

Somaro ITPC: emergency/maintenance crossover point

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Introducing the Pivoting ITPC:

In 1999, the Directorate for Road Traffic and Safety (DSCR), in conjunction with the Association of French Highway Companies (ASFA), launched a competition to design an *improved emergency crossover traffic barrier (metal and/or concrete) in the goal of enhancing traffic safety.*

Somaro rose to the challenge, designing a pivoting metal unit that fulfilled all technical specifications.

The new unit makes it extremely easy to create a crossover point in order to swap traffic to the opposite lane in support of emergency and maintenance operations while ensuring maximum safety for workers and drivers.

The unique design of the Somaro ITPC makes it highly useful for swapping traffic in response to accidents or maintenance requirements and directing traffic effectively through its wedge formation.

Unit Characteristics:

The Somaro ITPC is designed in the form of 3.5 meter modules to allow for adaptation to crossovers of any length.

A 40 meter wedge-shaped crossover using the pivoting ITPC is made up of the following components:

- Two pivoting units, each on its own rotating base and made up of four 3.5 meter modules positioned on either side of an emergency lane. All steel components are hot-dip galvanised for enhanced protection and have a wedge-shaped profile and internal braces to ensure maximum inertia and shock resistance.

The unit base is 90 cm wide from end to end with a height of 80 cm.

Every module assembly has six stowable anchor supports to configure the structure for superior shock absorption.

- A specially designed 6 meter long sliding module for opening the emergency lane for response vehicles when required.
- Two 2.5 meter-long end modules for absorbing the effects of expansion attached to either side of the unit for connection to existing barriers.

In response to the requirements of the European market, the unit is also designed to pivot or float (photo 1) between two lines of concrete or metal barriers configured without the main sliding unit.

Opening/Closing Procedure:

To open the unit on an emergency basis, the main module is unlocked and slid open to either side using a crank or winch, creating a 4 meter opening, with a top-mounted rolling track and guide rail ensuring smooth operation.

To open the unit completely, first the anchors are loosened from their sleeves and stored in built-in slots in their respective units, and then the main module is opened and the subcomponents released to allow pivoting on four sets of wheels. Wedges can be configured on the spot as a result (photo 2), and the unit is also easy to close by simply reversing the steps for opening.

A manual hydraulic system is also available to further streamline the wheel system raising and lowering and unit pivoting processes through the use of reducing gears.

The wheel sets are made exclusively of grease-dipped stainless steel components to minimise maintenance.

Unit Performance:

The Somaro ITPC has passed both shock tests in accordance with level H2 of European standard 1317-1-2 and section 4 conducted at the LIER international laboratory in Lyon.

- TB51: 13 tonne heavy vehicle making contact at 70 km/h with a 20 degree impact angle. (This test is used to validate unit resistance to heavy-vehicle impacts as well as to calculate operating width W from standard 1317-1-2, or the distance between the front of the unit before impact and the rear of the unit after impact, with a resulting W5 for the ITPC not exceeding 1.7 meters.)
- TB11: 900 kg light vehicle making contact at 100 km/h at a 15 degree angle. (This test is used to calculate the ASI, THIV and PHD indices to provide information on shock severity for vehicle occupants, with resulting values of ASI = 1.3, class B, THIV = 29.2 km/h and PHD = 16.7.)

A certification circular has been issued on an experimental basis for a five-year period by the DSCR for use under the conditions prescribed in the standards.

It is to be noted that the ITPC's exceptionally narrow operating width (W5 from standard 1317-2) supports its use in practically any crossover environment.

Unit Features:

The Somaro ITPC:

- Opens and closes in record time – only 5 to 10 minutes with assistance from two persons
- Requires minimum maintenance and provides maximum durability with its superior construction
- Is compatible with almost any road/highway configuration based upon its flexible design and opening options.

Summary:

In successful use for over four years in a diverse range of applications on every type of road and highway throughout Europe, the Somaro ITPC is the preferred solution for traffic swapping in crossover environments, providing an effective, fast, industry-approved option and maximum protection for drivers.