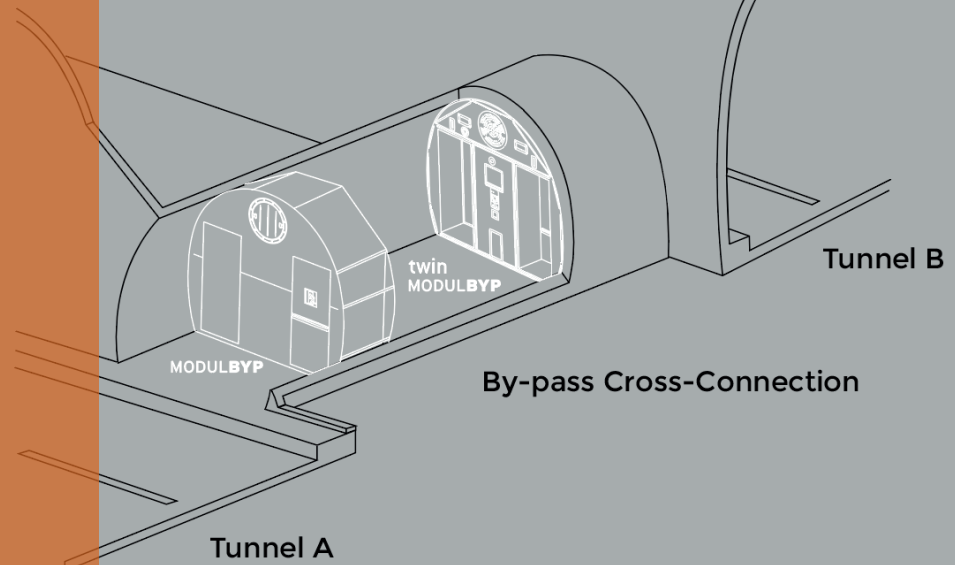




MODULBYP

Creating a protected
safety zone and
escape corridor for
tunnel by-passes

Patent: MI2009A2211



The MODULBYP is characterised by its high level of safety

MODULBYP allows the standardisation of escape routes and temporary shelters in tunnel by-passes.

The main regulations and directives for tunnel safety at national and European level require the presence of pedestrian cross-connections and entryways with a maximum separation of 300 m between the two tubes of a tunnel.

The cross-connections between the two tubes of the tunnel guarantee an escape route to the outside and the possibility, where space permits, of constructing a temporary shelter for the safety of users in the event of a fire.



Advantages



Standardisation of the construction of by-pass crossconnections.



Reduction of the time taken for installations.



Modular "turnkey" installation.



High level of safety.

Outer view of the tunnel-side of the MODULBYP wall, built from an isolating panel that guarantees REI120 rated fire protection. It consists of two pedestrian doors and axial ventilation with a fire-resistant valve.



Interior view of MODULBYP wall, characterised by the presence of a space for housing electrical apparatus that also serves as an SOS column. It is equipped with lighting, ventilation, fire-resistant closure, Ethernet switch, PLC unit, installation for exterior communication, fire detection centre and extinguisher.

MODULBYP: Maxisimising tunnel conectivity and safety

Technical features

The MODULBYP makes it possible to support the area buffer while guaranteeing the equipment required for the safety, maintenance and communication of shelters with simple connections to the electricity supply grid and data network.

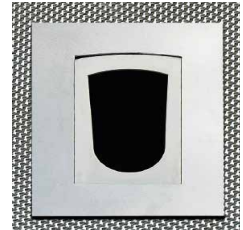
- Built under the guidelines established by Spanish Royal Decree 635/2006.
- Modular construction with prefabricated structure that allows for precision assembly in by-pass tube.
- REI120 rated fire protection.
- Double pedestrian door with opening contact.
- Ventilation system that guarantees the correct pressurisation of the by-pass.
- Pre-installed safety and communications systems, in addition to an autonomous redundant power supply that guarantees the correct operation of the module at all times.
- Electrical power supply with direct connection to outer substations.
- Interface for connection to the data network.



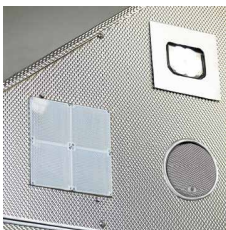
Ventilation and fire-resistant closure



Presence sensor



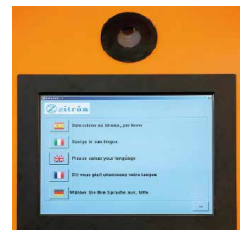
Smoke detector



Lighting, loudspeaker and retroreflectors



Fire fighting control system



LCD touch screen and video camera



SOS panel buttons



Incident communication



Response centre



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MORE INFO:

📍 HEAD OFFICES

Autovía AS-II, n° 2386
Pol. de Rocés
33211 Cijón (Spain)

☎ +34 985 168 132

✉ zitron@zitron.com

zitron.com

