

CELSION TUNNEL SYSTEMS

SOLUTIONS FOR ROAD AND RAILROAD TUNNELS



Brandschutzsysteme GmbH



wall mounted enclosure LW-T

Functional integrity and fire load insulation

Accidents involving vehicles or secondary accidents are listed as one of the most frequent causes of fire in connection with tunnel disasters. If such an exceptional situation occurs, the tunnel must be secured in a way that, first and foremost, nothing impedes the self-rescue by those involved in the accident.

In particular, this means that safety-relevant systems must be secured that they remain functional for at least 30/60/90 minutes in the event of fire. Examples include smoke/heat extraction systems (SHEVS), fire alarm systems (FAS), voice alarm systems (VAS), emergency lighting systems, video- and sprinkler systems, etc.

Adequate fire protection is important for electrical systems and cables in a tunnel, as they also represent a fire load that should not be underestimated - but must also function.

On the following pages you will find a selection of tunnel systems for functional integrity, fire resistance and fire load insulation up to 90 minutes which - depending on the design - are suitable for use in road or railroad tunnels.



Special features

Frost and weather-resistant design optionally available

Special surface coatings prevent critical moisture inclusions and the resulting cracks at freezing temperatures and mold growth.

Systems have pressure relief vents

The pressure waves generated in a tunnel and their superimposition can act on the housing; pressure fluctuations are automatically compensated.

Special, weather-resistant distributors are available for transformer systems outside and near the tunnel entrance, which can also withstand the higher requirements of pressure waves with weather resistance.

Special cable entries

They prevent the ingress of dust and abrasion particles from the train - overhead line connection and have an integrated heat accumulator (minimal heat entry into the housing via the cable entry). They are also UV-resistant.

Special coatings

For the use of our systems in railroad tunnels, the housings can optionally be made with stainless steel V2A/V4A, powder-coated or enameled.

Especially for use in road tunnels, our systems have a particularly resistant metal casing (V4A 1.4571), which is especially suitable for tunnels with a high concentration of car exhaust fumes.

Confirmations from the Eisenbahnbundesamt (EBA, Federal Railway Authority) partially available

Individual approvals, e.g. for TGV tunnels, have been granted on a project-specific basis

Areas of applications

Our enclosures for tunnel systems are suitable for use in road and railroad tunnels to maintain **functional integrity**, **fire resistance**, **fire load insulation** and **smoke control**, depending on the type and design.

Please note that project-specific approvals or test certificates may be required.



Functional integrity

- in the sense of E30 to E90



Fire resistance

- in the sense of F30 to F90



Fire load insulation

- in the sense of I30 to I90



Smoke-retardant

- for smoke from inside and outside

Correct in January 2024

Please note
the information in the main catalogue - tunnel section
and the area of application

You can obtain further information from the main catalogue, the operating and assembly instructions and the verification of fitness for use.



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