



Celsion Battery Case - Furnishing item



CELSION TUNNEL SYSTEMS

Solutions for road and railroad tunnels



GERMAN
ENGINEERING



**solution
for fire protection
from the inside**



**solution
for fire protection
from the outside**

UOLSTER®



Administration
Bautzen

COMPANY PORTRAIT

Celsion Brandschutzsysteme GmbH is one of the leading fire protection companies and has been your partner in fire protection for more than 20 years.

By protecting escape routes and safeguarding functional integrity in a case of fire and by being involved in various working groups and standards committees, we not only view ourselves as a manufacturer of products, but as a customer-related service provider.

During planning phases, we offer innovative solutions that are individually coordinated with planners and architects to ensure smooth building processes. Celsion develops, designs and produces fireprotection cabinets (free-standing and wall cabinets, wall add-on enclosures), inspection doors and fire-resistant partition wall systems for a wide variety of applications.



Training room
Munich

Production plant,
Werk II

Training room
Spreetal

Technical office
Mainz

Training room
Mainz

Production plant,
Werk I

Technical office
Munich



90

SAFETY IN TUNNEL CONSTRUCTION

project example



FUNCTIONAL INTEGRITY AND FIRE LOAD INSULATION

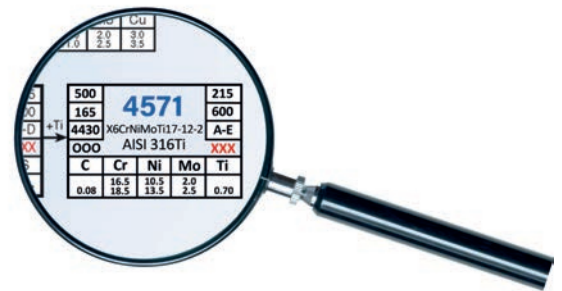
Accidents involving vehicles or secondary accidents are listed as one of the most frequent causes of fire in connection with tunnel disasters. If such an exceptional situation occurs, the tunnel must be secured in a way that, first and foremost, nothing impedes the self-rescue by those involved in the 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 (AS), voice alarm systems (VAS), emergency lighting systems, video- and sprinkler systems, etc.

Adequate fireprotection 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 fireload insulation up to 90 minutes which - depending on the design - are suitable for use in road or railroad tunnels.

Enclosure also available with stainless steel casing / 316 Ti



Extract from the family tree of austenitic stainless steel (Cr-Ni-Mo stainless steel V4A range).

www.edelstahl-rostfrei.de

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DISTRIBUTION BOARD CABINET

Fields of application

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.

E
in the
sense of

FUNCTIONAL INTEGRITY

Functional integrity

- in the sense of E30 to E90

F
FIRE RESISTANCE

Fire resistance

- in the sense of F30 to F90

I
in the
sense of

FIRE FROM INSIDE

Fire load insulation

- in the sense of I30 to I90

**Sa
Sm**
SMOKE RETARDANT

Smoke-retardant

for smoke from inside
and outside

LW-T Light-wall cabinets Series

Celsion light wall distribution board cabinet for tunnels

Suitable
for functional integrity
for 90 minutes

Fire resistance: 60 minutes
Fire from inside: 30 minutes



Ranges of application:

Road tunnels
Railway tunnels
Tunnels public safety
Tunnelling

Fields of application



Functional integrity

- Existing safety-related electrical equipment
- Fire alarms
- Emergency power units
- Emergency lighting
- Passenger lifts with a fire control system
- Smoke extractors
- USP and voice alarm units



Fire resistance

- For fires from outside



Smoke-retardant

- For smoke from inside
- Type-tested e.g. with fire alarm centre including batteries, extinguishing water mixing unit and controls




Development principles or European scope of testing:

- **EN 1634-3**
Smoke protection certificate
- **EN 1363-1**
- **EN 1364-1**
Fire resistance tests

In the sense of the
European classification
criteria:





CK 90-N-T

**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**



We view your project
from your perspective
and offer you
individual solutions.



wall partitioning systems
standing and wall distributors
inspection doors
tunnel systems
IT-network systems
special design



 **CELSION**



Regulations, norms and laws - a short excerpt

Please refer to:

International

Project-related requirements and specifications

EU-tunnel directives

Directive 2004/54/EC of April 29, 2004 on the minimum safety requirements for tunnels in the trans-European road network

Regulation (EU) No 1303/2014 of November 18, 2014 concerning the technical specification for interoperability relating to „safety in railroad tunnels“ in the European Union rail system

Country-specific building regulations and requirements for tunnels and structures

Dubai/UAE

UAE Fire and Life Safety Code of Practice 2018e.g. Abu Dhabi

Standard Construction Specifications Part 2 (Road Structures) (TR-542-2)

India

National Electrical Code of India 2023

IRC SP 91-2019 Guidelines for Road Tunnels

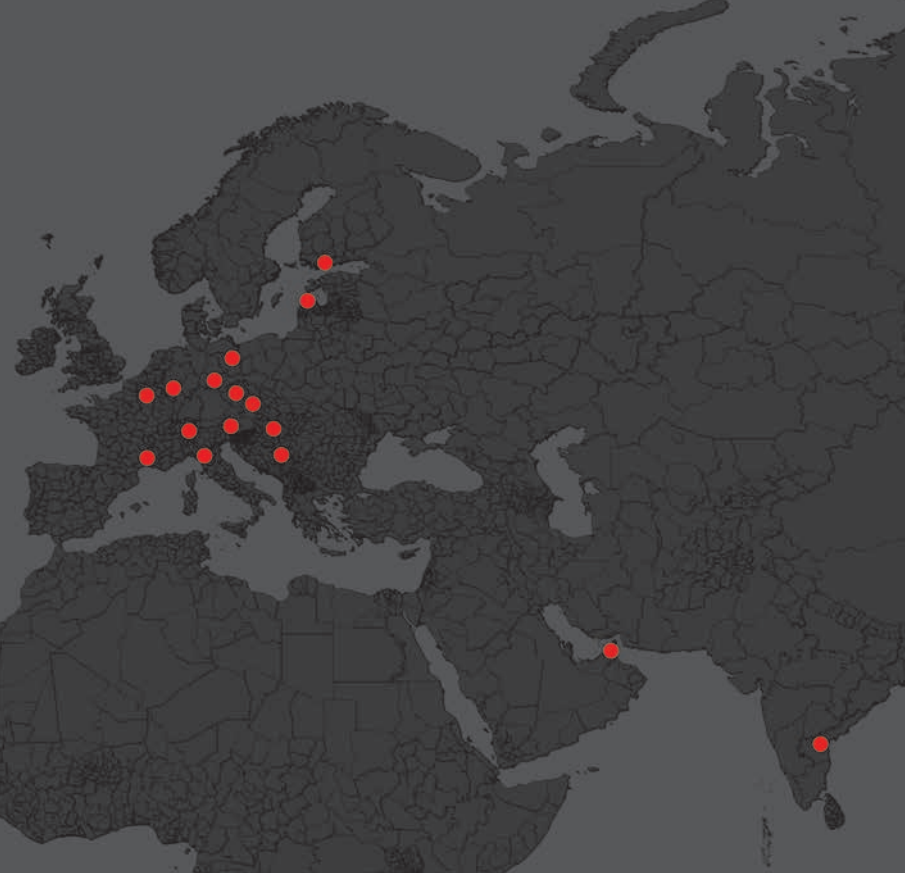
List not exhaustive - for orientation purposes only.

Please observe the customer-specific and building regulations, specifications and notes.




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.





International sales locations

-  Germany, Dresden
-  Austria, Klagenfurt
-  Switzerland, Zurich
-  France, Villerbanne
-  Luxembourg, Bettembourg
-  Italy, Turin
-  Czech Republic, Prague
-  Slovakia,
-  Hungary, Budapest
-  Serbia, Belgrade
-  Estonia, Tallinn
-  Finland, Vantaa
-  India, Chennai
-  UAE, Dubai

We accept no liability for any inaccuracies or errors.



Your partner in fire protection since 2001!

Administration & International Sales

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