

8 - Tunnels

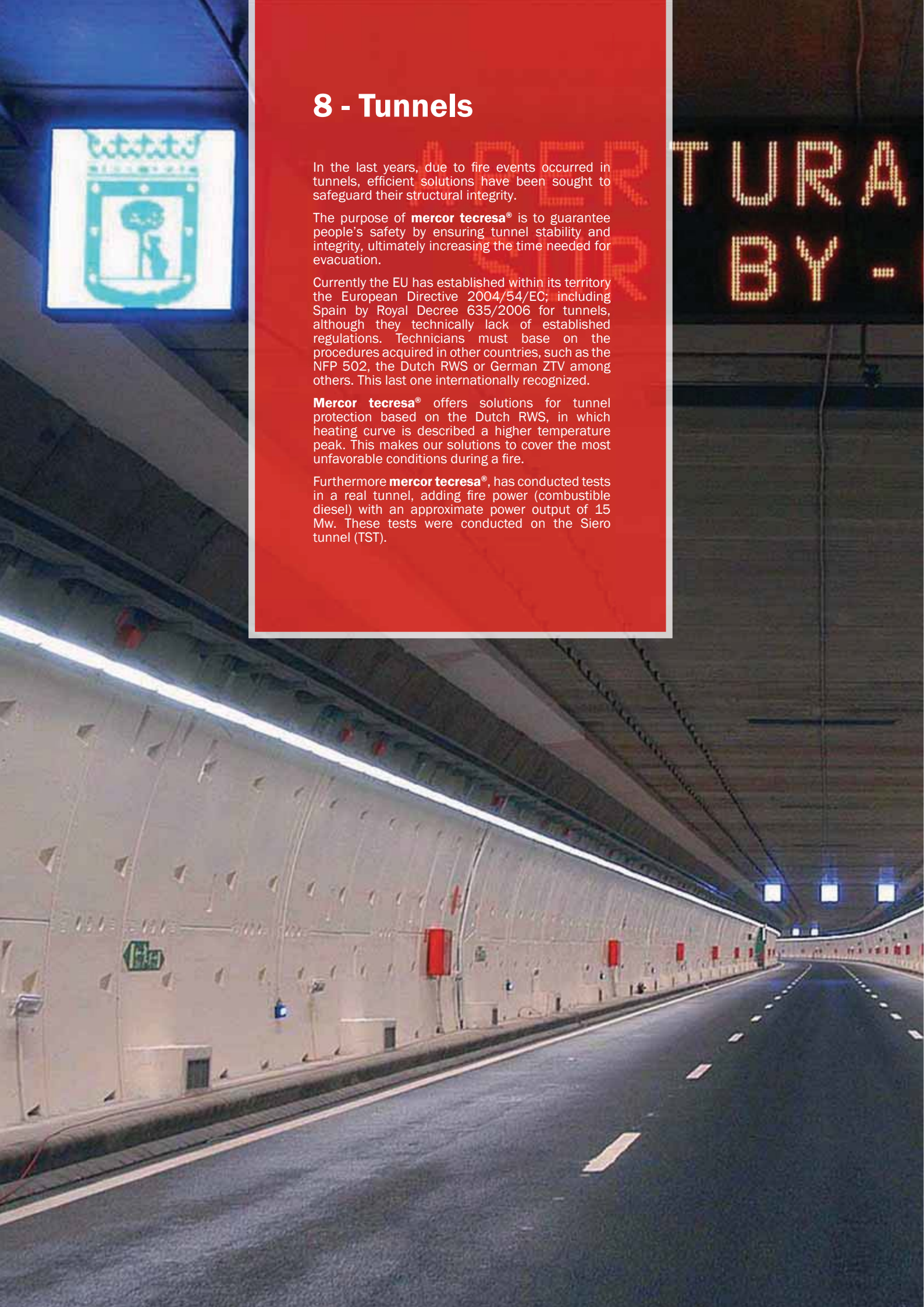
In the last years, due to fire events occurred in tunnels, efficient solutions have been sought to safeguard their structural integrity.

The purpose of **mercortecresa**[®] is to guarantee people's safety by ensuring tunnel stability and integrity, ultimately increasing the time needed for evacuation.

Currently the EU has established within its territory the European Directive 2004/54/EC; including Spain by Royal Decree 635/2006 for tunnels, although they technically lack of established regulations. Technicians must base on the procedures acquired in other countries, such as the NFP 502, the Dutch RWS or German ZTV among others. This last one internationally recognized.

Mercortecresa[®] offers solutions for tunnel protection based on the Dutch RWS, in which heating curve is described a higher temperature peak. This makes our solutions to cover the most unfavorable conditions during a fire.

Furthermore **mercortecresa**[®], has conducted tests in a real tunnel, adding fire power (combustible diesel) with an approximate power output of 15 Mw. These tests were conducted on the Siero tunnel (TST).



8.1 TECBOR® B 20+20 - REI-60 CONCRETE PROTECTION INSIDE TUNNEL.



TEST

Laboratory: Tunnel Safety Testing S.A. (TST)

Test N°: TEST real.

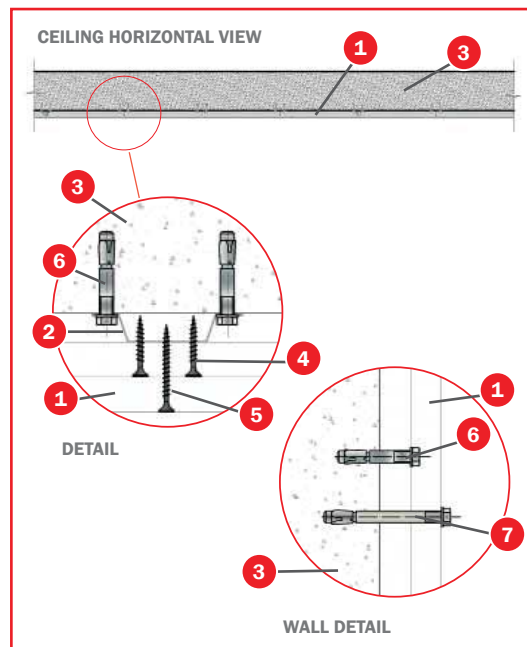
SOLUTION

- 1 Tecbor® B 20 mm boards
- 2 15x45x0,5 mm Omega
- 3 Slab
- 4 3,5x45 mm self-tapping screws
- 5 4,2x55 mm self-tapping screws
- 6 8x46 mm metal anchors
- 7 8x76 mm metal anchors
- 8 Tecbor® joint paste

DESCRIPTION OF ASSEMBLY

The ceiling is protected with 2 Tecbor® B 20 mm boards. First, attach 15x45x0.5 mm omega metal profiles every 610 mm, directly to concrete slab using an 8x46 mm metal anchor. Then fix the first Tecbor® B 20 mm board with the 3.5x45 mm self-tapping screws. The second Tecbor® B 20 mm board is fixed with 4.2x55 mm self-tapping screws.

Walls are protected using Tecbor® B 20 mm boards anchored directly to the concrete. To fix the first



board, use 8x46 mm metal anchors. For the second board, use 8x76 mm metal anchors M6.

Apply Tecbor® joint paste to joints between boards, both in the ceiling and the walls.

Contact our technical department for further information.

