

Qatar Safety Improvements with ArmorWire

Solution Summary

ArmorWire™ was installed in 2014 on the 45km Salwa - Lusail Temporary Truck Route in Qatar. The Ashghal PWA needed a suitable barrier that would provide protection on a Temporary Truck Route (TTR). The barrier would need to prevent any possible cross median collisions on the 4-lane highway while maintaining a cost effective approach for what is essentially a temporary road.

Ashghal Public Works Authority (PWA) regulates infrastructure related projects and public amenities in Qatar. In an effort to improve the traffic flow in Doha and divert incoming transit traffic between the north and south of the country out of the city, Ashghal PWA announced the opening of the Salwa - Lusail Temporary Truck Route (TTR) stretching 45km and connecting Salwa Road west of the industrial area with Lusail Development.

THE CHALLENGE:

Ashghal PWA would need to manage the large vehicle traffic using the new TTR and this prompted some challenges:

1. Need to prevent any potential crossover on this 4-lane highway with a median barrier.
2. Being temporary - finding the safest and most reliable solution within a tight budget was important.

THE SOLUTION:

ArmorWire™ 4 Cable TL-4 was selected as a cost effective median barrier that would meet the specific challenges for the 45km permanent installation during the TTR roads lifetime.

The ArmorWire™ TL-4 (or TL-3) cable barrier has been designed, tested and accepted to NCHRP 350 longitudinal cable barrier criteria, which means that you can be assured of the performance and space required during the barrier design phase.



ArmorWire's distinctive oval posts have been designed to firmly fasten the cable, with the fewest component parts of any system on the market, just one post cap completes the installation. This is important to ensure reliable, fault free installation and repairs; giving assured future performance. Upon impact with either a small car, pick-up or single unit truck, ArmorWire™ safely re-directed them from impact angles up to 25° and speeds up to 100kph.

No deformation has been found in the passengers cabins regardless of the size of the vehicle. Safe and predictable trajectories were observed during the tests.

ArmorWire™ is also the easiest system of its kind to install and repair, reducing installation time and yielding further savings while promptly re-establishing safety on the roads.

Features:

- Tested and approved to NCHRP 350 TL-3, TL-4 and EN 1317-2 H1, as well as having done a modified TB32 crash test to establish high containment of a large car at high speed
- 3 And 4 cable options available
- Exceptionally good vehicle control and behaviour
- Post spacing from 3.0m to 6.0m centers subject to cost vs. performance requirements
- Economical installation
- TL-3 tested and approved terminal end
- Socketed system for ease and speed of repair after impact
- Environmental benefit - Limited surface area prevents accumulation of sand next to barrier
- Minimal components of socket, post, post cap and cable - allowing for easy installation and reduced maintenance and inventory costs.
- High-tension system providing exceptionally low deflection
- Selection of line post and terminal foundation options to suit ground condition

"ArmorWire™ is amazing, years ago, I was sceptical about using cable barriers but on this project, it was used on a route that is 95% heavy trucks. I am aware that it is not designed or tested to contain such vehicles, but although we had tens of barrier impacts we never had a single penetration. In fact, most of the impacts were hit-and-drive and that highlights how well, under real use, ArmorWire™ contains and re-directs vehicles with minimal damage. It has been easy to maintain and the cable tensioning has proved to be stable. I like the cable terminals"

"We find ArmorWire™ very cost effective and the support from Highway Care and Midwil Trading for the installation and maintenance has been great. I encourage ongoing use of this product"