

# GUIDANCE NOTE: INSTALLATION OF BOMB BLAST NET CURTAINS (BBNC)

**CPNI EBP 19/16: September 2016**

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## Introduction

This Guidance Note has been developed by the Home Office Centre for Applied Science and Technology (CAST) as part of a programme of research and development funded and directed by the Centre for the Protection of National Infrastructure (CPNI).

It has been issued in order to provide guidance on the installation of bomb blast net curtains (BBNC). The guidance summarises recommended methods for installation in existing government office buildings. The measures may be varied by security officials in the light of locally applicable threats, after seeking advice from CPNI or CAST.

## BBNC Specification

- The fabric shall be plain white, warp kitted, polyester net to BS 4407; flame retardant to meet BS 5867 Part 2 Type C and with minimum burst strength of 550 kN/m<sup>2</sup>.
- Stitching and seaming shall be staple fibre or continuous filament polyester ticket No. 70-120 (BS 6157). Specifications are summarised below.
- The heading of each curtain will be slotted to take a 16 mm diameter polished aluminium tube and held with thimble type brackets (e.g. C & T No. 543 or 544).<sup>1</sup>
- The hem of each curtain will have a continuous hem tape, lead weighted at 400 g per metre of curtain width.
- The width of each curtain must be a minimum of 100% fullness per window width (i.e. 2 metres of fabric for each metre of curtain rod).

**Table 1: Curtain properties and specifications**

Curtain property	Test procedure	Requirement
Composition	BS 4407	100% polyester
Fire resistance	BS 5867	Flame retardant
Mass (min)	BS 2471	50 g/m <sup>2</sup>
Burst strength	BS 4768	550 kN/mm <sup>2</sup>
Sewing thread	BS 6157	CPFT 70-120
Weighted tape	Lead	400 g/m

Additional lengths of net curtain are required for each window dimension. Table 2 indicates the additional length of net required in relation to the height of each window.

<sup>1</sup>Type of bracket made by Cope and Timmins Ltd No. 543 or 544

**Table 2: Required curtain dimensions**

Window height (mm)	Additional length (mm)
2450	920
2451 – 2750	1070
2751 – 3350	1520
3351 – 3950	1980
3951 – 4550	2130

## BBNC Installation

Essential requirements are rigidity, strength, security and neatness. The curtain rod will be face fixed inside the reveals; however, if the window frame is flush with the inner wall then the curtain rod must extend past the opening by 100 mm beyond each side of the window width.

Curtain rods must be fitted at a minimum distance from the glass line of 100 mm.

The curtain-retaining box or fascia panel will be fixed inside the reveal by an aluminium channel plugged to the reveal. Where a complete box is required, this can either be fixed into the sill or through the end bracket.

The retaining fascia or box is supplied in white 15 mm MFC<sup>2</sup> with end brackets in aluminium powder coated white to match. The excess length of fabric should be folded concertina-wise and placed in the box.

Build up of dust can significantly reduce the flame retardant properties of the curtain, and thus curtains should be laundered on a regular basis. Each curtain must bear the appropriate care label with full laundering/cleaning instructions in order to comply with BS 2747.

Further information may be found in CPNI Guidance Note EBP 08/13 'Use of anti-shatter film (ASF) and bomb blast net curtains'.

Further details on the issue of ASF and BBNC may also be obtained from CAST on 01727 865051.

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<sup>2</sup> Melamine-faced chipboard.