



Natcell

Thermal & Acoustic Insulation

The Ultimate Green Technology

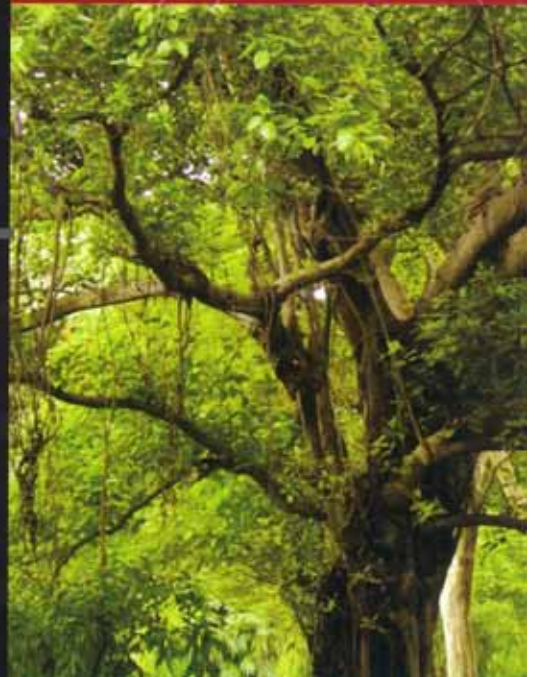
Environmentally Friendly
Thermal & Acoustic Solution
Fire Prevention

AWTA Test Report - Australia :ISO 8302 - 1991

SIRIM Test Report - Malaysia : ISO 8990 - 1994

Email : natcellinsulation@gmail.com

Company Profile





CREATING AWARENESS... Akous-Therm MD Horatio John Cardoz (right) explaining the qualities of Natcell to (top left) The Right Honourable Chief Minister of Sarawak, YAB Pehin Sri Haji Abdul Taib Mahmud at a trade exhibition.



HANDS ON... Former Malaysian Cabinet Minister for Transport Tun Dr. Ling Liong Sik gets a feel of the fire-resistant qualities of Natcell.

Introduction

Management Expertise

Horatio John Cardoz (*Managing Director*)

- A professional thermal and acoustic consultant with more than 20 years of experience.
- Former business associates are insulation product manufacturers in Australia such as "Cool & Cosy", "Jumbuck Wool", "Insulibre" and "Wool Store Insulation".
- Managing Partner of Perth-based "Austinsul" since 2000.
- Managing Director of Kuala Lumpur-based "Cool Home Insulation" in 1995 and undertook projects for among others:
 - Hume Industries
 - DMIB Berhad
 - Motorola
 - Golden Communication
 - Phoenix Plaza
 - Hume Industries
- In 2002 set up new office for Cool Home Insulation in Sarawak and introduced Natcell to :
 - Home owners
 - Sendayan Realty Housing Projects
 - Rimbunan Hijau Workers Quarters
 - Distrepark Housing Project - Sibujaya
- In 2003 set up Cool Home Insulation in Brunei.
 - Home owners
 - Shell Brunei
- In 2005 established Akous-Therm Sdn Bhd as main office for whole of South East Asia.

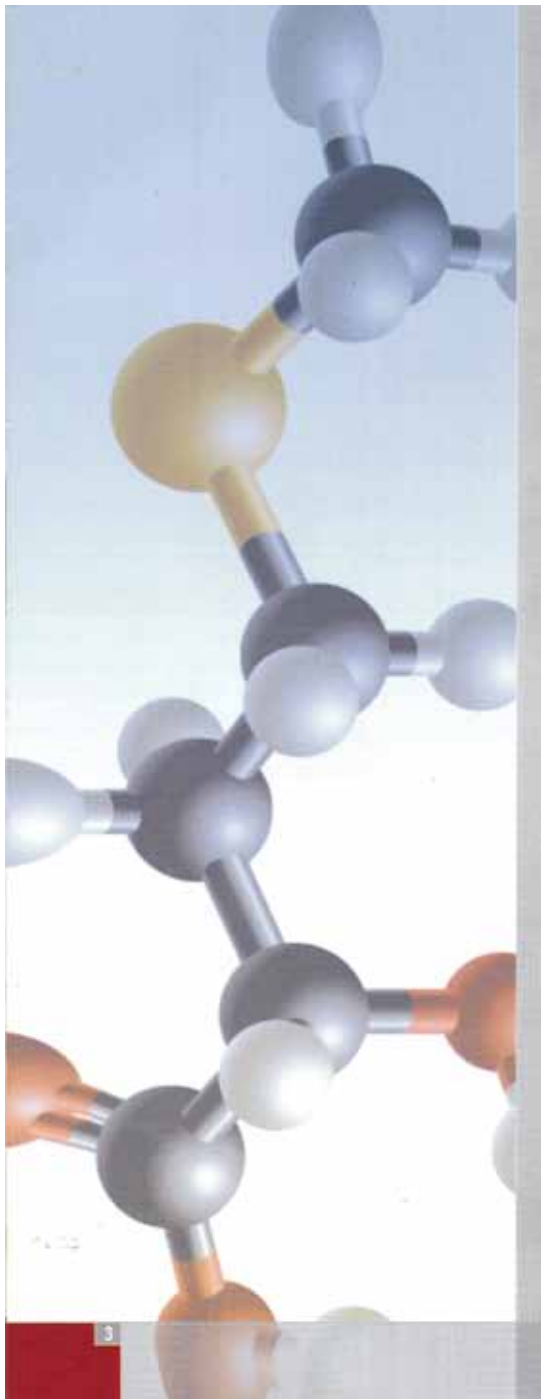
Natcell Insulation core expertise is in solutions against heat, sound and fire. Using natural cellulose, an Australian technology product that is guaranteed for life for its insulating properties, **Natcell** is the solution to home and building owners' never ending battle with heat, sound and fire.

Registered on 23rd April 2002, it has since brought cool relief to home owners, reducing not only their electricity bills and noise interference, but giving them added protection against the threat of fire as well from the roof.

Irrespective of your unique conditions, **Natcell** distributors will tailor the application of their certified health-safe product to fit your needs.

The Australian manufacturer of this product has 40 years of experience in operations and observing the world-renowned Australian standards.





Product Information

Performance Report

- It is acknowledged as the most advanced and energy efficient insulation of its kind.
- It is also the lightest of all lightweight insulation. By comparison it is 25% lighter than any of the current similar products in the market. Because of this, it has the least stress on internal ceiling structures.
- As it forms a seamless blanket of natural fibers, it is able to provide outstanding protection against the elements.
- In terms of fire safety and thermal performance in all kinds of climatic conditions, it is unsurpassed.
- It has earned the most efficient AWTA top rating.

Just what is Natcell?

- *Natcell* is the name of our product made of natural cellulose, designed and produced in Australia.
- It is the result of years of intense and high-tech research and development, making it the best insulation product for the world.
- Using the latest technology available to the world today, this unique blend of Multi-Density paper fibre has proven itself to be a wonderful "3 in 1" product capable of heat reduction, sound reduction and resist fire.
- Natcell is pest and mould resistant.
- Natcell is also a certified "health-safe" product by the Australian authorities and highly regarded as environmentally friendly.

How health- safe is Natcell?

- It is a NON - CARCINOGENIC product. As it is guaranteed not to contain any asbestos or fiber glass, this product has no harmful effects on our health.
- The Asthma Foundation of Western Australia has also confirmed in their correspondence that the product creates "No problems for asthmatics".
- The Health Department of Western Australia has issued an approval letter for the product to be used in food premises.
- AWTA Textile testing report confirms that the product is insects, pests and fire resistant.

Other Fact

Environmental Activist Group - Greenpeace Australia - has tipped it as the safest amongst all insulation materials.

Product Applications

Thermal Insulation (Heat Prevention)

- Applying Natcell on a surface such as the ceiling (in the attic) will keep out the heat while retaining the cool air inside your home or office for greater comfort.
- Natcell has been reported to reduce room temperatures by 3-5 degrees Celsius WITHOUT the use of any air-conditioning units on a very hot day.
- Get 50% energy savings from the reduced usage of air-conditioning units.

Other facts

- Heat is transferred by conduction. When the roof is heated up, it conducts heat from roof attic to indoor living areas. This makes your homes, offices and buildings hot and uncomfortable.
- To counter this heat, you install air-conditioning units. But as the heat is continuously conducting from roof attic, your air-conditioners need to use more energy to ensure the room is kept cool constantly.
- Your roof and ceiling will continue to conduct heat unless you insulate it with another material of low thermal conductivity. As Natcell is a POOR CONDUCTOR of heat, it works wonderfully in reducing heat from being conducted into your homes or offices.
- Insulating your homes & buildings is widely recognized as one of the best household investments, giving you great savings in energy cost and in an environmentally friendly manner.



Installation Works

Fire Resistant

- Every year, scores of buildings get razed to the ground by accidental fire.
- From your dream home to your neighbourhood's houses and from longhouses in the interiors to high rises in the city centres, protect your homes from the flames that will reduce it all to a pile of smoldering ash.
- Natcell becomes fire resistant when treated with fire retardants.
- It has 0 spread of flame index, the best possible rating for any fire resistant product.
- Approved by the Jabatan Perkhidmatan Bomba Malaysia (Malaysian Fire & Rescue Services Department), Natcell can mean the difference between saving or losing your homes or offices.



Acoustic Insulation (Sound Proofing)

- Those who have been plagued and stressed out by noise will find Natcell to be their perfect solution.
- In the acoustic application our Acoustic Consultant will assess the environment and tailor fit a solution to your problems.
- Not only will this product inhibit outdoor sound from streaming into your room, it also helps to reduce echo in a hall or room. Cineplexes, Churches and Halls have seen the amazing reduction in echo after the introduction and application of Natcell into their walls.

Other facts

- Sound travels very fast and are like rubber balls that bounce off any surface.
- Our acoustic solution combines Natcell with aesthetic paneling that are both pleasing to the eyes and performance.
- Each room or hall is carefully assessed for the source of its noise interference and the best solution advised before application.
- Natcell acoustic solutions save owners from the need to be engaged in a costly and at times, futile battle to improve the in-house sound system.

Completed Major projects in Malaysia & Brunei

Thermal Insulation Projects

Client	Project
Jaffar Karim (M.D. Sime Darby)	Residential
Shell Brunei	Renovation
Parish House	Residential - Thermal
Dr. Patrick Ling	Residential - Thermal
Chew Brothers	Law Office - Thermal
D.M.I.B.(Malaysia)	Factory - Thermal
Hii & Lee Chartered Accts	Office - Thermal
Gloway Systems	Office - Thermal
Rimbunan Hijau	Quarters - Thermal
Subur Tiasa Plywood	Quarters - Thermal
Ardina Minimart	Shoplot - Thermal
Micro Electronic	Shoplot - Thermal
Sendayan Development	Project - Thermal
Sibu Superbowl	Club - Thermal
Meligai Hotel	VIP rooms - Thermal
Datuk Mortadza	Residential - Thermal

Acoustic Insulation Projects

Client	Project
Kohler Generators	Factory / Acoustic
Hume Industries	Factory / Acoustic
Phoenix Plaza	Hall / Acoustic
B.B.K. Clubhouse	Hall/ Acoustic
D.M.I.B.(Malaysia)	Hall/ Acoustic
Golden Communication	Theatre / Acoustic
First Baptist Church	Church / Acoustic
Dr. Henry Toh	Clinic/ Acoustic
Sibu Superbowl	Club/ Acoustic
Motorolla Semiconductor	Office / Acoustic
Bakun Project	Generator / Acoustic
Xin Fu Yuan Church	Church/ Acoustic
Heritage Borneo	Acoustic
Chinese Association	Acoustic
King's Theater	Acoustic
Chung Sing School	Stadium / Acoustic

On going projects:

Distrepark Housing Project - Sarawak
Tanah Jambu Housing Project - Brunei



Thermal Project... Our product has brought "cool relief" to residents in this housing project by Sendayan Realty Sdn. Bhd.



Acoustic Project at The United Association of Private Chinese Secondary School.



Acoustic Project at the Xin Fu Yuan Methodist Church, Brooke Drive.



Acoustic Project at King's Theater, Sarawak House Shopping Complex.



Austinsul Pty. LTD.
2/36, Titan Drive
Carrum Downs
Victoria Australia 3201

Akous - Therm Sdn. Bhd.
No.17, Jalan Delta
96000 Sibul, Sarawak
Malaysia

Cool Home Insulation Sdn. Bhd.
No.6, Block 1, Menteri Komplek,
Jalan Kota Batu, BU1929
Brunei Darussalam

TEST RESULT

Acoustic Insulation

Test Report on Acoustic Insulation Project at Generator House, Camp 1 of Bakun Hydro-Electric Dam - Sarawak Malaysia.

Item	Description of Conditions / Actions	Decibel (db) Reading
1.	Reading in the Generator Room - Generators are on (Before Installation)	107db
2.	Reading prior to treatment (near CIDB training room & canteen)	80db
3.	Atmosphere Sound Pressure (far away from Gen. set)	59db
4.	After treatment the reading achieved (near CIDB training room & canteen)	63db

Test Analysis

a) Reading prior to treatment	80db
b) Atmospheric sound pressure	59db
c) Excessive sound pressure to be treated	80db-59db = 21db
d) 80% of 21db (to be reduced)	16.8db
e) 80% reduction level	80db-16.8db = 63.2db
f) After treatment the reading achieved	63db

Chart Showing Typical Sound Absorption Test

Thickness	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	NRC
20mm	.07	.20	.53	.83	.89	.94	.60
25mm	.10	.29	.70	.98	1.01	.98	.75
40mm	.15	.45	.80	.90	.95	1.00	.75

Thermal Insulation

Real Case Study On Effectiveness of Natcell in a home in Borneo Region.

