

## Performance of Spring Steel Buffers

Spring Steel Buffers are designed to yield but not fail. The increased deflection - typically about 300mm\* resulting in a value F of only 38kN - a massive 75% less than the figure for Rigid Posts. Spring Steel Buffers also help to absorb the vehicle energy and reduce the anchor bolt loading. Damage to vehicle, barrier and posts is minimised as is the damage to the anchorage. Frequently they only require 1 x 20mm bolt or 16mm Toge bolt, (but sometimes 2 depending on the system chosen). Embedment can be a mere 80mm and the pull out loading is just 50kN. Compared to rigid posts, a quarter of the number of bolts at half the depth. A major saving in terms of installation time and materials.

## Performance of Flexi – Posts

Flexi-Posts are semi-rigid. The upper part of the post is mounted into a rubber shock absorber which allows a limited deflection of the post - about 120mm. This reduces Force F from 152kN to 69kN. It also reduces the anchor bolt forces and reduces the risk of damage to both barrier and vehicle. Flexi-Posts use 4 x 12mm screw anchor bolts, 150mm embedment and a pull out loading of only 75kN. They are ideal when a limited amount of space is available for barrier deflection, but reduced anchor bolt loading is essential compared to a rigid system.

## Performance of Rigid Posts

BS 6399 assumes the deflection of a rigid post to be zero and this leads to a value of force F of 152kN. Because of their solidity, high anchor bolt forces are generated, and damage to both barrier and vehicle on an impact is very likely. They also require substantial footings. The bolt down type of rigid post uses 4 x M20 resin type anchor bolts with 170mm embedment. These have a pull out loading of 100kN and are best used where there is no room for any barrier deflection and minimising damage can not be a priority.

***For further information and assistance with design and specifications please contact our office on +44 (0) 2838 322719 or e-mail: [info@wallaceps.co.uk](mailto:info@wallaceps.co.uk)***