

EN 356 is a European Standard for glazing to withstand an intruder attack, it has two resistance levels, the lower levels, P1A - P5A, also use the drop test but the higher resistance levels test using a hydraulically driven hammer and axe head, to replicate an actual attack. The higher resistance levels are P6B, P7B and P8B which require the samples to withstand 30/50, 51,70 or 71+ sledge hammer and axe blows respectively, before a 400mm square aperture is created.

S EN 356 Intruder Resistance

Testing and Classification of resistance against Manual Attack

The Lower Resistance Level

This level represents a manual attack using a blunt instrument such as a hammer. The test comprises dropping a 100mm steel ball (4.11kg) from various heights. To pass the test the ball must not penetrate the glass.

BS EN 356	Drop Height mm	No of Strikes	Impact energy Per Stroke	Glass Thickness
P1A	1500	3 in a triangle	62J	6.8mm
P2A	3000	3 in a triangle	123J	8.1mm
P3A	6000	3 in a triangle	247J	8.5mm
P4A	9000	3 in a triangle	370J	9.5mm
P5A	9000	3 x 3 in a triangle	370J	10.3mm

The Higher Resistance Level

This level represents a more sustained assault with Hammer and Axe blows. The test comprises;

A hydraulically driven hammer head 40mm square weighing 2kg, initially being used to destroy the glass face with a min of 12 blows.

A 2kg axe head hitting the same sample a min 12 blows with the intention of cutting a 400mm square hole.

Each blow is delivered with exactly the same energy with the axe head sharpened every ten blows.

Samples are classified by the number of blows required to cut the 400mm square.

BS EN 356	Sledge + Axe	Thickness	Construction
P6B	31	18mm 11mm	Glass PVB Glass Poly Glass
P7B	51	28mm 11mm	Glass PVB Glass Poly Glass
P8B	71	36mm 13mm	Glass PVB Glass Poly Glass