

# TUNNELINE

## TUNNEL LIGHTING

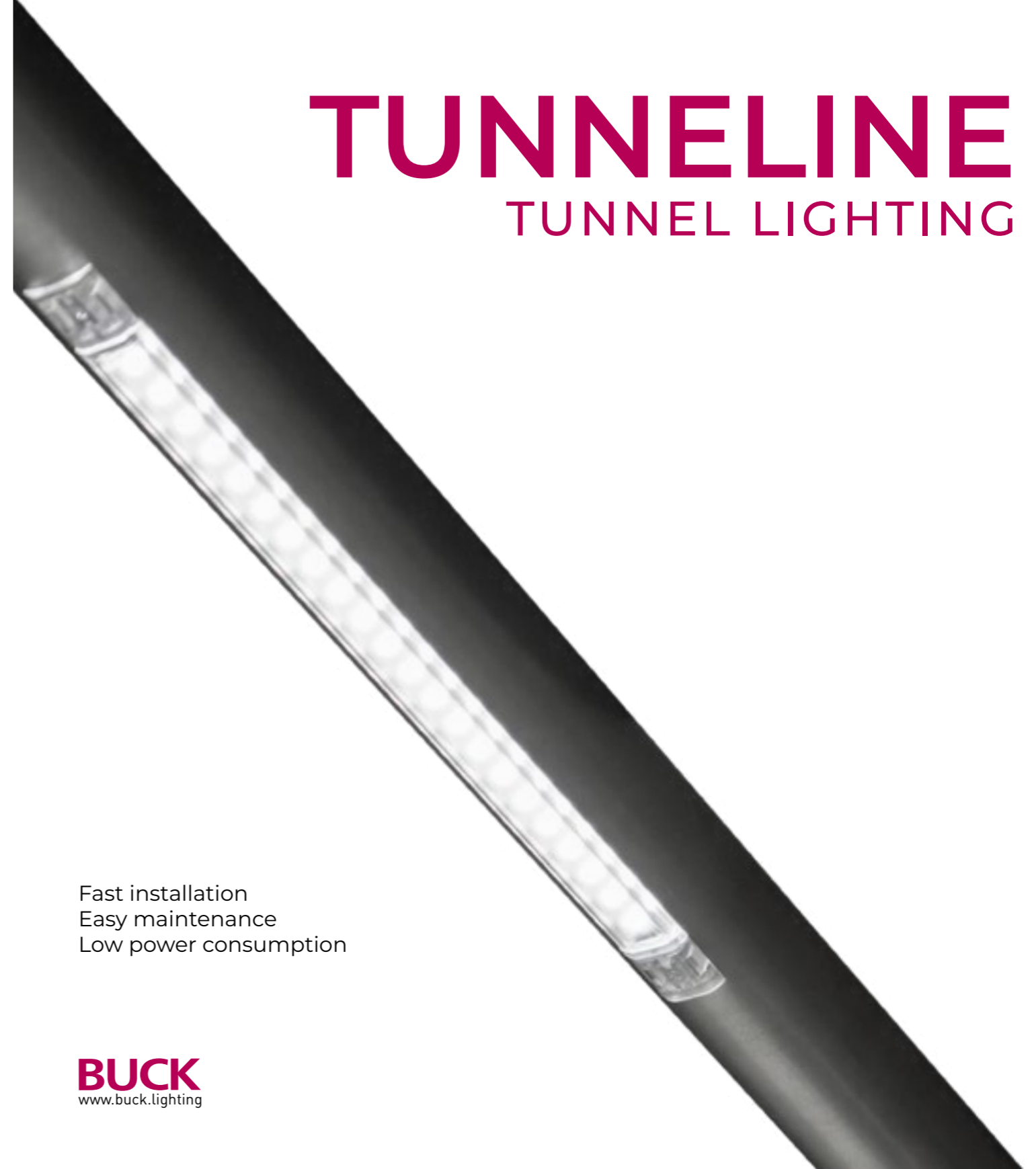


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Fast installation  
Easy maintenance  
Low power consumption

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## RAILWAY TUNNEL LIGHTING

Railway tunnels are crucial components of modern transportation infrastructure, and ensuring their safety and efficiency is paramount.

One of the options which is applied with emergency and orientation lighting in railway tunnels is the integration of luminaires into the handrail system.

This type of lighting provides essential guidance and orientation to individuals during emergency situations that require evacuation. To meet the demands of this critical application, our experts have developed TUNNELINE & TUNNELINE P luminaires.

These innovative LED lights can be smoothly integrated into tunnel handrail structures, providing emergency lighting when it's needed the most.

With TUNNELINE and TUNNELINE P, railway tunnels can now be safer and more efficient than ever before.

These luminaires are developed to withstand harsh environmental conditions, such as water, dust, dirt, gravel, and vibrations, without compromising their durability and reliability.

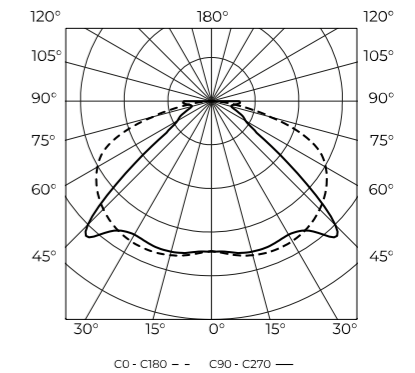
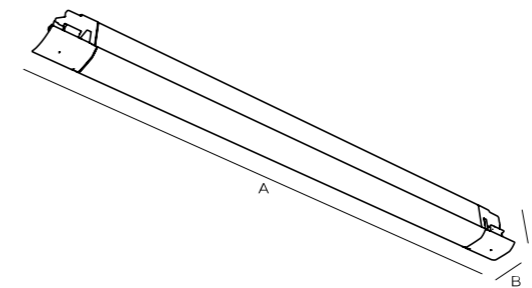
Luminaires are digitally networked through a system of remote monitoring units, which are sending messages to a telecontrol system.

The angle of longitudinal axis rotation by 45°

### TUNNELINE LUMINAIRES

Tunneline and Tunneline P are emergency lighting systems for railway tunnels, which involve the installation of low-energy-consumption luminaires in stainless steel handrails (TUNNELINE) or in GRP handrails (Tunneline P).

They are appropriate for harsh environments with high air pressure caused by high-speed trains. Their longevity, energy efficiency and reliable luminaire performance ensure low operating costs.



	<b>DIMENSIONS</b> A / B / H (mm)	<b>LED LUMEN</b> (lm)	<b>TOTAL POWER</b> W	<b>WEIGHT</b> kg
<b>TUNNELINE   TUNNELINE P</b>	266 / 18 / 21	85	1.00	0.07

## DESIGN

Appropriate light distribution is generated by the polycarbonate luminaire housing itself, which is designed as a functional optical unit. The luminaire housing is made of polycarbonate and is highly protected – IP66, IK07.

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## MOUNTING

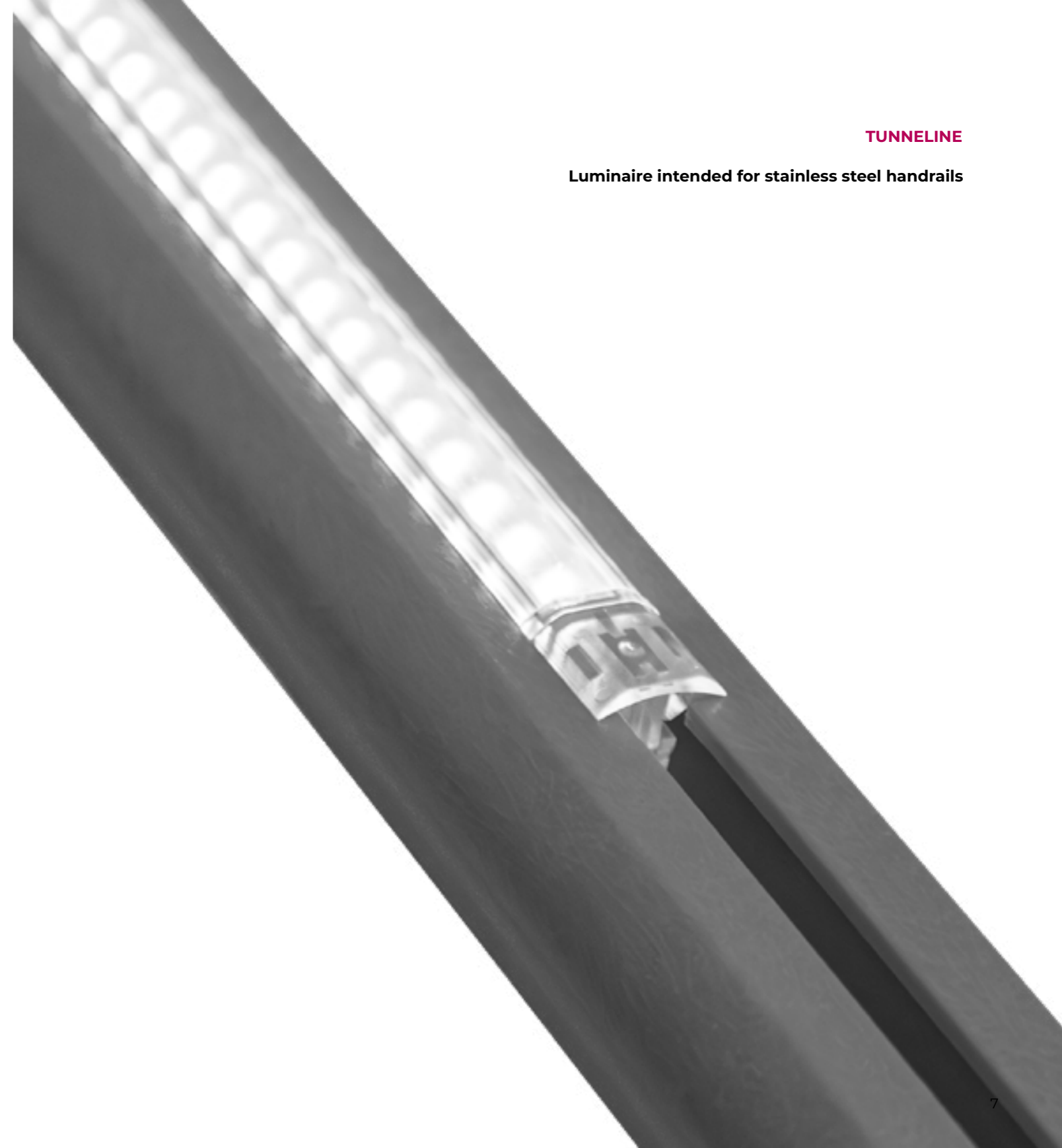
The handrail system mounted on the tunnel walls includes luminaire and power cable infrastructure.

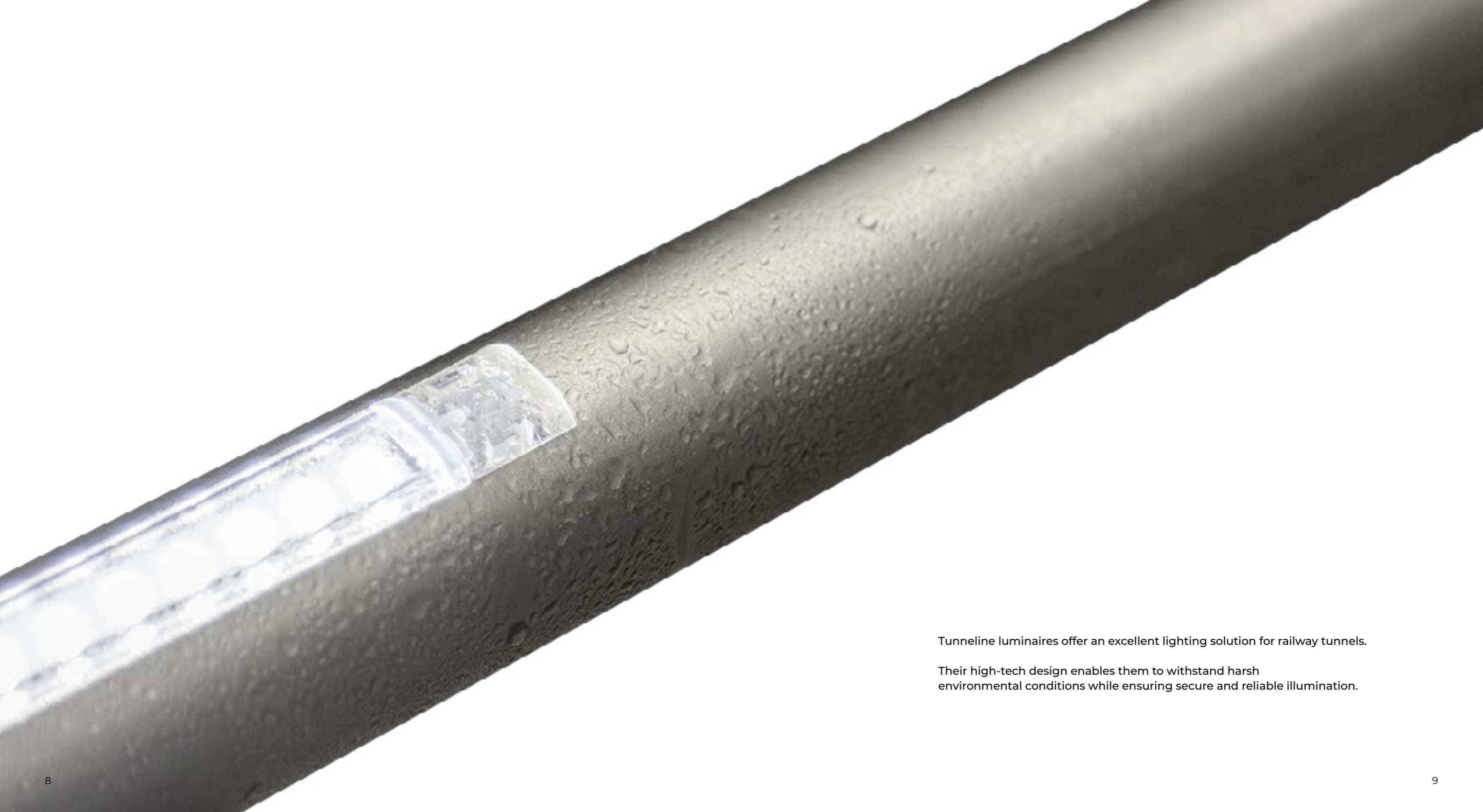
The luminaire can easily be placed into stainless steel or GRP handrail with no special tools.



## TUNNELINE


**Luminaire intended for stainless steel handrails**





Tunneling luminaires offer an excellent lighting solution for railway tunnels.

Their high-tech design enables them to withstand harsh environmental conditions while ensuring secure and reliable illumination.



Our Tunneline and Tunneline P luminaires represent the ideal solution for railway tunnels from an aerodynamic point of view.

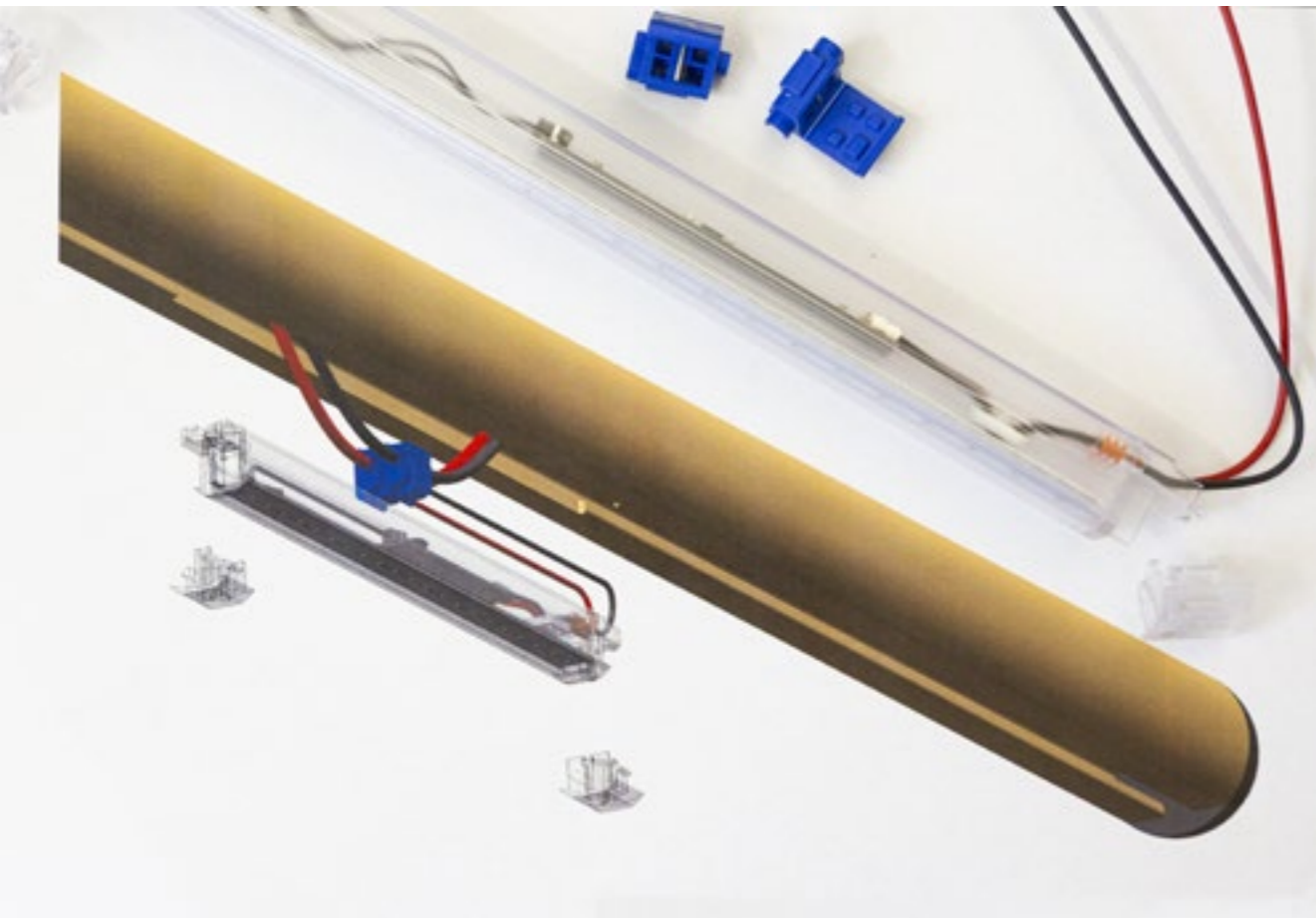
A significant factor in their efficiency is the cantilever construction that extends along the entire length of the tunnel.

With multiple attachment points, these luminaires can withstand even the strongest air pressure forces caused by high-speed trains.

## LIGHTING MONITORING SYSTEM

Our Tunneline handrail luminaires are an advanced LED emergency lighting system that is designed to provide the utmost safety and security.

The system's integrated monitoring unit can detect any LED module failures at an early stage, ensuring that any lighting issues are promptly addressed. In case of a loss, the remote monitoring system receives detailed information about the status and issue, including whether the lighting in the tunnel is ON or OFF, phase failure, failure of three consecutive luminaires, or information about loss of the entire power line. This feature is vital in maintaining a well-lit and safe tunnel environment, allowing quick and efficient resolution of any lighting issues.



## TUNNELINE P

Luminaire intended for GRP handrails





### ALTERNATIVE ENERGY SOURCES

Installing solar panels or other renewable energy sources is an excellent way to take advantage of “free” electricity benefits while reducing our dependence on the power grid.

This approach can decrease costs and alleviate the pressure on the network, particularly during periods of peak electricity consumption throughout the day. Additionally, renewable energy sources offer an almost infinite supply of energy from natural sources, and they are considered environmentally friendly because they generate little to no emissions of CO<sub>2</sub> and other harmful greenhouse gases that can damage the ozone layer or adversely impact the environment.

