How to Specify Magnetite 2012/2013













Energy

Efficiency

Fits Existing Windows





Service &Value

Custom

Installation

At A Glance

Magnetite has developed a reputation as a leader in both acoustic and thermal window insulation. Magnetite offers cost effective, proven and tested products for reducing energy use and noise in existing buildings. With extensive knowledge and experience assessing glazing requirements, we customise solutions to achieve the best results for our clients.

Window insulation is a key factor in the overall performance of a building envelope. Heat gain (or loss) through windows can dramatically affect the running costs of a building. The acoustic performance of windows can also have a dramatic impact on the health of occupants. Improving the performance of existing glazing increases comfort levels and property value.

Our commitment to excellence includes Green Star and ABSA accreditation, to enhance communication and help deliver the best solution for your project. We directly employ trained and licensed installers ensuring high quality, efficient installations. This attention to detail makes Magnetite the ideal partner to deliver your retrofit glazing projects.

For further information on Magnetite products and services visit or call www.magnetite.com.au or 1300 RETROFIT (738 763)





Contents

Company Profile	4						
Our Experience	6						
Key Benefits	7						
Fact Sheet 1: Understanding Energy Efficiency	8						
Fact Sheet 2: Understanding Condensation	10						
Fact Sheet 3: Understanding Noise							
How Magnetite Works							
Product Data Sheet							
Case Study: Orange Civic Centre, Orange NSW	16						
Case Study: 140 William St Heritage, Perth WA							
What Our Client Says: Thiess John Holland							
What Our Client Says : Linde	19						
Appendix							
Thermal Test Results by WERS							
Acoustic Test Results by NAL							
CAD Drawings							



Company Profile



Left to Right: Orange Civic Centre in Orange, NSW, Baird Building in Perth CBD, WA and David Jones in Sydney CBD, NSW,





Our Products & Services

Magnetite focuses on upgrading the performance of existing windows and doors. Our customised solutions enable quicker lead times for job completion with less disruption compared to completely replacing existing windows.

Magnetite is custom-fit for each window, ensuring optimal performance. This means Magnetite suits a variety of window shapes, even "out of square" windows. The slim-line framing and custom installation makes the system ideal for heritage style buildings, as it blends in to complement and retain the aesthetics of existing windows.

For buildings with a primary need for noise improvement, we also offer **Soundtite**, our aluminium secondary glazing system. The frames can be powder-coated to suit any colour. The glazing adapters allow a choice of laminated glass thickness to optimise noise reduction at various frequencies.

Solartite is our latest range of high performance solar control and lowe films. Working in tandem with Magnetite, Solartite offers a solution for existing windows that require a reduction in radiant heat. Applying film to the inside layer of the existing window means we are able to reflect the heat before it can enter the air cavity created by Magnetite, for maximum performance.

To further enhance retrofits, we offer a variety of **acoustic and weather seals** for windows and doors, to ensure optimal performance.

Our Key Partners



Visit www.magnetite.com.au for more information

Our Core Values

Service

We operate in conjunction with a franchise network of qualified estimators and installers across Australia. Our commitment to excellence means that our installations are carried out by teams of fully trained, licensed installers.

Magnetite technicians are experts in window insulation, offering value to our clients through endto-end project management. We value the importance of time lines and reliability for residential or commercial building retro-fits.

Knowledge

Magnetite takes its commitment to retrofits and the built environment seriously. We place a high value on knowledge. Teaming up with Ecospecifier ensures our window insulation system is audited for Green Star. We have a Green Star Associate on staff to effectively communicate with our clients and understand their needs.

As members of the Australian Window Association, with high performance WERS ratings, we are up to date on testing requirements and standards for windows in Australia.

Product Excellence

Magnetite technicians take pride in every job. Our enduring commitment to delivering a perfect solution for each window reflects a commitment to continuous improvement in both residential and commercial markets. With enthusiasm and creativity, we develop high performance innovations.

In 2011, Magnetite won the Product Excellence category at the Australian Business Awards which reinforces our passion for providing high quality, cost-effective solutions for insulating windows.



Our Experience



David Jones - Sydney

Offices above flagship stores on Elizabeth and Market St, suffered excessive noise from construction and renovation in Centre Point tower. The building is heritage listed and required a discreet solution to complement the aesthetics of the existing windows. Magnetite acoustic panels were installed with minimal impact to the existing window aesthetics, retaining the heritage character of the facade.





Citiclub – Melbourne

Creating building efficiency was the aim of upgrading the former headquarters of RACV Club in Melbourne's CBD. Magnetite was applied to the hotel section of the building to improve the glazing's energy performance. This upgrade is estimated to improve the energy saving for the building and increase the NABERS rating from 2 $\frac{1}{2}$ stars up to 4 $\frac{1}{2}$ stars.





City Hall - Brisbane

This iconic landmark has undergone major renovations to save its structural integrity and to provide modern building upgrades, including acoustics. Given its heritage status, retaining the character of the building façade was a key challenge. Magnetite was commissioned to provide a discreet, customised solution to meet modern building code requirements, while ensuring that the charm of George Prentice's original design was kept intact.







Liverpool Hospital – Sydney

Hospital management wanted to create and maintain a stable interior environment in their New Born Care Unit; premature babies are susceptible to changes in temperature and noise. Magnetite applied window tint to the Westfacing windows to improve thermal comfort, then installed Magnetite acoustic panels, creating a large air cavity. The combination of film and Magnetite allowed optimal performance to meet minimum EPA standards.



University of New South Wales - Sydney

Our client's concern was energy expenditure in a newly renovated Laboratory. Magnetite installed 4.5mm clear thermal glazing panels, with a 60mm air cavity, to the south face of the building to reduce heat loss through the existing glass and aluminium frames.





Key Benefits

Noise Reduction

- Magnetite can reduce the noise through existing windows by up to 70%
- Performance backed by independent third party acoustic test results from NATA-approved laboratories
- Solid reputation from experience in noise abatement projects for road and airport noise

Thermal Comfort and Energy Efficiency

- Magnetite helps maintain the temperature inside the room for year round comfort
- Magnetite can reduce energy use by up to 13% (modelling by ARUP Pty Ltd¹) which means reduced HVAC cost
- With energy ratings now mandatory in many homes and buildings, improving efficiency will attract more tenants and increase market value

Customised and Fits Existing Windows

- By re-using existing windows, Magnetite creates a double glazing solution that reduces capital expenditure and landfill.
- There is no need for scaffolding or repair to the building façade as is often the case with replacement windows
- As there's no external or structural alterations, Magnetite retains the aesthetic character of the windows and building façade an ideal solution for heritage-listed property

Minimal Down Time, Value for Money

- Magnetite can be installed without the down-time, waste or mess associated with completely replacing existing windows
- Minimal disruption provides savings for building owners and occupants, as there's no loss of income during installation

Did You Know?

In commercial buildings, 39 % of the energy used can be attributed to space heating, cooling and ventilation. Depending on the construction and current building insulation, windows can account for up to 49% of heat loss and 87% of heat gain. In a typical insulated home, windows can account for more heat gain or loss than any other element in the building fabric



Source: http://www.climatechange.gov.au/publications/hvac-hess/best-practice-guide.aspx, page 36

Heat Loss and Heat Gain Through Windows



¹ For further detail about this modelling, please contact our head office on 1300 Retrofit or info@magnetite.com.au

How to Specify Magnetite | www.magnetite.com.au



Fact Sheet 1: Understanding Energy Efficiency

How does heat transfer through windows?



1. Conduction

Heat transfer through a solid object, such as a window frame. Heat flows from an area of higher temperature to an area of lower temperature.

2. Radiant Heat

Heat that moves from a warmer surface to a cooler surface through energy waves. Radiant heat can pass through space until reflected or absorbed.

3. Convection

Heat flow through the air movement. Convection occurs when indoor warm air in contact with cold glass surface and creates a down-draft.

4. Infiltration

Air leaks around the window frame, around the sash and through the gaps in the movable window parts

The Window Energy Rating System (WERS) is an independent body that ranks all reputable window companies in Australia. Go to <u>www.wers.net</u> to see star ratings that help the public to compare windows based on performance. The bar chart below reflects several key performance criteria, including:

U-Value (Uw)

U – value (Uw) represents heat transfer through a window, irrespective of direct sunlight. *The lower a window's U-Value, the better the insulation performance*. Magnetite uses acrylic glazing to minimise its U-value. **Acrylic glazing is up to six times more thermally efficient than glass.**

Solar Heat Gain Coefficient (SHGC)

SHGC measures the solar energy that passes through glazing. *The lower the SHGC, the less solar heat is transmitted through a window.* In hot weather climates, windows with a low SHGC are preferred, to minimise unwanted solar heat gain. In cold weather climates, windows with high SHGC are preferred, to increase solar heat gain. In most climates the orientation of the window will determine the requirements for SHGC. Typically, West-facing windows should have a darker shade film providing a lower SHGC, compared to South windows, which should be relatively clear. North or East facing windows have varying SHGC requirements, based on building design and climate zone. Magnetite has a range of solar control films, (Solartite) to manage SHGC and minimise radiant heat before it enters the air cavity, delivering better results.



Fact Sheet 1: Understanding Energy Efficiency (Cont'd)

Visible transmittance (VT)

Visible transmittance measures the amount of light a window lets through. A higher VT means more light is transmitted. A higher VT can improve energy efficiency, as less artificial lighting is required (unless glare reduction is required). Tinted glass, used to reduce solar heat gain, can also reduce the amount of visible light transmitted, which might limit natural daylight. A spectrally-selective tint can help reduce solar heat gain while providing as much visible light as clear glass.

Air infiltration

Air infiltration or leakage measures the rate at which air passes through gaps in a window's joins and seals. *The lower the air infiltration, the better a window's energy performance*. Magnetite has continuous magnetic seals, to limit air infiltration from the existing window, virtually eliminating draughts. Adding Magnetite panels will dramatically reduce air infiltration from the generic standard of 5.0L/m² down to 0.5L/m², a tenfold reduction in air infiltration.

U value comparison for various type of window glazing



How to Specify Magnetite | www.magnetite.com.au

Fact Sheet 2: Understanding Condensation

What is condensation?

Ever wondered why on cold mornings you see water droplets on your window? Warm air holds more moisture than cold air. In winter, our heating systems usually mean it's more humid indoors. At night, if the indoor temperature cools down below a given point, the air inside cannot hold as much water vapour. The vapour condenses to a liquid, becoming visible on cold, non-absorbent surfaces like windows.

What causes condensation?

Indoor moisture causes condensation in your home. The moisture comes from daily activity inside your home including cooking, showering, clothes washing or even breathing. When less air enters the home from the outside, the condensation will be more likely to occur.

Where does the moisture come from?

Dew Point

Condensation occurs when relative humidity is too high, at what is known as the Dew Point. Dew point can be affected by even a slight drop in temperature, if the moisture content in the air is high enough.

While condensation is obvious on window glazing and metal frames, it is also absorbed into other parts of a building and into soft furnishings like sofas, curtains, carpets and bed linen. This compromises air quality and can encourage mould to grow, with an impact on the health of occupants.

Fact Sheet 2: Understanding Condensation (Cont'd)

Activity within the home is a major contributor to moisture levels. Cooking, showering, watering plants and even breathing will create moisture. The use of clothes dryers and certain heaters can also add a significant amount of moisture. Without adequate ventilation, moisture can be trapped, increasing relative humidity and the likelihood of condensation forming.

To reduce condensation it is important to maintain a steady temperature in the room and ensure adequate ventilation to remove excess moisture.

Reducing Condensation

Double glazing

The air cavity between two layers of glazing acts as an insulation barrier, also known as a thermal "break". This air gap helps to keep the inside surface of the window closer to the room temperature. Maintaining a temperature difference between the inside of the home and outside can reduce the likelihood of reaching the dew point, when condensation occurs. Some replacement double glazed units have an inert gas such as argon inside the air gap, to increase the level of insulation. Magnetite uses optical grade acrylic glazing, with draught seals and window frames that limit heat transfer, to improve the insulation performance of the window. This results in reduced condensation on the glazing surface.

Thermally efficient window frames

Heat transfer (conduction) through a window frame can also lead to condensation. In winter, steel or aluminium frames will readily transfer heat from inside to the outdoors and will not hold the heat for long as timber or uPVC, so they will feel colder to touch. As a consequence, when the warm moist air inside comes in contact with a colder aluminium window frame, it will condense. Magnetite uses uPVC subframes to limit the transfer of heat transfer through frames and improve the insulation of the whole window.

Ventilation

Ventilation allows air to circulate in a home, reducing zones of high moisture which in turn reduces condensation and helps maintain a healthier home. Ensuring that vents in bathrooms and kitchens are clean and working properly will help extract steam. If your home has poor ventilation and opening windows for fresh air is not an option, then a dehumidifier will help reduce the moisture in the air. It is also important to ensure gas heaters are properly flued and to be aware that certain blinds will affect air exchange around a window which can increase condensation

Fact Sheet 3: Understanding Noise

Sound penetrates windows through leaky seals or vibrations through the window structure. To reduce noise, a window should minimise air infiltration, hold enough weight to limit vibration and allow a large air cavity. This cavity, or air gap, is the key to double glazing.

Acoustic tests produce a rating for a particular material. The Building Code of Australia (BCA) uses an Rw scale to measure external noise entering buildings. The higher the Rw number, the better the material is at reducing noise.

As human ears are less sensitive to very high and very low frequencies, noise meters put more emphasis on mid-range frequencies. Results, in decibel units, are said to be A-weighted, represented as dB(A). Improvements in the sound rating of a building material (or "corrections") can address particular frequencies. The most common correction is *Rw+Ctr* which corrects for lower frequencies.

The above chart shows the relative decibel levels of some common noises.

Fact Sheet 3: Understanding Noise (Cont'd)

To measure performance, it is important to look at the whole window, including frames, seals and glazing. Often, performance of fixed glass panels will decrease when inserted into an operational window, due to the leaks in the framing. The type of frame also has a bearing in that a light weight, hollow frame will not perform as well as a heavier solid frame.

While it is important to understand that the rating of a window will affect the noise performance of a room, the rating of other building elements must also be considered when looking at overall building performance. (e.g. walls, floors and ceilings)

Working with the principles of noise transfer, Magnetite and Soundtite are designed for high performance, combining air tight seals with the flexibility to vary glazing thickness and the ability to maximize an air cavity.

Essential Facts

CSIRO Research by John Davy indicated an air cavity can effectively enhance sound insulation performance. Results show a wide air gap of 100-125mm will improve sound insulation by an average of 7 dB(A) more than windows with a narrow gap of 8-13mm.

Due to a larger air cavity, secondary window systems will reduce more noise than single glazed windows and even traditional double glazed units.

How to Specify Magnetite | www.magnetite.com.au

How Magnetite Works

Magnetite is an ingenious secondary window system that attaches discreetly to the inside of an existing window frame or reveal. A qualified Magnetite technician installs a small frame around the inside of the window casement. This frame allows Magnetite's clear, optical grade acrylic panels to be attached inside the existing window, using magnets, similar to the seal around a refrigerator door. The magnetic strips are held firmly within the back of the glazing clip and ensure an air tight seal around the window.

Magnetite panels can fit directly to the face of an existing window provided there is a flat co-planar surface as per diagram 1.

Alternatively the more common method of installation is to install a subframe within the reveal to create an optimal air cavity and provide a thermal break from the first window (diagram 2)

The Magnetite system is custom fit for each installation to ensure optimal performance with minimal aesthetic impact for various shapes, even out-of-square windows. By customizing the installation we are able to address the specific needs and requirements for each client situation.

The Magnetite subframe, made from foamed PVC, acts as a thermal break between the existing window and the Magnetite secondary system. This subframe also allows Magnetite to attach to any existing window, whether timber, aluminium or steel.

The acrylic glazing panels are up to six times more thermally efficient than glass. Optical grade acrylic has similar or superior clarity to glass, ensuring no loss in visibility through the window when compared to traditional double glazing.

Solar control or low-e films may also be applied to the existing windows if a reduction in radiant heat is required. Film is applied to the inside layer of the existing glass, to reflect the heat before it enters the air cavity, for maximum performance.

The continuous magnetic seal ensures that when the Magnetite panels are in place the window insulation system has the lowest air infiltration rate of any operational window. The magnetic seal also allows the window to be easily opened for cleaning, maintenance and fresh air when required. The magnet is embedded within our coloured PVC glazing channel so that it is not visible when the Magnetite panels are installed.

As with traditional double glazing, the air cavity acts as an insulation barrier against noise and temperature. Depending on the configuration of the existing window, we can manipulate the size of the air cavity to maximize thermal insulation, acoustic insulation or both.

Product Data Sheet

Product Description

Magnetite is a retrofit double glazing system that is installed on the inside of existing windows, doors and skylights. As a secondary glazing system Magnetite is ideally suited to the improvement of acoustic and thermal performance of an existing building.

Product Specification

Materials	
Frame	Foamed PVC
Glazing Channel	Rigid PVC
Glazing	
Standard	Optical grade acrylic
Special Order	Polycarbonate
Seals	Rubberized magnet

Product Availability

Dimensions	Custom, made to measure
Glazing thickness	Standard 4.5mm, 10mm; Special order 3.0mm, 6.0mm 8.0mm
Warranty	7 year limited warranty

Physical Properties

Description	Test Method	Result
Rw (C;Ctr)		
10mm Magnetite, 100mm air cavity	AS1191	39(-2;-5)
4.5mm Magnetite, 100mm air cavity	AS1191	35(-2,-8)
U-Value (whole window)		
(MAG-005-07) Magnetite 4.5mm, existing timber window	WERS	2.4 W/m2K
(MAG-003-10) Magnetite 4.5mm, existing aluminium window	WERS	2.9 W/m2K
SHGC		
(MAG-003-10) Magnetite 4.5mm, clear glass,	WERS	0.67
(MAG-005-07) Magnetite 4.5mm, tinted glass,	WERS	0.19
Air Infiltration	AS2047	0.5 L/sm2

Case Study: Orange Civic Centre, Orange NSW

Orange is known for beauty, arts and culture, as well as its climate, with freezing winters and hot summers. With this in mind the City Council took a progressive stance in its Civic Centre, to address energy efficiency and the comfort of staff and visitors.

The Challenge

Orange City Council has a charter to promote sustainable development and minimise waste. With this in mind the key tasks were:

- Reduce energy consumption;
- Improve comfort levels for occupants;
- Minimise construction waste

Given the climate in Orange glazing was identified as a critical area to address. Solutions were assessed on their ability to reduce heat transfer through the glazing, durability and return on investment

As a functioning building with full time staff it was important to find a solution that would allow the building to stay operational while minimising disruption to staff during the upgrade project. These factors also placed an emphasis on achieving a solution with sound project management.

The Works

The majority of the glazing was large floor to ceiling windows set in existing aluminium frames. In total 132 windows and doors were treated.

Using 4.5mm thick optical-grade acrylic glazing, panels were retrofit to the inside of the existing windows, with an air cavity ranging from 20-60mm. This reduced heat transfer through the existing glass and frames.

The U-value was enhanced from 5.82 to 2.73 W/m2.K, creating better building efficiency and improved comfort.

Dollars and Sense

As part of the tender process, Magnetite commissioned Building Information Modelling by Arup Pty Ltd., to forecast potential savings. The Arup modelling demonstrated that Magnetite retrofit double glazing would provide savings of 13.0 % in energy usage. This data qualified the council to receive assistance from the Federal Government.

Comparable savings for the same building in various climate zones across Australia were also modelled in the report and are represented in graph 1.

"The savings in combined heating and cooling energy varies from 7% in the hottest climate (Cairns) to around 13% in the coldest (Orange). The relative saving on heating energy exceeds 30% in Orange"

For further information, please contact our head office on info@magnetite.com.au or 1300 RETROFIT (738 763)

Case Study: 140 William St Heritage, Perth WA

Perth's CBD heritage refurbishments called for "fullyrestored heritage buildings with the latest in commercial green design." One40William adds to the Perth cityscape with outstanding contemporary designs incorporated with gorgeous heritage buildings. Situated right in the vibrant heart of the city, noise is an inevitable drawback for buildings within this area.

The Challenge

The Department of Finance wanted modern interior designs to blend with the heritage facades of three iconic Perth buildings: The Globe, the Baird and Wellington Buildings. ISIS managed the project fit out, working with leading interior architects IA Group.

Retaining heritage windows was a priority & a quandary, given the assessment by Gabriel Acoustics: *"Existing windows are poorly sealed, resulting in significant acoustic leakage...AS/NZS 2107:2000 will require secondary glazing inside the existing glazing"*

The Works

Magnetite was installed to reduce the noise in 134 windows.

Acoustic consultants recommended an air cavity up to 100mm be created. Installation was carried out after hours to minimise any disruption to office staff.

Dollars and Sense

ISIS' project manager Michael Foreman commented: "Magnetite was approached for an acoustic glazing solution. The advice & service has been excellent. After hours work was cleanly, safely & efficiently performed. The end result blends with the existing building fabric seamlessly".

Noise reduced up to12dB (A) inside the building. For old buildings, these are impressive results, creating a more efficient work environment. 10dB (A) equates to around 50% noise reduction. In one room, noise reduced by over 14dB (A).

For further information, please contact our head office on info@magnetite.com.au or 1300 RETROFIT (738 763)

What Our Client Says: Thiess John Holland

Lane Cove Tunnel Project

34 Waterlao Road North Ryde NSW 2113 Locked Bag 2010 North Ryde BC NSW 1670 T: +61 2 9034 8111 F: +61 2 9218 9333 24hr Community Contact: 1800 009 280 www.lanecoveturnelproject.com.eu

20 October 2006

To Whom It May Concern

Lane Cove Tunnel Project Operational Noise Treatment Works

Magnetite Pty Ltd

Magnetite have been engaged on the Lane Cove Tunnel Project to install double glazing to windows on affected properties where increased traffic noise as a result of the Project are expected to be well above the target levels.

Magnetite have successfully been able to considerably reduce high external traffic noise levels to below the criterion and more comfortable internal levels, providing significant benefits to the residents of the affected properties.

We have found Magnetite to be very professional, punctual and efficient and of the highest standard and would have no hesitation in recommending them to any prospective clients.

Yours Faithfully d'

Tony Jackson Senior Project Engineer Operational Noise Thiess John Holland Lane Cove Tunnel

What Our Client Says: Linde

				e
Linde Materia	al Handling	ABN 62 000 768 776	c	Linde
21 October, 2010				
Magnetite (Australi 142A Victoria Rd, Marrickville, NSW 2	a) Pty Ltd 204			
Attn: Mr Adrian L	afleur			
Dear Adrian,				
I would like to than	k you for the rece	nt installation of you	Magnetite windo	ws at our Head Office.
We have been very the offices more cor products and screer	pleased with the mfortable in summ is to reduce heat	results of this projec ner time. Before dec and found Magnetite	t. The purpose of t iding on Magnetit to be the preferre	he project was to make e, we trialed several ed product.
Overall, we found N ambient indoor tem more smoothly. In a Highway has been r	lagnetite reduced perature. This ha addition to the ins reduced.	I the heat stress on t s reduced the load o ulation benefit we h	ne windows result n our air condition ave found the nois	ing in a more stable ing allowing it to run se from the Great Western
Your team worked p business in the futu	professionally and re.	efficiently and left t	he site tidy. I wisł) you success with your
Your sincerely,				
Bon				
Georg Bommers				
Chief Financial Offic	er			
HEAD OFFICE 5 Datiliers Plane Hurtingwood, NEW 2546 PH: (12) 9835 9500 Piz: (02) 9831 9525	VICTORIA 1937 Wailington Road Rowelle VIC 3179 PH (02) 5539 4444 Fac (02) 5539 4445	BRISBANE 64 Aras Place Langinta, OLD 4110 PH, (07) 3013 5100 Plac, (07) 3013 5150	PEHTH 15 MBy Court Melags WA (2020 PH: (28) 9239 4800 Fax: (38) 9248 1475	ADELAIDE 6 Berger Posif Wingfeld 5A 5015 PH: (05) 5569 2950 Pac (06) 8360 2557

2011 WERS Certified Products Directory - AFRC

NOTES

1. Uw is the whole window U-value

2. SHGCw is the whole window solar heat gain coefficient

3. Tvw is the whole window visible (light) transmittance

4. Percentage improvement figures are compared with using base-case Generic Window 1 (3mm clear in standard aluminium frame)

5. A negative percentage improvement figure indicates performance worse than the base-case window

6. A positive percentage improvement figure indicates performance better than the base-case window

7. Maximum air infiltration is 5.0L/s.m2 at a positive pressure difference of 75 Pa as measured according to AS 2047

8. Static performance (Uw SHGCw Tvw Tdw) calculated using Window 6.3 and Therm 6.3 software (LBNL), 1999-2010

9. Annual energy performance (stars and % improvements) calculated using Nationwide House Energy Rating Software (AccuRate) according to procedures of WERS 2008.

10. Results disclosed at Australian Fenestration Rating Council (AFRC) regulations.

Magneti	le - Australia	Cool	Heat											
Updated -15-O	%	%	То	tal Wind	ow - A	FRC								
Window ID	Glazing	Cooling Stars	Heating Stars			Uw	SHGC	Tvw	Air Inf.					
	Magnetite Retrofit Double Glazing System on Generic Aluminium Window													
MAG-003-07	3R20S/68/4.5MagAcrl	****\$	***	71%	33%	2.9	0.19	0.2	0.5					
MAG-003-08	3NS18/68/4.5MagAcrl	****	****	65%	38%	2.9	0.29	0.13	0.5					
MAG-003-10	3Clr/68/4.5MagAcrl	**	****	35%	58%	2.9	0.67	0.73	0.5					
Magnetite Re	Maanetite Retrofit Double Glazing System on Generic Timber Window													
MAG-005-07	3R20S/68/4.5MagAcrl	*****	****	74%	37%	2.4	0.19	0.2	0.5					
MAG-005-08	3NS18/68/4.5MagAcrl	****	****☆	67%	42%	2.5	0.28	0.13	0.5					
MAG-005-10	<u>3Clr/68/4.5MagAcrl</u>	**☆	*****	39%	62 %	2.5	0.66	0.71	0.5					
MAG-005-23	3ELEP35/40/4.5MagAcrl	*****	★★★★ ☆	76%	45%	1.8	0.2	0.28	0.5					

Signatory:

Date Of Test

19-Apr-1999

Frequer

50

63

80

100

125

160 200

250

315 460

500

\$20 500 1000

1250

1600

2000

2500 3150 4300

5000

Test Conditions: Surface Area Of Test Sample (Sq m): Surface Area Of Remaining Filler Walt:

Total Surface Area Of Test Aperture:

TRANSMISSION LOSS TEST RESULT

ATF Report 707

Client Name: Magnetite

cy	Filler Wall Transmission Loss (dB)	Std Dev	Filler Wall + Sample Transmission Loss	Std Dev	Transmission Coefficient of Filler Wall (T _f)	Transmission Coefficient of Filler Wall + Sample (T _c)	Transmission Coefficient of Sample (τ_s)	1/7 ₈	Frequency	Calculated 1/3 Octave Transmission Loss (dB)	Precision 95% Confidence Interval (d5)
ia.	34.08	1.92	18.46	1.87	0.000390647	0.01425248	0.060218557	16.61	50 Hz	12.203	1.75
Hz.	39.13	1.08	13.00	\$ 20	0.000122213	0.050137421	0.215988716	4.63	63 Hz	6.656	1.55
Hz	44,35	3.54	19.79	1.35	3.66822E-05	0.010507071	0.045227064	22.11	BO Hz	13.446	1.25
Hz	49.80	0.93	19.63	1.27	1.04822E-05	0.010884155	0.04694144	21.30	100 Hz	13.284	1.11
Hz	60.79	0.00	21.64	0.76	8.32961E-07	0.006859641	0.029603569	33.78	125 Hz	15.287	0.78
Hz	63.41	0.50	24.10	080	4.55546E-07	0.003886527	0.016772809	59.62	160 Hz	17.754	0.68
Hz	68.89	0.48	26.75	38.0	1.02485E-07	0.002113895	0.009123269	109.61	200 Hz	20.398	0.50
Hz	70.29	0.37	27.18	0.44	9.34869E-08	0.001912396	0.008253828	121.16	250 Hz	20.834	0,41
Ha	70.56	0.34	26.48	0.35	8.78328E-08	0.002250844	0.009714391	102.94	315 Hz	20.126	0.91
Hz.	74.66	0.42	27.65	0.25	3.41936E-08	0.001718559	0.007417215	134.82	400 Hz	21.298	0.35
H2	75.85	0.20	27.81	0.31	2.60298E-08	0.00165629	0.007148469	139.89	500 Hz	21.458	0.25
He	77.63	6.30	28.05	0.15	1.72404E-08	0.001565513	0.006756723	148.00	630 Hz	21.703	0.29
He.	82.29	0.30	28.07	Dr 0	5.90469E-09	0.001560272	0.006734141	148.50	600 Hz	21.717	0.24
HZ.	83.14	0.17	28.12	0.16	4.85237E-09	0.00154111	0.006651441	150.34	1000 Hz	21.771	0.17
Hz	85.74	0.34	29.68	0.18	2.66977E-09	0.00107725	0.004649421	215.08	1250 Hz	23.326	0.18
Hz	91.52	0.13	31.12	0.18	7.04622E-10	0.000772835	0.003335568	299.80	1600 Hz	24.768	0.16
Ha	93.25	0.12	31.95	0.21	4.72978E-10	0.000637896	0.002753168	363.22	2800 Hz	25.602	0.17
HE	92.57	0.10	32.55	0.17	5.53884E-10	0.000555475	0.00239744	417.11	2500 Hz	26.203	0.17
Hz	97.45	0.70	32.48	0.12	1.80075E-10	0.000564902	0.002438125	410.15	3150 Hz	26.129	0.14
Hz.	102.99	0.17	31.91	0.10	5.02832E-11	0.00064418	0.002780291	359.67	4800 Hz	25.550	0.17
Hz	101,79	0.20	30.48	0.18	6.62064E-11	0.000894767	0.00386183	258.94	5000 Hz	24.132	0.19

2.31

7.66

9.97

	OITC Rating		<u>1/1 Oc</u>	tave	
Frequency	Normalised A- Weighted Reference Noise Spectrum (dB)	Sound Energy (W/m2)	Frequency	Rounded 1/1 octave Transmission Loss Values (dB)	80
80 Hz	-19.6	5.495E-04	63 Hz 125 Hz 250 Hz	11 16 21	70.
100 Hz	-17.2	9.550E-04	500 Hz	22	
125 Hz	-15.2	9.550E-04	1000 Hz	23	0.28
160 Hz	-15.5	4.467E-04	2000 Hz	26	60
200 Hz	-14	3.981E-04	4000 Hz	26	
250 Hz	-13.7	3.388E-04	8000 Hz	0	
315 Hz	-12.7	5.370E-04			SD
400 Hz	-11.9	5.129E-04			
600 Hz 630 Hz 800 Hz 1000 Hz	-10.3 -11 -10.9 -11.1	7.413E-04 5.012E-04 5.129E-04 4.899E-04	<u>R_w Rati</u> R _w =	ng 24	40
1250 Hz	-10.5	4.467E-04	•		30
1600 Hz	-11.1	2.455E-04	C _T =	-1	
2000 Hz	-10.9	2.042E-04	C -	2	
2500 Hz	-11.8	1.660E-04	UTR -	*	20
3150 Hz	-13.9	1.023E-04			
4060 Hz	-15.1 Sum -10*LOG(Sum)	7.762E-05 8.180E-03 20.87			10
		0.1000	R _M (C _T ; C _{TR}	.) is	
Th Trar	e Outdoor Ind	oor is is:	24 (-1 ;	-2)	0

Frequency

63 Hz

125 Hz

250 Hz

500 Hz

1000 Hz

2000 Ha

4000 Hz

Date Of Test 19-Apr-1999

Test Conditions: Surface Area Of Test Sample (5q m): Surface Area Of Remaining Filler Wall: Total Surface Area Of Test Aperture:

TRANSMISSION LOSS TEST RESULT

OITC Rating

Frequency

80 Hz

100 Hz

125 Hz

160 Hz

200 Hz

250 Hz

315 Hz

400 Hz

500 Hz

630 Hz

800 Hz

1000 Hz

1250 Hz

1600 Hz

2000 Hz

2500 Hz

3150 Hz

4000 Hz

Normalised A-

Weighted

-19.6

-17.2

-15.2

-15.5

-14

-13.7

-12.7

-11.9

-10.3

-11

-11.1

-10.5

-11.1

-11.8

-13.9

-15.1

OITC 24

ATF Report 709

Client Name: Magnetite

Frequency	Filler Wall Transmission Loss (dB)	Sed Dev	Filler Wall + Sample Transmission Loss	Stat Day	Transmission Coefficient of Filler Wall (τ _r)	Transmission Coefficient of Filler Wall + Sample (τ _c)	Transmission Coefficient of Sample (τ_6)	$1/\tau_s$	Frequency	Calculated 1/3 Octave Transmission Loss (dB)	Precision 95% Confidence Interval (dB)
60 Hz	33.94	1.93	21.74	1.10	0.00040338	0.006692241	0.027546215	36.30	60 Hz	15.599	1,72
63 Hz	39.13	1.35	10.98	134	0.000122213	0.079888743	0.344395938	2.90	43 Hz	4.629	1.62
80 Hz	44.35	1.16	18.81	1.41	3.66822E-05	0.0131443	0.056609388	17.66	60 Hz	12.471	1.28
100 Hz	49.80	0.95	17.02	1.37	1.04822E-05	0.019868802	0.085719334	11.67	100 Hz	10.669	1.17
125 Hz	60.79	0.40	20.13	11.74	8.32961E-07	0.009694574	0.041839186	23.90	125 Hz	13.784	0.77
160 Hz	63.41	0.01	26.42	1.65	4.55546E-07	0.002281216	0.009844257	101.58	190 Hz	20.068	0.03
200 Hz	69.89	0.40	28.77	1.58	1.02485E-07	0.00132743	0.005728871	174.55	200 Hz	22,419	0.53
250 Hz	70.29	0.98	34.21	1.14	9.34869E-08	0.000379253	0.001636553	611,04	250 Hz	27.861	0.36
315 Hz	70.56	0.56	30.63	13.45	8.78328E-05	0.000864818	0.003732279	287.93	315 Hz	24.280	0.37
400 Hz	74.66	0.41	37.66	11.29	3.41936E-08	0.000171533	0.000740228	1350.94	400 Hz	31.306	0.96
500 Hz	75.85	0.24	41,86	1.23	2.60296E-08	6.52057E-05	0.000281343	3554.38	500 Hz	35.508	0.24
630 Hz	77.63	0.36	42.45	0.16	1.72404E-08	5.68407E-05	0.000245268	4077.17	\$30 Hz	36.104	0.25
800 Hz	82.29	0.30	47.82	4.18	5.90469E-09	1.65126E-05	7.12491E-05	14035.26	800 Hz	41,472	0.25
1000 Hz	83.14	0.10	51.03	8.22	4.85237E-09	7.89314E-06	3.40509E-05	29367.84	1000 Hz	44.679	0.20
1250 Hz	85.74	0.15	52.92	3.18	2.66977E-09	5.10754E-06	2.20354E-05	45381.58	1250 Hz	46.569	0.15
1600 Hz	91.52	0.12	53.62	11.12	7.04622E-10	4.34411E-06	1.87469E-05	53342.07	1600 Hz	47.271	0.12
2000 Hz	93.25	0.11	54.48	4.16	4.72978E-10	3.56303E-06	1.53765E-05	65034.24	2000 Hz	48.131	0.14
2500 Hz	92.57	0.16	55.30	0.19	5.53884E-10	2.95309E-06	1.27438E-05	78469.83	2500 Hz	48.947	0.16
3150 Hz	97.45	0.17	55.90	12.14	1.80075E-10	2.57314E-06	1.11051E-05	90048.57	3150 Hz	49,545	0.15
4000 Hz	102.99	0.37	54.22	18.2%	5.02832E-11	3.78083E-06	1.63179E-05	61282.24	4000 Hz	47.873	0.19
\$000 Hz	101.79	0.20	53.00	1 2 3	6.62064E-11	5.0069E-06	2.16097E-05	46275.61	5000 Hz	46.654	0.22

Transmission

Difference

STC 36 Curve Loss to STC

2.31

7.66

9.97

Frequency	Octave Transmission Loss (dB)		
43 HL	11.734	Sample Under Test: Control window - Aluminium single alider: two 4.5mm transparent acrylic panels ma	fxd it, 3mm float glass, mohair seals, gnetically sealed to the reveal,
125 Hz	14.648	100mm air gap.	
250 Ha	24.933	0.00	
580 PU	33.870	Arithmetic Average of Transm	ission Loss From 100hz to 5kH
1000 Hz	44.998	Unweighted Average	A-Weighted Average
2000 Hz	48.259	36	31
4000 Hz	48.725		

Calculated 1/1

Rounded 1/3 octave Frequency Transmission Loss Values (dB) 50 16

80 12 106 Marrell 11 125 Marrell 14 20 160 Warrell 14 20 160 Warrell 20 23 200 Marrell 22 26 250 Marrell 28 29 315 Marrell 35 500 400 Marrell 36 36 500 Marrell 38 36 500 Marrell 38 36 1000 Marrell 45 39 1250 Marrell 47 40 2000 Marrell 48 40 2000 Marrell 48 40 2500 Marrell 48 40 2000 Marrell 48 40 2000 Marrell 48 40 2000 Marrell 47 40	63		5			
100 worren 11 125 worren 20 160 worren 20 160 worren 20 250 worren 20 250 worren 28 250 worren 31 315 worren 36 500 worren 36 500 worren 36 500 worren 41 38 1000 worren 1600 worren 47 400 2000 worren 2000 worren 48 400 3150 40 2000 worren 48 400 3500 40 3150 worren 48 400 8000 40	80		12	1.54		
125 warren 14 20 160 warren 20 23 250 warren 20 23 250 warren 28 29 315 warren 31 35 500 warren 36 36 500 warren 36 37 800 warren 41 38 1000 warren 47 40 1250 warren 47 40 2000 warren 50 40 2000 warren 48 40 2500 warren 50 40 3150 warren 47 40 2000 warren 48 40 2500 warren 47 40 5000 warren 47 40	100	(A01191)	11	1		
160 witten 20 23 290 Witten 22 26 250 witten 22 26 315 witten 24 32 500 witten 31 35 500 witten 36 36 630 witten 36 37 800 witten 46 37 1000 witten 47 40 1600 witten 47 40 2000 witten 48 40 2000 witten 60 40 3150 witten 60 40 2000 witten 48 40 2000 witten 47 40 2000 witten 47 40 2000 witten 47 40	125	(ART181)	14	-	20	
200 Marrier, 22 26 250 Marrier, 28 29 315 Marrier, 28 29 315 Marrier, 24 32 400 Marrier, 31 35 500 Marrier, 36 36 630 Marrier, 41 38 1000 Marrier, 41 39 1250 Marrier, 47 40 1600 Marrier, 47 40 2000 Marrier, 48 40 2500 Marrier, 50 40 4000 Marrier, 48 40 5000 Marrier, 47 40	160	(AUTTRY)	20		23	
250 warren 28 29 315 warren 24 32 400 warren 31 35 500 warren 36 36 630 warren 41 38 1000 warren 41 38 1250 warren 47 40 1500 warren 47 40 2000 warren 48 40 2500 warren 60 40 3150 warren 48 40 2500 warren 48 40 2500 warren 48 40 3150 warren 48 40 2500 warren 48 40 3000 warren 47 40	200	AMOITMES.	22		26	
315 Marrieri 24 32 400 Marrieri 35 36 500 Marrieri 36 36 630 Marrieri 36 37 800 Marrieri 36 37 1000 Marrieri 45 39 1250 Marrieri 47 40 2000 Marrieri 47 40 2000 Marrieri 60 40 3150 Marrieri 60 40 3150 Marrieri 60 40 3150 Marrieri 60 40 3150 Marrieri 61 40 5000 Marrieri 47 40	250	\$4011015	28		29	
400 Witterin 31 35 500 Marrielt 36 36 500 Marrielt 36 37 500 Witterin 36 37 500 Witterin 41 38 1000 Witterin 47 40 1250 Witterin 47 40 1250 Witterin 47 40 2000 Witterin 48 40 2500 Witterin 50 40 3150 Witterin 48 40 5000 Marriett 47 40	315	MITTEL	24		32	
500 Marrati 36 36 630 Marrati 36 37 500 Marrati 36 37 500 Marrati 36 37 500 Marrati 38 38 1000 Marrati 41 38 1250 Marrati 45 39 1250 Marrati 47 40 2000 Marrati 47 40 2500 Marrati 49 40 3150 Marrati 50 40 5000 Marrati 48 40 5000 Marrati 47 40	400	(AUTTRA)	31		35	
638 yerreti 36 37 800 warreti 41 38 1000 warreti 41 39 1250 warreti 47 40 1600 warreti 47 40 2000 warreti 47 40 2000 warreti 48 40 2500 warreti 50 40 4000 warreti 50 40 5000 warreti 47 40	500	MUTTRE	36		36	
800 within 41 38 1000 within 45 39 1250 within 47 40 1600 within 47 40 2000 within 49 40 3150 within 50 40 5000 within 48 40	630	(Alternation	36		37	
1000 women 45 39 1250 women 47 40 1600 women 47 40 2000 women 48 40 2500 women 49 40 3150 women 60 40 4000 women 48 40 3150 women 48 40 5000 women 47	800	(A01191)	-41		38	
1250 Marret: 47 40 1600 Marret: 47 40 2000 Marret: 47 40 2500 Marret: 48 40 2500 Marret: 49 40 3150 Marret: 50 40 4000 Marret: 48 40 5000 Marret: 47	1000	AVE FIRTH	45		39	
1600 varmen 47 40 2000 varmen 48 40 2500 varmen 49 40 3150 varmen 50 40 4000 varmen 48 40 5000 varmen 48 40	1250	WITTEL	47		40	
2000 Marrieri 48 40 2500 Marrieri 49 40 3150 Marrieri 50 40 4000 Marrieri 48 40 5000 Marrieri 48 40	1600	(ARTTHA)	-47		40	
2500 µ01111 49 40 3150 µ01111 50 40 400 µ01111 48 40 5000 µ01111 47	2000	(ARTTRE)	48		40	
3150 Jonan 50 40 4000 Jonan 48 40 5000 Jonan 47	2500	WEITERS.	49		40	
4000 yamati 48 40 5000 yamati 47	3150	ADTENT	50		-40	
5000 indiret: 47	4000	UNDITIERS	48	1	-40	
	5000	MOTHER	47			Г
						-
	The	Sound	Trans	missio	on Class	
The Sound Transmission Class		Of Th	is Sar	nple is	:	
The Sound Transmission Class Of This Sample is:		6	TC 3	6	1	

Results (Incorporating AS1191-1985 Compliant Measurements)

If copied, this report must be reproduced in full.

Date:

Page 12 of 1

Sign

Sign

Date Of Test

24-Mar-2004

Test Conditions:

Surface Area Of Test Sample (Sq m): Surface Area Of Remaining Filler Wall:

TRANSMISSION LOSS TEST RESULT

Total Surface Area Of Teel Aperture:

ATF Report 1507

Client Name: Magnetite

filler Wall Filler Wall Sample ansmission SelOw Transmissi Loss (dB) Loss	+ Bed Dev	Transmission Coefficient of Fitter Wall (T ₁)	Transmission Coefficient of Filler Wall + Sample (1,)	Transmission Coefficient of Sample (τ _s)	$1/\tau_s$	Frequers
38.10 1.42 29.90	1.42	0.000154819	0.001023897	0.003873897	258.14	50 H
36.12 1.79 31.03	1.52	0.000244249	0.000788898	0.002574984	388.35	63 2
39.79 1.30 20.10	1.63	0.000104947	0.009781487	0.041514124	24.09	80 H
47.70 1.29 28.43	1.05	1.69959E-05	0.001436458	0.006091354	164.17	100 H
59.65 0.42 29.21	0.00	1.07558E-06	0.001199774	0.005130709	194.90	125 H
65.42 0.46 30.12	0.63	2.86897E-07	0.000973098	0.004163276	240.20	160 H
68.07 0.44 34.56	0.47	1.56131E-07	0.000349644	0.001495307	668.76	200 H
71.17 0.33 34.40	0.39	7.63655E-08	0.000362925	0.001552828	643.99	250 H
74.65 0.32 34.21	0.44	3.4281E-08	0.000379628	0.001624442	615.60	315 H
78.06 0.23 36.94	0.30	1.56203E-08	0.000202249	0.000865441	1155,48	400 H
77.24 0.25 40.90	0.01	1.89003E-08	8.13205E-05	0.000347936	2874.09	500 H
78.53 0.10 44.55	0.20	1.40292E-08	3.50793E-05	0.00015007	8863.55	630 H
81.23 0.10 47.73	8.10	7.536E-09	1.68715E-05	7.21742E-05	13855.38	800 H
83.09 0.0 50.92	0.16	4.90749E-09	8.08528E-06	3.45835E-05	28915.49	1000 H
86.55 and 51.75	0.15	2.21514E-09	6.68655E-06	2.86067E-05	34956.82	1250 H
90.17 0.14 51.79	0.14	9.60786E-10	6.62271E-06	2.83377E-05	35288.73	1600 H
87.26 am 52.17	0.14	1.88087E-09	6.07175E-06	2.59769E-05	38495.76	2000 H
83.57 0.25 50.31	D.18	4.39854E-09	9.30334E-08	3.97977E-05	25127.07	2500 H
91.11 0.10 48.08	0.10	7.74495E-10	1.55615E-05	6.65004E-05	15017.19	3150 H
97.08 0.15 46.90	0.22	1.96046E-10	2.04032E-05	8.73116E-05	11453.23	4000 H
98.63 0.24 46.81	0.21	1.37208E-10	2.08314E-05	8.9144E-05	11217.80	5000 H
101.60 0.24 50.91	0.30	6.92389E-11	8.11823E-06	3.47404E-05	28784.93	6300 H
103.04 0.21 53.44	0.28	4.98901E-11	4.52852E-08	1.937898-05	51602.56	8000 H
92.70 0.30 46.45	0.32	5.36472E-10	2 26323E-05	9.68495E-05	10325.30	10000 H

2.3298

7.6402

9.97

Frequency	Calculated 1/3 Octave Transmission Loss (dB)	Precision \$5% Confidence Interval (dB)	Frequency	Calculated 1/1 Octave Transmission Loss (dB)
50 Hz	24.119	1.42		
63 Hz	25.892	1.66	63 Hz	19.039
80 Hz	13.818	1.47		
100 Hz	22.153	1.17		
125 Hz	22.898	0.75	125 Hz	23.613
160 Hz	23.806	0.55		
200 Hz	28.253	0.45		
250 Hz	28.089	0.36	250 Hz	28.496
315 Hz	27.893	0.28		
400 Hz	30.628	0.27		
500 Hz	34,585	0.28	500 Hz	33.409
630 Hz	38.237	D.19		
900 Hz	41.416	0.16		
1000 Hz	44.611	0.14	1000 Hz	44.507
1250 Hz	45.435	0.15		
1600 Hz	45.476	0.14		
2000 Hz	45.854	0.15	2008 Hz	45.755
2500 Hz	44,001	0.22		
3150 Hz	41.766	10.17		
4000 Hz	40.589	D 18	4000 Hz	41,613
5000 Hz	40.499	0.22		
6300 Hz	44.592	0.27		
9000 Hz	47.127	0.24	8000 Hz	45.420
10000 Hz	40.139	0.31		

Sample Under Test: Aluminium single sliding window with fixed light. 3mm float glass Single mohair seals (Dual seals (inner & outer) on stile) Window installed in 20mm thick maple timber reveal. Two Magnetite 10mm acrylic panels. 100mm spacing from primary window Arithmetic Average of Transmission Loss From 100hz to 5kHz A-Weighted Average **Unweighted Average** 36 32

OITC Rating			1/1 Octave		
Frequency	Normalised A- Weighted Reference Noise Spectrum (dB)	Sound Energy (W/m2)	Frequency	Round oct Transn Loss Val	
		I	63 Hz	1	
			125 Hz	2	
80 HZ	-19.6	4.365E-04	250 Hz	2	
100 Hz	-17.2	1.202E-04	500 Hz	3	
125 Hz	-15.2	1.514E-04	1000 Hz	4	
160 Hz	-15.5	1.122E-04	2000 Hz	4	
200 Hz	-14	6.310E-05	4000 Hz	4	
250 Hz	-13.7	6.761E-05	8000 Hz	4	
315 Hz	-12.7	8.511E-05	1		
400 Hz	-11.9	5.129E-05			
500 Hz	-10.3	2.951E-05	P Pat	ina	
630 Hz	-11	1.259E-05	N _W Nat	in is	
800 HZ	-10.9	6.457E-08	R _w =	3	
1000 Hz	-11,1	2.4008-08			
1250 HZ	-10.5	2.6186-08	C _T =	- 3	
1000 Hz	10.0	2.4000-06			
2000 Hz	-10.9	2.0420-00	CTR =	-	
2300 Hz	-13.0	2.6205-06			
4000 Hz	-15.1	2.455E-06	CT (\$0.5000)=	-	
	Sum	1.153E-03	Communit	3	
	-10*LOG(Sum)	29.38	OTR (50-5000)		
			R _m (C _T ; C _T	11 1 18	
T	ne Outdoor Ind	39 (-2 ;	-5)		
Tra	nsmission Clas	Ref Carlen Carson, C	in success 1		
			391.2.5.	2.5	
	0110 23		331-4, -0,	-6, -0	

Call us:1300-30-40-82

Web: www.magnetite.com.au

ALUMINIUM FIXED & SLIDING WINDOW 1800mm WIDE X 1500mm HIGH

CEDAR AWNING WINDOW 1800mm WIDE X 1500mm HIGH

PROPOSED DRAWINGS

DATE 15.02.08 SCALE NOT TO SCALE DRAWING NO. MAGNETITE

PROPOSED WINDOW PLAN SECTION

DATE 15.02.08 SCALE DRAWING NO. A0.00 MAGNETITE ALUMINIUM FIXED & SLIDING WINDOW 1800mm WIDE X 1500mm HIGH

PROPOSED SECTIONS

DATE 15.02.08 SCALE DRAWING NO. A0.01 MAGNETITE ALUMINIUM FIXED & SLIDING WINDOW 1800mm WIDE X 1500mm HIGH

PROPOSED JAMB SECTION

DATE 15.02.08 SCALE DRAWING NO. A0.03 MAGNETITE ALUMINIUM FIXED & SLIDING WINDOW 1800mm WIDE X 1500mm HIGH

DRAWING NO. A0.04 MAGNETITE

15.02.08 DATE SCALE NOT TO SCALE DRAWING NO. T0.00 MAGNETITE

1800mm WIDE X 1500mm HIGH

PROPOSED "MAGNETITE' DETAIL

DATE 15.02.08 SCALE DRAWING NO. 10.02 MAGNETITE CEDAR AWNING WINDOW 1800mm WIDE X 1500mm HIGH

