

CRASH FENCING AND GATE STANDARDS

JSW 69 Issue 01

JFS | MKT | 0413

Crash Fencing and Gate Standards

There are three test standards that are commonly used and stated for the UK, PAS 68, the US the department of State certification standard, often referred to as K12 and the ASTM standard. The different ratings are detailed below:

PAS 68

The PAS 68 standard is probably the most detailed standard and identifies the type of attack, details of the vehicle, the force of the attack, speed and weight, the angle of attack and the penetration along with the dispersal of major debris from the attack.

The classification for a Fixed bollard is V/1500/48/90:1.7/5.2

The method of testing V= vehicle, the weight of the vehicle 1500kg, the impact speed 48km/h, the angle of attack 90 degrees, the penetration 1.7m and the distance that major debris landed 5.2m.

Vehicles type and speeds of tests

| Vehicle | Weight | Speed |
|-------------|---------|-----------------------------|
| Car | 1500kg | 16,32,48,64,80,96,112 k/mph |
| 4x4 Pickup | 2500kg | 16,32,48,64,80,96,112 k/mph |
| Light Van | 3500kg | 16,32,48,64,80,96 k/mph |
| Lorry | 7500kg | 16,32,48,64,80 k/mph |
| Heavy Lorry | 30000kg | 16,32,48,64,80 k/mph |

It should be noted that if a product has passed a PAS standard it should have passed all of the levels below that rating. This is different to the US standards below and has some safeguards for the users

Department of State (DoS)

| 00kg Impact Speed | Weight of Vehicle | Designation | Penetration |
|-------------------|-------------------|-------------|-------------|
| 50km/h (30mph) | 6800kg | K4 | 1m |
| 65km/h (40mph) | 6800kg | K8 | 1m |
| 80km/h (50mph) | 6800kg | K12 | 1m |

Penetration is defined as the maximum distance that the loading edge of the vehicle enters the site not where the vehicle comes to rest. So on a car that would be the A pillar and on a lorry or van the headboard.



American Society for Testing and Materials

| Designation | Weight of Vehicle | Impact Speed |
|-------------|-------------------|-----------------|
| C40 | 1100kg | 65kmph (40mph) |
| C50 | 1100kg | 80kmph (50mph) |
| C60 | 1100kg | 100kmph (60mph) |
| PU40 | 2300kg | 65kmph (40mph) |
| PU50 | 2300kg | 80kmph (50mph) |
| PU60 | 2300kg | 100kmph (60mph) |
| M30 | 6800kg | 50kmph (30mph) |
| M40 | 6800kg | 65kmph (40mph) |
| M50 | 6800kg | 80kmph (50mph) |
| H30 | 29500kg | 50kmph (30mph) |
| H40 | 29500kg | 65kmph (40mph) |
| H50 | 29500kg | 80kmph (50mph) |

The prefix to the designation refers to the vehicle type C car, PU pickup, M medium duty truck, H heavy goods.

The penetration distance for the ASTM standard is used in addition to the above and is classified as follows:

| Designation | Penetration |
|-------------|------------------|
| P1 | $\leq 1\text{m}$ |
| P2 | 1.01m to 7m |
| P3 | 7.01m to 30m |
| P4 | 30m or greater |

Classifying the penetration distance allows for the fence or barrier to be matched to meet the threat and the site conditions for example a Government building could need to have a 1m penetration whereas an airport could have 30m at certain points.



CONTACT

T: 0800 41 43 43

E: security@jacksons-fencing.co.uk

W: www.jacksons-fencing.co.uk