

LW-T Series - Light-wall enclosure for tunnels

LWA-T Series - Light wall-attachment door for tunnels

CS-T Series - Celsion standing enclosure for tunnels

CK 90-N (Naw) Series - Small distribution box for tunnels

VIO K-90 Series - Small distribution box for tunnels

LX 90 Series - Modular enclosure for maintenance tunnels



# TUNNEL SOLUTIONS



GERMAN  
ENGINEERING





**solution  
for fire protection  
from the inside**

**solution  
for fire protection  
from the outside**



## COMPANY PORTRAIT

Celsion Brandschutzsysteme GmbH is one of the leading fire protection companies and has been **manufacturing and developing innovative and individual fire protection solutions since 2001**, taking into account the relevant building technology and legal requirements.

**Protecting escape routes and ensuring functional integrity in the event of a fire or disaster** is our top priority. Through our involvement and active participation in various working groups and standards committees, we see ourselves not only as a manufacturer of products but also as a customer-oriented service provider. During the planning phase, we offer innovative solutions that are individually coordinated with planners and architects to ensure a smooth construction process.

We were able to offer our customers **our first modular fire protection system (CMG) as a slip-on enclosure (overbox)** for existing security systems back in **2007**.

Among others, we have accompanied several research projects for the protection of lithium-ion batteries **since 2017** and have developed various **safety solutions for batteries** over the years.

Celsion develops, designs and produces fire protection enclosures such as **floor-standing and wall-mounted enclosures, overboxes, fire protection partitions, inspection doors and fire-resistant partition systems, safety solutions for batteries, modular systems** as well as **tunnel systems and IT systems** for a wide variety of areas.

Our CEO Mr. Boris Schubert is an active member of international expert committees for safety in tunnel construction.

## WE SELL TIME

### PRODUCTS

- Standing and wall-mounted enclosures
- Inspection doors
- Tunnel systems
- IT-network systems
- Fire protection solutions for batteries
- Wall partitioning systems
- Modular systems
- Special solutions

### FIELDS OF APPLICATION

- Functional integrity
- Fire load insulation
- Fire resistance
- Smoke-retardant

### AREAS OF APPLICATION

- Airports
- Hospitals
- Metro / Rail
- High-rise buildings
- Data centers
- Oil & Gas

### PROTECTION OF MISSION-CRITICAL ELECTRICAL SAFETY SYSTEMS DURING FIRE

- Fire rated electrical safety enclosure
- Continuity protection cabinet
- Life safety power protection system



Administration Bautzen

Training room Munich

Production plant, Werk II

Training room Spreetal

Technical office Mainz

Training room Mainz

Production plant, Werk I

Technical office Munich

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



Please note that project-related expertise may be required.

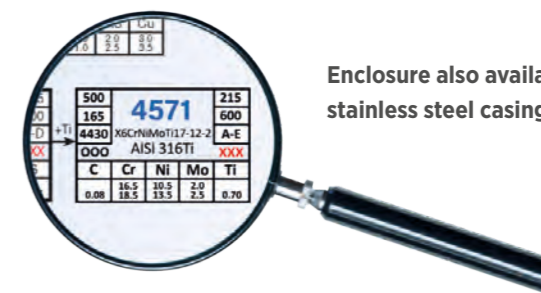
## FUNCTIONAL INTEGRITY AND FIRE LOAD INSULATION

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 30/60/90/120 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 120 minutes which - depending on the design - are suitable for use in road or railroad tunnels.



Enclosure also available with stainless steel casing / V4A / 1.4571 / 316Ti / V2A

Extract from the family tree of austenitic stainless steel (Cr-Ni-Mo stainless steel V4A range).  
[www.edelstahl-rostfrei.de](http://www.edelstahl-rostfrei.de)

# 60

## LW-T LIGHT-WALL DISTRIBUTION BOARD CABINET FOR TUNNELS

Project example: LW-T  
Please note that project-related expertise may be required.

LW-T Series - Light-wall enclosure for tunnels

### LW-T Series

Light-wall distribution  
board cabinet for tunnels

**Fire resistance: 60 minutes**  
**Fire from inside and outside: 60 minutes**

Suitable for  
functional integrity  
for 60 minutes

Also available for railroad tunnels the enclosure can  
optional be made with stainless steel V2A/V4A (1.4571),  
power-coated or enameled.



**Type of protection IP 54**  
**Protection class II**

A higher protection rating may be available  
on request, depending on modifications.

#### Areas of application:

Road tunnels  
Railroad tunnels  
Tunnels for public safety  
Tunnel construction

#### Fields of application



#### Functional integrity

- sprinkler systems
- safety-related electrical equipment
- fire alarms
- emergency power units
- emergency lighting
- passenger lifts with a fire control system
- smoke extractors
- USP-units



#### Fire load insulation

- to protect emergency and escape routes



#### Fire resistance

- for fires from inside and outside



#### Smoke-retardant

- with a surrounding seal for the  
reduction of smoke penetration



Development principles or  
European scope of testing:

EN 1363-1 Fire resistance tests for non-load parts  
EN 1634-3  
EN 1364-1  
DIN 4102-2, DIN 4102-11, DIN 4102-12

For further information and product descriptions, please refer to the main catalogue,  
the picture price list and the operating and assembly instructions.

# 60

## LWA-T LIGHT WALL-ATTACHMENT DOOR FOR TUNNELS

Project example: LWA-T  
Please note that project-related expertise may be required.

LWA-T Series - Light wall-attachment door for tunnels

### LWA-T Series

Light wall-attachment  
door for tunnels

**Fire resistance: 60 minutes**  
**Fire from inside and outside: 60 minutes**

Suitable for  
functional integrity  
for 60 minutes

Also available for railroad tunnels the enclosure can  
optional be made with stainless steel V2A/V4A (1.4571),  
power-coated or enameled.



**Type of protection IP 54**  
**Protection class II**

A higher protection rating may be available  
on request, depending on modifications.

#### Areas of application:

Road tunnels  
Railroad tunnels  
Tunnels for public safety  
Tunnel construction

#### Fields of application



#### Functional integrity

- electrical equipment to be enclosed at a later stage
- fire alarms
- emergency power units
- emergency lighting
- passenger lifts with a fire control system
- smoke extractors



#### Fire load insulation

- to protect emergency and escape routes



#### Fire resistance

- for fires from inside and outside



#### Smoke-retardant

- with a surrounding seal for the  
reduction of smoke penetration



**Development principles or  
European scope of testing:**

**EN 1634-3** Smoke protection certificate  
**EN 1366-11**  
**DIN EN ISO 10140-5**  
**ÖNORM B 3850**

In the sense of the European  
classification criteria:

in sense  
**EI<sub>1</sub>30**

in sense  
**EI<sub>2</sub>30**

For further information and product descriptions, please refer to the main catalogue,  
the picture price list and the operating and assembly instructions.

# 90

## CS-T CELSION STANDING ENCLOSURE FOR TUNNELS

Project example: CS-T  
Please note that project-related expertise may be required.

CS-T Series - Celsion standing enclosure for tunnels

### CS-T Series

Celsion standing  
enclosure for tunnels

**Fire resistance: 90 minutes**  
**Fire from inside and outside: 90 minutes**

Suitable for  
functional integrity  
for 90 minutes

Also available for railroad tunnels the enclosure can  
optional be made with stainless steel V2A/V4A (1.4571)  
power-coated or enameled.



**Type of protection IP 54**

**Protection class II**

A higher protection rating may be available  
on request, depending on modifications.

#### Areas of application:

Road tunnels  
Railroad tunnels  
Tunnels for public safety  
Tunnel construction

#### Fields of application



#### Functional integrity

- safety-related electrical equipment
- fire alarms
- emergency power units
- emergency lighting
- passenger lifts with a fire control system
- smoke extractors
- USP- units



#### Fire load insulation

- to protect emergency and escape routes



#### Fire resistance

- for fires from inside and outside



#### Smoke-retardant

- with a surrounding seal for the  
reduction of smoke penetration



**Development principles or  
European scope of testing:**

**DIN 4102-2, DIN 4102-11, DIN 4102-12**  
**EN 1363-1** Fire resistance tests for non-load parts  
**EN 1634-3**  
**EN 1364-1**  
**EN 13501**  
**EN 61439-1**  
**CSN 73 0895**

In the sense of  
the European  
classification criteria:

in sense  
**EI<sub>1</sub>90**

in sense  
**EW90**

For further information and product descriptions, please refer to the main catalogue,  
the picture price list and the operating and assembly instructions.

# 90/120

## CK 90-N (navy) SMALL DISTRIBUTION BOX FOR TUNNELS

Please note that project-related expertise may be required.

CK 90-N (Navy) Series - Small distribution box for tunnels

### CK 90-N (Navy) Small distribution box for tunnels Series

**Fire resistance: 90 minutes**  
**Fire from inside and outside: 90 minutes**

Suitable for functional integrity for 90 minutes

Also available for railroad tunnels the enclosure can optional be made with stainless steel V2A/V4A (1.4571) power-coated or enameled.

**Type of protection IP 66**  
**Protection class I**



#### Areas of application:

Road tunnels  
Railroad tunnels  
Tunnels for public safety  
Tunnel construction

Fire resistance tested in India for 120 minutes:

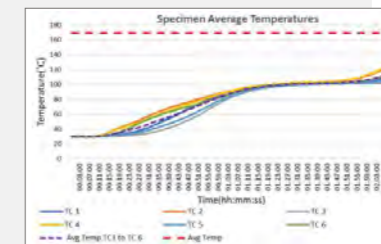


**Test report for the fire resistance test on fire protection enclosure**

**Test Specimen:**  
Celsion fire protection enclosure (CK 90-N(navy))  
External dimensions: 662 x 459 x 239 mm (l x w x t)  
Internal dimensions: 500 x 300 x 150 mm (l x w x t)

**Test Standard:**  
BS EN 1363-1 Fire resistance tests part 1: general requirements.

**Test Sponsor:**  
Celsion Brandschutzsysteme GmbH,  
Cäcilienstraße 5, 01219 Dresden /Germany  
Contact: Mr. Boris Schubert (boris.schubert@celsion.de)



#### Fields of application



#### Functional integrity

- safety-related electrical equipment
- terminals and fuses
- gas detectors
- emergency lighting
- smoke extractors
- camera equipment



#### Fire load insulation

- to protect emergency and escape routes



#### Fire resistance

- for fires from inside and outside



#### Smoke-retardant

- with a surrounding seal for the reduction of smoke penetration



#### Development principles or European scope of testing:

- EN 1634-3 Smoke protection certificate
- EN 1366-11 Fire resistance checks for installations; Part 11: Functional integrity for electrical cable units with a fire protection system
- EN 13501-1
- EN 13501-2 Classifying building products and types of buildings in terms of their fire behaviour
- BS EN 1363-1
- EN 60529
- EN 61439-1

VKF approved

In the sense of the European classification criteria:



For further information and product descriptions, please refer to the main catalogue, the picture price list and the operating and assembly instructions.



Project example: CK 90-N (navy)  
Please note that project-related  
expertise may be required.



Project example: CK 90-N (navy)  
Please note that project-related  
expertise may be required.



# 90

## VIO K-90 SMALL DISTRIBUTION BOX FOR TUNNELS

Please note that project-related expertise may be required.

VIO K-90 Series - Small distribution box for tunnels

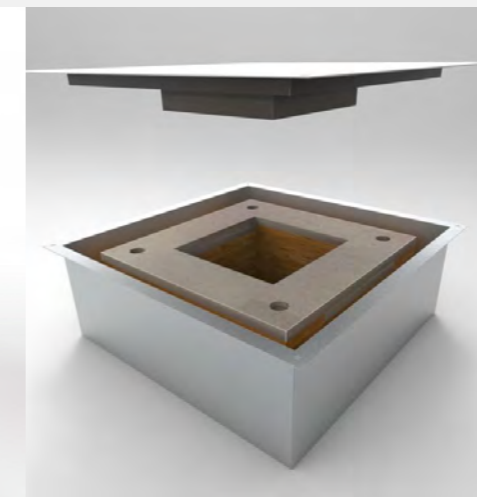
### VIO K-90 Series

Small distribution  
box for tunnels

**Fire resistance : 90 minutes**  
**Fire from outside: 90 minutes**

Suitable for  
functional integrity  
for 90 minutes

Also available for railroad tunnels the enclosure can  
optional be made with stainless steel V2A/V4A (1.4571)  
power-coated or enameled.



#### Areas of application:

Steel industry  
Road tunnels  
Railroad tunnels  
Tunnels for public safety  
Tunnel construction

Fire resistance tested in India for 90 minutes:



#### Fields of application



#### Functional integrity

- safety-related electrical equipment
- terminals and fuses
- gas detectors
- emergency lighting
- smoke extractors
- camera equipment



#### Fire resistance

- for fires from outside



#### Smoke-retardant

- with a surrounding seal for the reduction of smoke penetration

#### Type of protection IP 54

#### Protection class II

A higher protection rating may be available  
on request, depending on modifications.



Development principles or  
European scope of testing:

**EN 13501**  
**EN 1363-1**  
**BS EN 1363-1**

In the sense of the European classification criteria:



For further information and product descriptions, please refer to the main catalogue,  
the picture price list and the operating and assembly instructions.

# 90



## LX - MODULAR FIRE PROTECTION SYSTEM Standing and wall-mounted enclosure

### Modular design

Delivery in individual parts (modules)  
for assembly on site possible.

Please note that project-related expertise may be required.

LX 90 Series - Modular enclosure for maintenance tunnels

### LX Series

Modular fire protection enclosure  
Standing and wall-mounted enclosure

Suitable for maintenance tunnels  
and maintenance shafts

Suitable for  
functional integrity  
for 90 minutes

Fire resistance: 90 minutes



### Fields of application



#### Functional integrity

- 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

- with a surrounding seal for the  
reduction of smoke penetration

### Areas of application:

Road tunnels  
Railroad tunnels  
Maintenance tunnels  
Tunnels for public safety  
Tunnel construction

 Development principles or  
European scope of testing:

EN 1363-1  
EN 13501  
BS EN 1363-1

In the sense of the European classification criteria:



For further information and product descriptions, please refer to the main catalogue,  
the picture price list and the operating and assembly instructions.

## CELSION PLUS APP

Get the Celsion Plus App  
to plan your project



## CELSION REFERENCES - SHORT EXCERPT



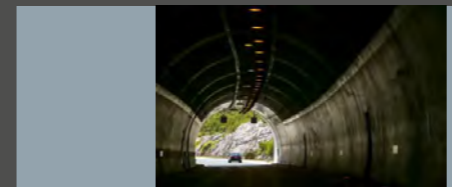
Soumagne TGV Tunnel  
Belgium



Metro  
Prague, Czech Republic



Kehärata Subway Tunnel  
Finland



Kremsursprung Tunnel  
Austria

### 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**

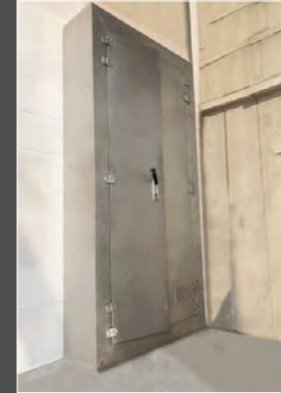
**Individual approvals, e.g. for TGV tunnels, have been granted on a project-specific basis**



## SAFETY IN TUNNEL CONSTRUCTION

Project example: CS-T  
Please note that project-related expertise may be required.

### CELSION PROJECT EXAMPLES



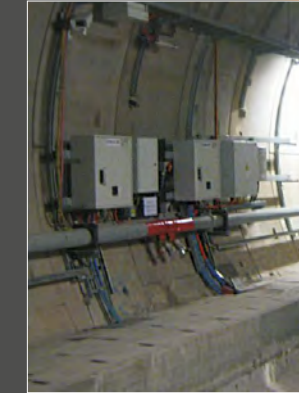
CS-T  
Standing enclosure  
for tunnels



CK 90-N (navy)  
Small distribution box  
for tunnels



CK 90-N (navy)  
Small distribution box  
for tunnels



LW-T 60  
Light wall distribution box  
for tunnels



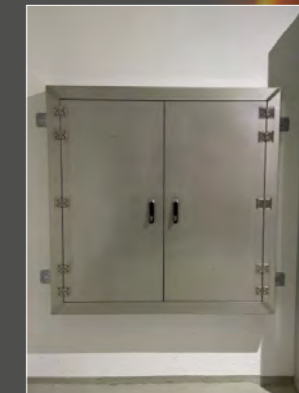
CS-T  
Standing enclosure  
for tunnels



CWA-R-T  
Wall-attachment door  
for tunnels



CK 90-N (navy)  
Small distribution box  
for tunnels



CWA-R-T  
Wall-attachment door  
for tunnels



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## Innovative fire protection systems

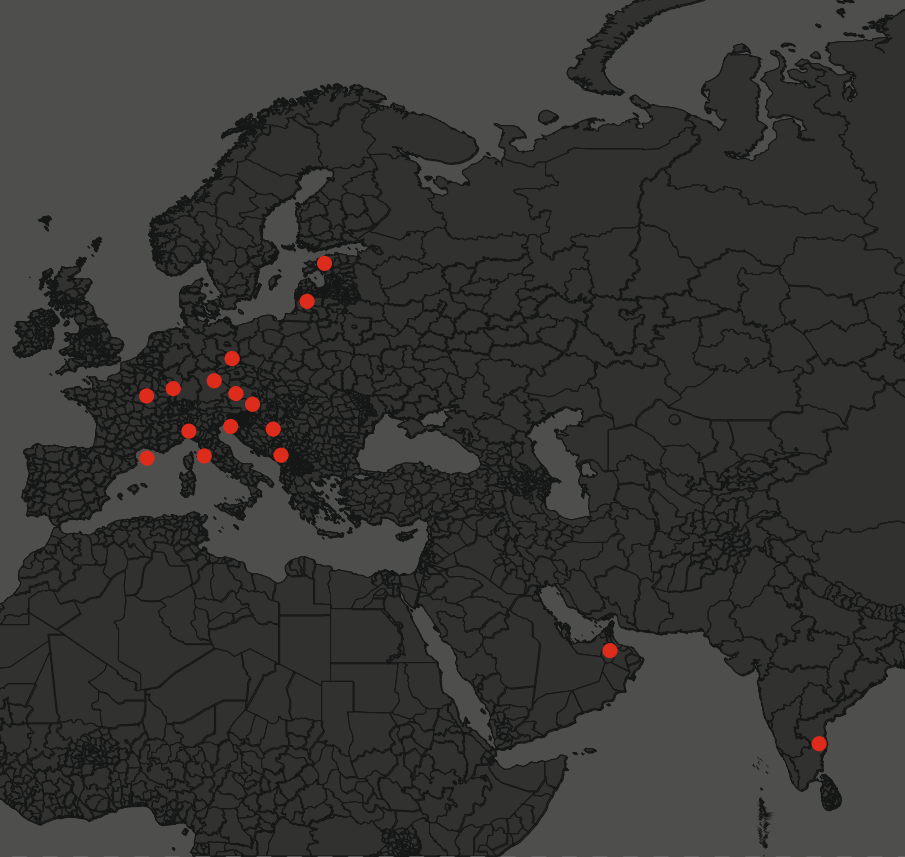


Further **products** and **solutions** can be found in our main catalogue and the picture price list















**SaBeNa:**  
Saxony's companies  
become sustainable



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



## International sales locations

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-  Serbia, Belgrade
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-  Finland, Vantaa
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Tel.: +49 (0) 3591 / 270 78 - 42  
E-mail: sales@celsion.de



**Celsion Plus**  
Get the Celsion Plus App  
to plan your project



Your partner in fire protection since 2001



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