

SecureGuard Security Barriers introduced to the security market

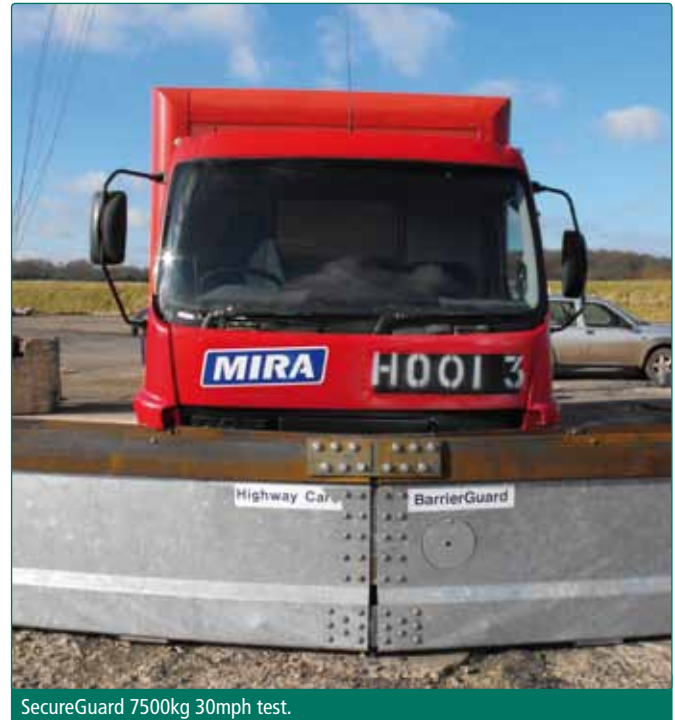
Nigel Bullock, Highway Care, Kent, UK

SecureGuard is a high containment steel barrier designed and developed to meet BSI PAS 68 criteria for perimeter security. SecureGuard systems offer protection against vehicle and pedestrian intrusion.

SecureGuard's origins

Highway Care is an originator and supplier of specialist safety products predominantly for the highways sector. In the late 1990s, BarrierGuard 800 steel barrier system was designed and developed for use as a vehicle restraint system. BarrierGuard proved to offer significant benefits compared with Temporary Vertical Concrete Barrier (TVCB) that was predominantly used on the highway to protect road workers. BarrierGuard provided a high containment steel safety barrier that could be rapidly deployed. BarrierGuard's potential was recognised early on as a product which had sufficient capacity to offer very high containment performance and flexibility of installation in areas where terrorist vehicular and/or pedestrian intrusion would present a considerable risk to national and private infrastructure.

BarrierGuard has been successfully tested to BS EN1317 containment level N2, 110 km/h, 1,500 kg Car, 20 degree impact, impact energy 82 kJ. The system offered the lowest deflection characteristics of any temporary steel barrier in the world. Following this accomplishment, the system was also successfully tested to BS EN1317 containment level H2, 70 km/h, 1,300 kg



SecureGuard 7500kg 30mph test.



SecureGuard with fencing.



SecureGuard with fencing.

Bus, 20 degrees, impact energy 287 kJ. Following successful testing to BS EN 1317 criteria and the known performance of the product, Highway Care decided to test BarrierGuard to the more stringent American testing standard NCHRP 350. BarrierGuard became the first and only temporary steel barrier in the world to qualify to both NCHRP 350 and the European standards.

Transition from BarrierGuard to SecureGuard

Highway Care entered into discussions with the UK Government Centre for Protection of National Infrastructure (CPNI) to consider the potential use of BarrierGuard for the national security program, it was agreed to test BarrierGuard to BSI PAS 68 vehicle security barrier test specification. Testing was carried out with heavier vehicles and greater impact angles than the system had been previously tested to, requiring the barrier to contain vehicles at much greater impact energy values. BarrierGuard was subjected to a 45 degree impact with a 7,500 kg vehicle at 30 mph, impact energy 361 kJ. Anchored at only either end of the run, BarrierGuard successfully redirected the vehicle; while the vehicle did not breach the barrier.

Highway Care recognised that there was a market potential for BarrierGuard for security applications. BarrierGuard could be enhanced to offer higher containment for these types of vehicles. Highway Care designed an additional rear support frame to work in conjunction with BarrierGuard. This additional steel frame

enhances the protection level offered by the system, creating a new product known as SecureGuard. SecureGuard has been successfully tested to 30 mph with a 7,500 kg vehicle with an impact angle of 90 degrees, impact energy of 723 kJ. SecureGuard prevented vehicle penetration.

Following this successful test programme SecureGuard was then subjected to an impact with a 7,500 kg vehicle, **90 degrees at 50 mph**, and a massive impact energy of 1,852 kJ. SecureGuard met the criteria of this test, there was no vehicle penetration, and the SecureGuard barrier did not deflect from its original position. The SecureGuard offered performance characteristics that would withstand localised multiple impacts.

SecureGuard's key benefits

SecureGuard suite of designs provides systems that meet the requirements of BSI PAS 68 from 20 mph through to 50 mph, and maintains crash friendly performance for innocent motorists in errant vehicles. It is crucial to consider all potential impacts when considering perimeter security. Should the security system need to be placed next to a highway, consideration must be given to the motoring public. The SecureGuard system satisfies both these requirements.

SecureGuard systems have been installed on a number of UK sites, where complex layouts and precise time scales have been accommodated. Providing vital flexibility and customer confidence for a high performance product, SecureGuard is a first choice for perimeter security in this high profile industry.

ABOUT THE AUTHOR

Nigel Bullock is Managing Director of Highway Care and has worked within the road safety industry for over 20 years. He has been extensively involved with SecureGuard's product development and testing over the last five years and has been at the forefront of its introduction to the security market.

ABOUT THE COMPANY

For 25 years **Highway Care** has been a leading supplier of innovative specialist road safety products for the UK road network. The Company has played a key role in developing engineering solutions to make roads safer for the travelling public and road workers.

ENQUIRIES

Nigel Bullock, Highway Care
The Highlands, Detling Hill, Detling
Maidstone, Kent, ME14 3HT
UK
Tel: +44 162 273 4215 Fax: +44 162 273 5106
Email: nigel.bullock@highwaycare.co.uk
Web: www.highwaycare.co.uk