

# SECURITY 1A REGULATIONS, CODES & GUIDANCE

The security of dwellings and commercial premises is becoming more of a consideration in design, and with glass typically considered as an obvious weak point, ensuring the correct glazing is specified is critical where requirements exist.

## REGULATIONS

In the UK and Ireland, regulatory requirements for security are limited. There exists only one Building Regulation in England and Wales for security, Approved Document Q, and one section within the Scottish Domestic Handbook, as below;

**Table 1 - Regulatory Requirements in the UK & Ireland**

Country	Building Regulations	Section
England & Wales	Approved Document Q [1]	Section 1 – Doors Section 2 - Windows
Scotland	Domestic Handbook [1]	Section 4.13 – Security

It should be noted that Document Q is only applicable to new build dwellings, and so the scope is limited, and the basic requirement is as follows; “Reasonable provision must be made to resist unauthorised access to any dwelling, and any part of a building from which access can be gained to a flat within a building.”

## CODES & GUIDANCE

References to several documents are made by both Approved Document Q and the Domestic Handbook. Whilst most refer to doorsets and windows as a complete system, the requirements for glass are also provided by some.

**Table 2 – Codes & Guidance within the UK & Ireland**

Codes & Guidance	Test Standards
PAS 24:2012 [2] STS 201/202/204 [3] LPS 1175 Issue 7.3 (Security Rating 1) [4] LPS 2081 Issue 1.1 (Security Rating A) [5] Secured By Design [6]	EN 356:2000 [7] LPS 1270 Issue 1.1 [8]

The requirements for each document are specific, and so each document should be fully understood where applicable. Essentially, for most of the above, an EN 356 or LPS classification for the glass is required, and the following classifications need to be achieved;

**Table 3 – Codes & Guidance Performance Requirements**

Standard	EN 356 Classification	Notes
PAS 24:2012	EN 356:2000 Class P1A	Minimum Requirement
STS 204 Issue 3:2012	PAS 24 & BS 6375	---
LPS 1175 Issue 7:2010	Security Rating (LPS 1270)	Can be rated between 1-8
LPS 2081 Issue 1:2015	Security Rating (LPS 1270)	Can be rated between 1-8
Secured By Design	EN 356:2000 Class P1A	Minimum Requirement

The basic requirement is for a P1A classification for glass. LPS classifies based on time to penetrate and toolsets used. LPS is more onerous, and with regards LPS 1270, this standard considers that EN 356 does not suitably classify glass in a way which has relevance for LPS 1175. Therefore, the LPS 1270 tests were developed to classifying glazing based on levels of attack, and so make the classifications more compatible with the requirements of LPS 1175.

## TEST METHODS

As above, EN 356 and LPS 1270 can be used to classify glass, with the tests summarised below;

### EN 356

EN 356 involves testing the glass only, with no consideration is given to the surround or the method of securing the glass. EN356 testing has two distinct sections;

- A ball drop test
- An axe test

**Table 4 - EN 356 Test Summary**

Test	Class	Drop Height (mm)	No. Of Impacts
Ball Drop	P1A	1500	3 in a Triangle
	P2A	3000	
	P3A	6000	
	P4A	9000	
	P5A	9000	3 x 3 in a Triangle
Axe Impact	P6B	---	30 – 50
	P7B	---	51 – 70
	P8B	---	> 70

Performance must be determined through testing, and applied to a CE marking Declaration of Performance.

Table 5 - Glass Types for EN 356 Classifications

Class	SGG STADIP PROTECT
P1A	6.8 mm (33.2)
P2A	8.8 mm (44.2)
P3A	9.1 mm (44.3)
P4A	7.5 mm (33.4)
P5A	10.3 mm (44.6)
P6B	15.0 mm (66.8)
P7B	---
P8B	---

### LPS 1270

As with EN 356, LPS 1270 involves testing the glass only, not its performance in being removed from the surround. Testing can achieve 8 distinct classifications.

Table 6 – LPS 1270 Classifications

Classification	Tool Category	Maximum Working Time (minutes)	Maximum Test Duration (minutes)
0		Fails to Achieve a Rating of 1	
1	A	1	10
2	B	3	15
3	C	5	20
4	D	10	30
5	D+	10	30
6	E	10	30
7	F	10	30
8	G	20	60

Tool categories are detailed within the LPS standard. Classification is based on toolsets used, and time to penetrate. Specific to the glazing construction and attack face.

## REFERENCES

- [1] HM Government, *The Building Regulations 2010 - Approved Document Q - Security - Dwellings*, 2015.
- [2] British Standards Institute, *PAS 24:2016 - Enhanced security performance requirements for doorsets and windows in the UK. External doorsets and windows intended to offer a level of security suitable for dwellings and other buildings exposed to comparable risk*, BSI, 2016.
- [3] Warrington Certification, *STS 201 - Enhanced security requirements for doorsets*, Warrington Certification, 2010.
- [4] LPCB, *LPS 1175 Issue 7.3 - Requirements and testing procedures for the LPCB approval and listing of intruder resistant building components, strongpoints, security enclosures and free-standing barriers*, BRE Global, 2015.
- [5] LPCB, *LPS 2081; Issue 1.1 - Requirements and testing procedures for the LPCB approval and listing of intruder resistant building components, strongpoints, security enclosures and free-standing barriers*, BRE Global, 2016.
- [6] Secured by Design, *New Homes 2014*, 2014.
- [7] European Committee for Standardization, *EN 356:2000 - Glass in building. Security glazing. Testing and classification of resistance against manual attack*, CEN, 2000.
- [8] LPCB, *LPS 1270; Issue 1.1 - Requirements and testing procedures for the LPCB*, BRE Global, 2014.
- [9] Riaghaltas na h-Alba, *Technical Handbook 2015 - Domestic*, Riaghaltas na h-Alba, 2015.