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Appraisals

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TECHNICAL ASSESSMENT 324

October 2005 ^{1, 2}

ORIGINAL BLOCKOUT, R. F. MAXIBLOCK®, EXTRUDED MAXIBLOCK®, MAXVIEW® and MAXVIEW® MB

1. February 2008. Update to insulation references.
2. Aug 2008. Revalidation. Validity extended to 31 December 2009.

PURPOSE

Roller shutter to provide protection to windows from radiant heat of bushfires, and thermal and sound insulation.



APPLICANT

Blockout Industries Pty Ltd (ABN 28 003 707 239),
194 Newton Road, Wetherill Park, New South Wales
2164 (Manufacturer)



TECHNICAL OPINION

In the opinion of CSIRO Appraisals, Original Blockout, R.F. Maxiblock®, Extruded Maxiblock®, Maxiview® and Maxiview® MB roller shutters manufactured by Blockout Industries Pty Ltd are suitable for the protection of windows including radiant heat from bushfires, and thermal and sound insulation under the following conditions;

1. The Original Blockout, R.F. Maxiblock®, Extruded Maxiblock®, Maxiview® and Maxiview® MB roller shutters are fitted by installers approved by Blockout Industries and in accordance with the instructions from Blockout Industries Pty Ltd, 'Fitting Instructions'.

Note: These instructions are available from Blockout Industries Pty Ltd (ABN 28 003 707 239), 194 Newton Road, Wetherill Park, New South Wales 2164 (Manufacturer) (Fax 02 9725 2292).

2. The shutter covers window framing as well as the glazed area of the window where bushfire protection is required.

BUILDING CODE of AUSTRALIA

In the opinion of CSIRO Appraisals, the systems described in this Technical Assessment and installed under the conditions listed herein will satisfy the performance required to protect windows of Clause GP5.1 and Clause JP1(e) (Volume 1 - Class 2 to Class 9 buildings) and Clauses P2.3.4 and P2.6.1(e) (Volume 2 – Class 1 & 10 buildings) of the Building Code of Australia 2008.

Notes:

- (i) The inclusion of this clause with reference to the BCA is aimed at assisting those involved in the design, specifying and building approval/permit process relate the Appraisal to the relevant Performance Requirements of the BCA.
- (ii) Users of this Technical Assessment must review and determine the impact of any amendments made to the BCA including referenced documents after the date of publication of this Technical Assessment.

RELATED INFORMATION

VALIDITY OF THE ASSESSMENT

Condition:

This Technical Assessment applies only to the use of Original Blockout, R.F. Maxiblock®, Extruded Maxiblock®, Maxiview® and Maxiview® MB roller shutters as described herein.

Withdrawal:

This Technical Assessment will be withdrawn or amended if CSIRO Appraisals considers that a change in design or manufacturing quality renders the basis of appraisal invalid, or if reported field experience convinces CSIRO Appraisals of unsatisfactory quality or performance.

Term of Validity:

This Technical Assessment is valid until 31 December 2009. Technical Assessments may be amended during the term of validity. Users of this Technical Assessment must verify that it remains valid and is the current version by checking on the CSIRO Appraisals website: <http://www.cmmt.csiro.au/services/appraisals/> or by calling CSIRO Enquiries on 1300 363 400.

RELEVANT DOCUMENTS

Blockout Industries Pty Ltd, 'Fitting Instructions' (19 September 2005).

APPROVED ASSESSMENT EXTRACT

Original Blockout, R.F. Maxiblock®, Extruded Maxiblock®, Maxiview® and Maxiview® MB roller shutters manufactured by Blockout Industries Pty Ltd (ABN 28 003 707 239), Wetherill Park, New South Wales is suitable for the protection of windows from radiant heat of bushfires, and thermal and sound insulation when the conditions of CSIRO Appraisals Technical Assessment 324 are fulfilled.

APPRAISAL

DESCRIPTION

The following description is based on information provided by the applicant.

General:

Original Blockout is manufactured from 41 mm roll formed aluminium profile with a polyurethane foam core.

The shutter has interlocking slats and dual locking system to provide added security and allows for shutter to remain locked whilst still providing light and ventilation.

Two size profiles (slats) are available being 37 mm and 41 mm. The 37 mm is designed for smaller windows and the 41 mm is better suited for larger shutters due to its extra strength.

Track sizes are 53 mm deep (standard) or 63 mm (optional).

Original Blockout shutter is available in thirteen standard colours and either perforated or non-perforated.

R.F. Maxiblock® is a stronger version of Original Blockout and is manufactured from 41 mm roll formed aluminium profile with a polyurethane foam core. The shutter, utilising Maxiblock® tracking system has modified side lockings and heavy duty bottom bar.

R.F. Maxiblock® is available in 41 mm profile (slats) which is better suited for larger shutters due to its extra strength.

Track sizes are 70 mm deep.

R.F. Maxiblock® shutter is available in thirteen standard colours and either perforated or non-perforated.

Extruded Maxiblock® is manufactured from double walled extruded aluminium profile. The wall thickness is 1.2 mm and the slats have larger perforations which are vertically aligned with each other for increased aesthetics.

The tracks are 70 mm deep (available in three styles) providing increased support and the walls are either 3 mm or 5 mm thick providing more strength. The shutter slats are locked into the tracks increasing security.

Extruded Maxiblock® shutter is available in six standard colours (non standard colours available on request) and either perforated or non-perforated.

Maxiview® is made from a single wall extruded aluminium profile with a large number of perforations. The shutter has interlocking slats to provide added security. Maxiview® has added advantage of being the tightest roller shutter thus using smallest pelmet possible.

Track sizes are 53 mm (standard) or 63 mm (optional).

Extruded Maxiview® shutter is available in eight standard colours (non standard colours available on request) and either perforated or non-perforated.

Maxiview® MB is made from a single wall extruded aluminium profile with a large number of perforations. The shutter has interlocking slats to provide added security. Maxiview® has added advantage of being the tightest roller shutter thus using smallest pelmet possible. The shutter utilising Maxiblock® tracking system has modified side lockings and heavy duty bottom bar.

The tracks are 70 mm deep (available in three styles).

Maxiview® MB shutter is available in eight standard colours (non standard colours available on request) and either perforated or non-perforated.

Installation:

All shutters are fitted by approved Blockout Industries installers. Installation specifications are available for face fit installation, eave installation, built-in installation and reveal fit installation.

Operation:

The shutters are operated from the inside by either manual or electric control.

Insulation:

The shutter satisfies the requirements of Level 3 construction for protecting window openings from radiant heat in a extreme category bushfire as defined in AS 3959- 1999 'Construction of Buildings in Bushfire-prone Areas'.

The shutter will also provide thermal and sound insulation to windows the extent of which will depend on the type of window and the type of external wall as well as the orientation and sighting of the building.

DESIGN INFORMATION

General:

The Original Blockout, R.F. Maxiblock®, Extruded Maxiblock®, Maxiview® and Maxiview® MB roller shutters are used to provide radiant heat protection, and thermal and sound insulation to windows.

Durability:

CSIRO Appraisals has not assessed the durability of Original Blockout, R.F. Maxiblock®, Extruded Maxiblock®, Maxiview® and Maxiview® MB roller shutters.

The structural integrity of the Original Blockout, R.F. Maxiblock®, Extruded Maxiblock®, Maxiview® and Maxiview® MB roller shutters would be expected to be maintained and provide many years of service when installed in accordance with manufacturer's instructions. They will need some repair or replacement after exposure to a bushfire depending on the level and the duration of exposure to radiant heating. In exposure conditions rated as E3 in Australian Standard AS 3700 – 2001 'Masonry structures' a reduced lifespan may be expected in some extreme exposure conditions such as within 500m of a surf beach.

BASIS OF APPRAISAL

CSIRO Appraisals has assessed the following aspects in undertaking this appraisal:

- (a) the effectiveness against exposure to radiant heat from bushfires
- (b) thermal and sound insulation properties
- (c) installation procedures, and
- (d) durability of the system.

The following documents and inspections were used in carrying out the appraisal.

Manufacturer's Information:

1. **Blockout Industries Pty Ltd (ABN 28 003 707 239), 194 Newton Road, Wetherill Park, New South Wales 2164 (Manufacturer). 'Fitting Instructions' (19 September 2005):**
These are the instructions for the fitting of the Original Blockout, R.F. Maxiblock®, Extruded Maxiblock®, Maxiview® and Maxiview® MB roller shutters.

2. **Blockout Industries Pty Ltd (ABN 28 003 707 239), 194 Newton Road, Wetherill Park, New South Wales 2164 (Manufacturer). Blockout Shutter brochure titled 'Blockout Shutters security, insulation and tranquility'(26 September 2005):**

This brochure gives the specifications for the Original Blockout, R.F. Maxiblock®, Extruded Maxiblock®, Maxiview® and Maxiview® MB roller shutters.

Reports:

1. **CSIRO Building, Construction & Engineering, Graham Road, Highett, Report No BCE Doc 93/2 (M) (March 1993):**
This report details an assessment of a proposed residence with respect to bushfire performance.
2. **Unisearch, Faculty of Built Environment, University of New South Wales. Report titled 'Thermal Insulation and solar transmittance of Blockout Window Shutter' (16 March 1995):**
This report details the evaluation of Blockout window shutters for thermal Insulation and solar transmittance.
3. **Unisearch, Faculty of Built Environment, University of New South Wales. Report titled 'Heat and sound insulation properties of an aluminium shutter' (March 1984):**
This report outlines heat and sound insulation properties, determining that the shutter was effective in reducing heat flow and sound intensity.

Inspections:

CSIRO Appraisals have inspected installations of the shutters and found their operation to be satisfactory.



Kenneth KJ Lofhelm
CSIRO Appraisals



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H. RELATED DOCUMENTS**J. OTHER/OPTIONAL INFORMATION****14. ABSTRACT** *(CSIRO Appraisals Approved Assessment Extract)*

Original Blockout, R.F. Maxiblock®, Extruded Maxiblock®, Maxiview® and Maxiview® MB roller shutters manufactured by Blockout Industries Pty Ltd (ABN 28 003 707 239), Wetherill Park, New South Wales is suitable for the protection of windows from radiant heat of bushfires, and thermal and sound insulation when the conditions of CSIRO Appraisals Technical Assessment 324 are fulfilled.