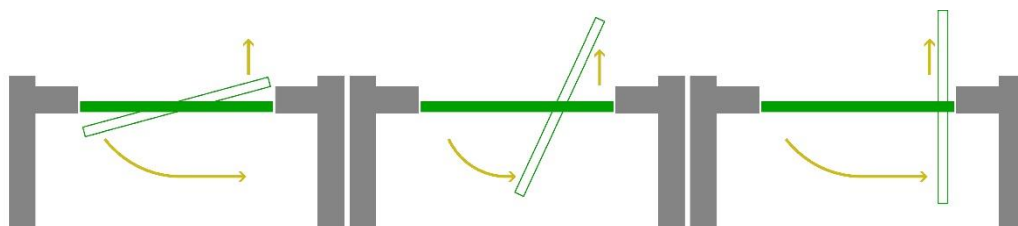
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Pressure neutral door

The perfect solution for sections with varying air pressure. Due to the innovative concept, pressure differences are compensated without opening aid. This allows the door to be opened with little force at any time in the event of an incident.

| Performance characteristics | Pressure neutral door light | Pressure neutral door railway |
|----------------------------------|---------------------------------------|---------------------------------------|
| Number of door leaves | 1 / 2 | 1 / 2 |
| Fire resistance | EI120 | EI120 |
| Pressure- and suction load | Up to +/- 2.5 kPa | Up to +/- 7.5 kPa |
| Load exchange | > 1 Mio. | > 1 Mio. |
| Opening force | < 100 N | < 100 N |
| Leakage | < 20 m ³ / hm ² | < 20 m ³ / hm ² |
| Drive for automatic door opening | Not necessary | Not necessary |
| Self closing | Mechanical | Mechanical |
| Escape door function | Yes | Yes |

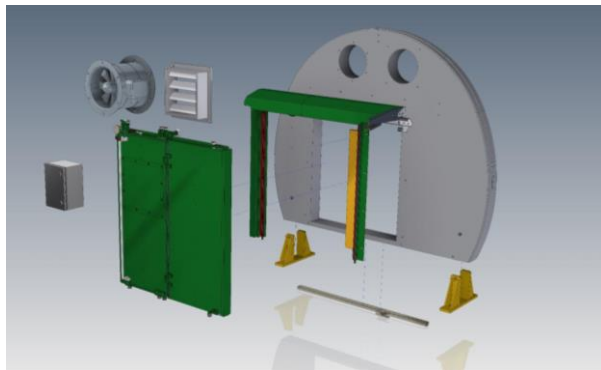


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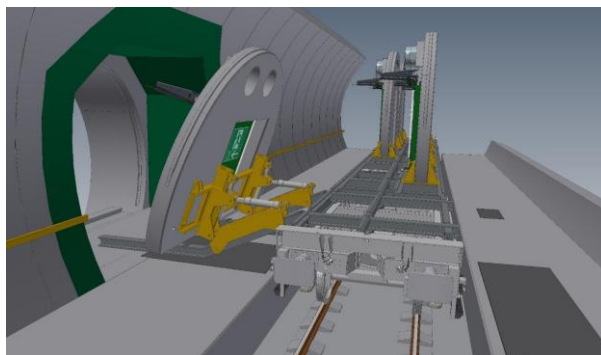


Crosscut element

The plug-in crosscut element - our innovative concept for the installation of finished crosscut walls in tunnels. The door is assembled and tested in the factory. Other functional modules such as fire dampers, fans, lighting and signage can also be pre-assembled to ensure efficient installation and commissioning.



Various components are mounted on the concrete element at the factory. This enables a reliable production process. The ergonomic production environment ensures increased work efficiency and safety. This in turn increases quality and reduces costs by optimising the installation time.



Elaborate on-site work, such as formwork, concrete work, drilling and system installations and assembly, is eliminated. At the same time, costs for long tunnel closures, salary surcharges due to expensive tunnel work hours and unproductive travelling hours are reduced to a minimum. The sealing with fire-resistant joint mortar completes the installation.

Your advantage

Up to - 15% manufacturing costs

Up to - 90% installation expense in the tunnel

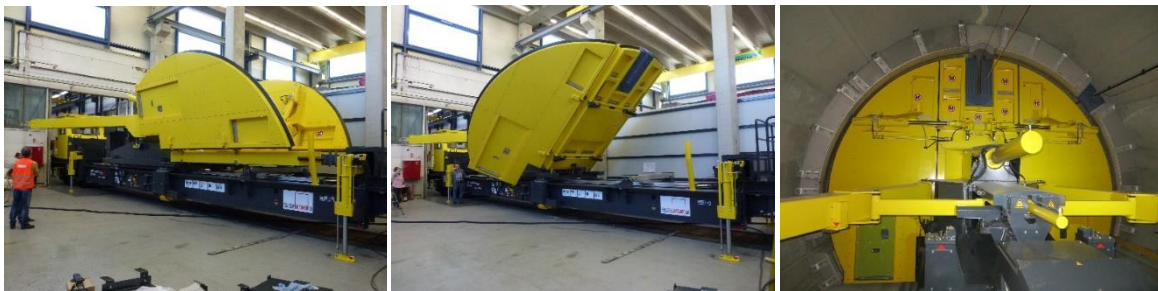


Special constructions

The right solution for every requirement. With this philosophy, we develop special constructions made according to customer requirements.

Mobile maintenance gate MET

Fire protection door for the use in modern high-speed tunnels for ventilation control. The MET separates two independent ventilation sections of the tunnel. With 90 minutes fire resistance and +/- 20 kPa dynamic pressures, the door withstands the highest loads.



Lane change gate

The Elkuch lane change gate secures the connections between individual tunnels. In the event of an incident, it is opened manually or by the tunnel control centre so trains can safely cross into the other tunnel.



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Contact DoorSystems

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