

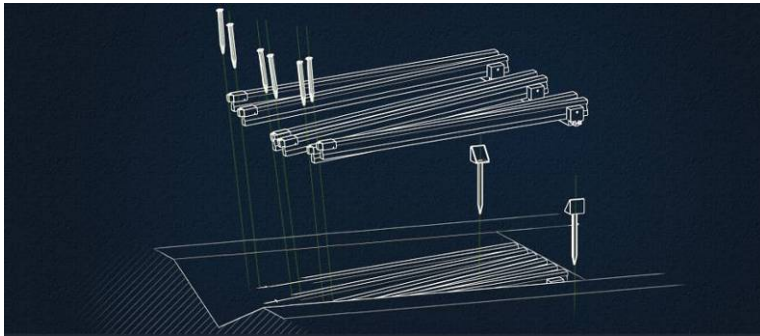
1.- Culvert end protector "CROSSAFE":

Device designed and patented by CIDRO with the aim of preventing the critical consequences of run-off traffic accidents of any type of vehicle against the so-called "culvert ends" existing on roadsides.

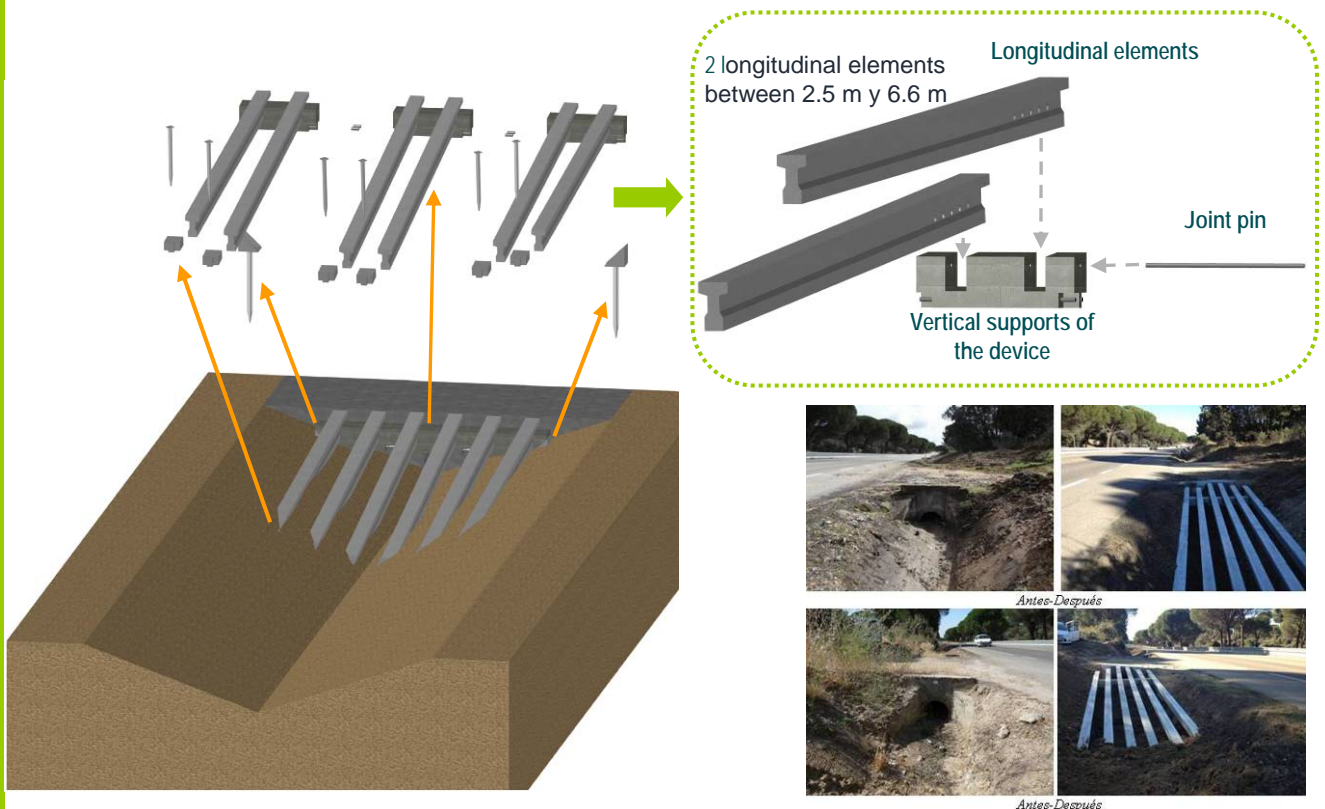


2.- Description, assembly and plans:

✓ The CROSSAFE device comprises a series of structural elements set up longitudinally in the ditch, that can withstand dynamic loads caused by a vehicle impact, and that are fixed to the ground by a supporting structure allowing flexible installation independently of the ditch typology.



✓ All the components of CROSSAFE are made of materials which can guarantee a service life equal to 25 years in any type of environment, since the elements are made of either reinforced concrete or galvanized steel.

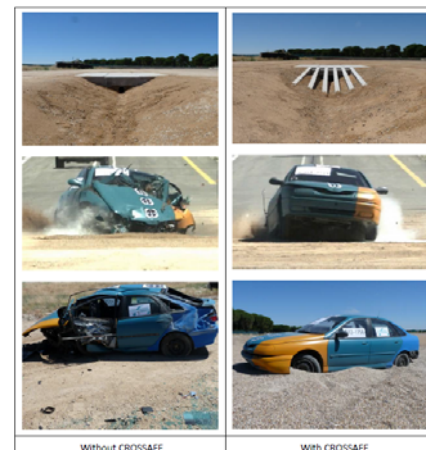
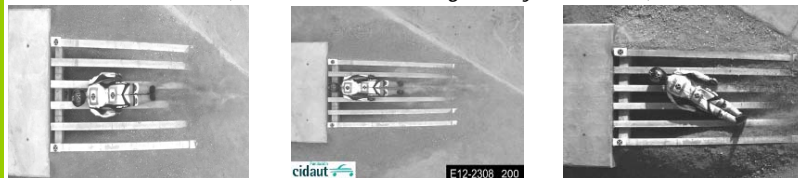


Culvert end protector "CROSSAFE"

3.- Characteristics of CROSSAFE:

✓ Ensures the mitigation of injuries in this type of impacts:

Dynamic tests have been conducted in an accredited crash test laboratory, using the same impact test acceptance criteria as the one used for road safety barriers in the standards EN 1317-2 (Road restraint systems - Performance classes, impact test acceptance criteria and test methods for safety barriers), TS 1317-8 (Road restraint systems - Motorcycle road restraint systems) and the standard MASH (*Manual for Assessing Safety Hardware*).



✓ **Modular:** Adaptable to any type of ditches, independently of the geometric and structural characteristics, since different elements can be assembled to cover wider ditches.

✓ **Easy installation:** Without the necessity of excavating or slowing down the traffic.



✓ It allows an easy cleaning of the drainage elements:

✓ **No maintenance** is necessary during its service life (25 years).

✓ **Easy to repair** in case of traffic accident.

✓ **Different dimensions** of the longitudinal elements guarantee a maximum slope of 16% (6:1):



✓ Able to support a coach of 13,000 Kg.



✓ **Low cost product** with an optimum Cost-Benefit ratio (1:10).

✓ The best product "Spanish National Road Maintenance Association – ACEX 2013" (Madrid, 2013); the most innovative product at "International Road Safety Exhibition – Trafic 2013" (Madrid, 2013); Road Safety Innovation Award at 6th Spanish Edition "PONLE FRENO" for the Road Safety Innovation (Madrid, 2014); Road Safety Innovation Award at the international exhibition "Intertraffic 2014" (Amsterdam, 2014).

4.- About CIDRO:

Company focused on the design of advanced, technology based systems, mainly for road (preventive, active and passive) safety and mobility applications

For further information, please visit our web site www.cidro.es or directly contact us:

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