

# PART

What does a WINDOW  
have to stand up to in a full  
PAS24 test needed for Part Q?



## Introduction

PAS 24:2012 was produced by British Standards Institute (BSI) as a method of testing and assessing the enhanced security performance requirements of external doors and window types. The levels and methods of attack experienced in the UK and associated with an opportunist burglar are specified. The burglary attempts covered by the standard are those which avoid noise and unnecessary risk, for example the glass unit in the window or doorset is not broken. The time spent attempting to gain entry is limited to replicate the time pressures of an opportunist burglar.

Approved Document Q has specified this test standard as the main criteria for fenestration products to be assessed by. The standard features a diverse and searching array of test methods ranging from human intervention techniques with tools, resistance to multidirectional loading and, in the case of doorsets, hard and soft body impacts.

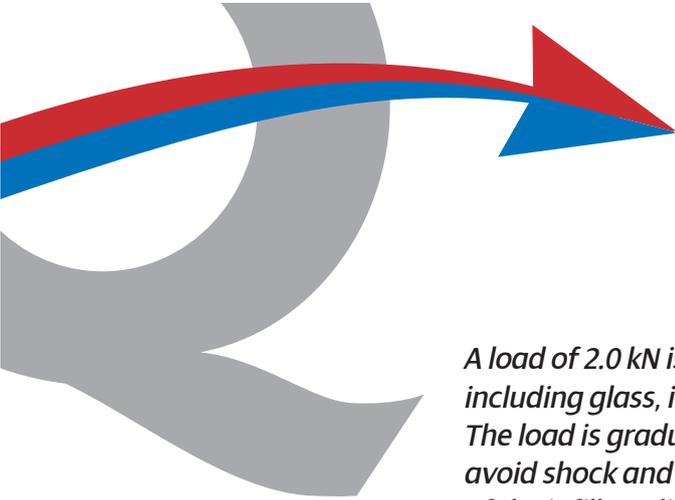


## Test Categories

*(Security Requirements of PAS24:2012)*

1. Infill Mechanical Load Test
2. Mechanical Load Test
3. Infill Manual Test
4. Manipulation Test
5. Manual Attack

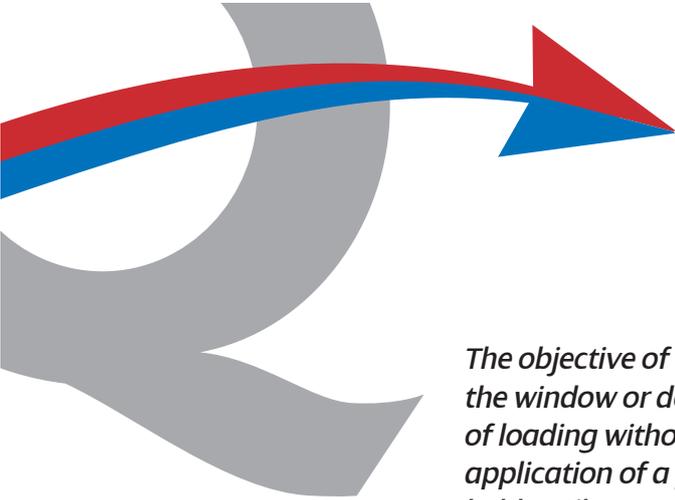




## 1. Infill mechanical load test

*A load of 2.0 kN is applied to every corner of any infill medium, including glass, in a direction towards the inside of the sample. The load is gradually applied over a period of 10 to 20 seconds to avoid shock and is then held for 10 seconds per location. If failure of the infill medium retention system occurs, the loading tests at points along the remainder of the retention system are carried out in the attempt to gain entry.*

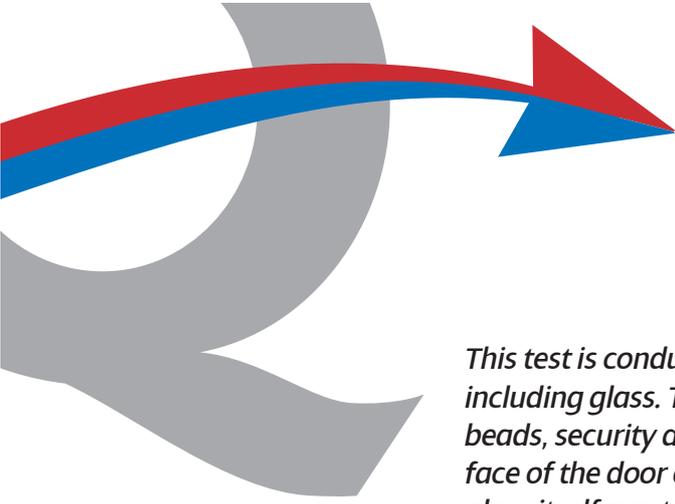




## 2. Mechanical loading test

*The objective of the mechanical loading test is to assess whether the window or door sample can withstand a specified sequence of loading without allowing entry. The loading consists of an application of a parallel to plane load which is applied and held until a perpendicular to plane load has been applied and removed. If during the loading sequence a window or doorset allows entry to a gap gauge representing the torso of the attacker than this is deemed as a failure. The loads applied are supposed to represent the forces that a crowbar could apply in those areas; however, the loading is applied by calibrated test equipment as it is deemed as a more repeatable and consistent method. Doors are subjected to 4.5kN loads, and windows 3.0kN loads at predefined points as described in PAS24.*

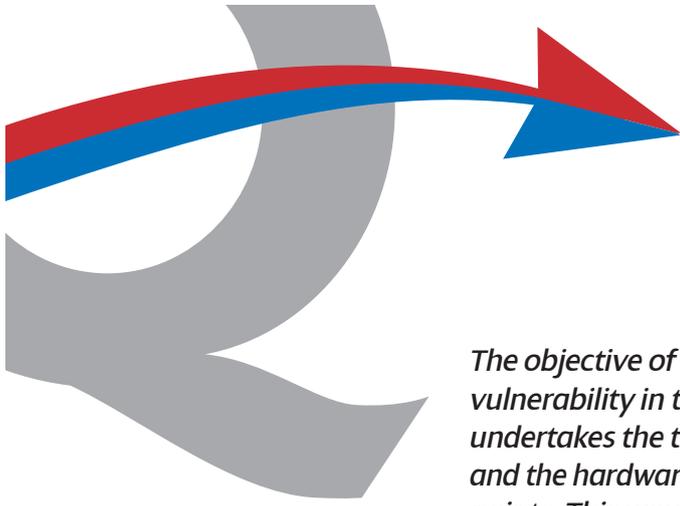




### 3. Infill manual test

*This test is conducted on any window or door infill medium, including glass. The test engineer will attempt to remove gaskets, beads, security devices and the infill medium from the exterior face of the door or window for a period of three minutes. The glass itself must not be broken but attempts are made to remove it from the test sample.*

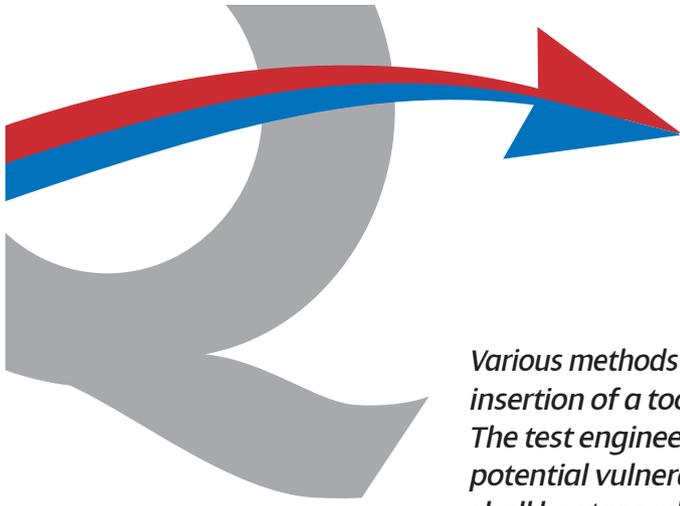




## 4. Manipulation test

*The objective of this test is to establish that there is no inherent vulnerability in the door or window design. The engineer that undertakes the test shall have detailed knowledge of the sample and the hardware installed, for example the location of all locking points. This would normally involve the client sending detailed drawings and sample descriptions before any testing begins.*





## 5. Manual attacks

*Various methods of manipulation such as removal of trim sections, insertion of a tool to disengage locking devices, are carried out. The test engineer may apply sufficient force to explore any potential vulnerability. However, manipulation at any location shall be stopped if permanent deformation or breakage of the chosen tool occurs. Damaged tools can be replaced but the test must then be continued at alternate locations.*



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