



# **EARTHEN™ REVERSIBLE PANELLING**

## **85x9mm**

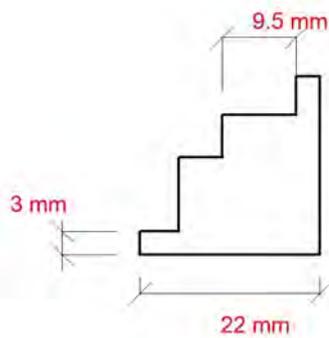
### **TECHNICAL INFORMATION**

<b>Technical Document No.</b>	#030
<b>Title</b>	Earthen™ Reversible Panelling 85x9mm
<b>Issue Date</b>	04-08-2017
<b>Version</b>	1.0

## PROFILE DRAWINGS

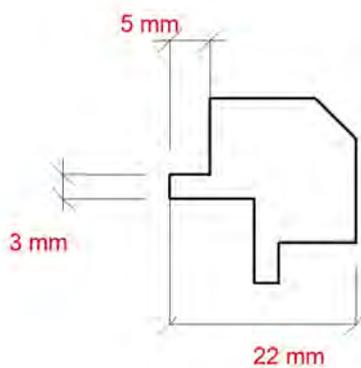
### EARTHEN REVERSIBLE PANELLING

PRODUCT CODE: PHTTG9



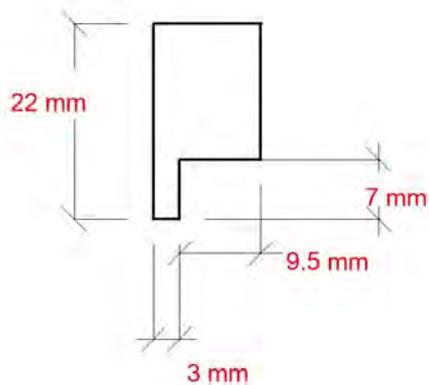
### EARTHEN EXTERNAL CORNER

PRODUCT CODE: PHTEX1



### EARTHEN INTERNAL CORNER

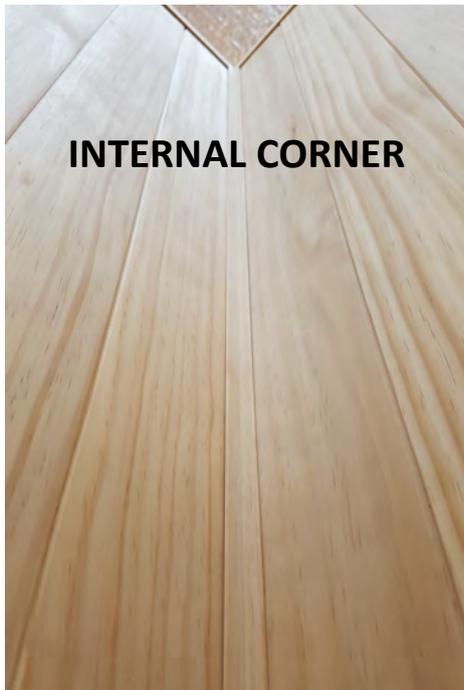
PRODUCT CODE: PHTIN1



### EARTHEN TOP CAP

PRODUCT CODE: PHTTC1

**PRODUCT IMAGES**



# Natural. Breathable. Beautiful.

Enhance and maintain the natural beauty of your timber surfaces with Foreverbreathe™ Oil Coatings. Developed using innovative plant chemistry, our extensive range of natural oils, waxes and cleaning products provide exceptional performance. Being breathable and free of harmful chemicals they support a healthy home environment.



## FEATURES:

- Interior & external applications
- Clear or tinted colours available
- Breathable and free of harmful chemicals
- Made in New Zealand from natural plant chemistry

## FLOORING

Decorative appearance on Foreverbeech™ (left) and American White Oak (right). Available in clear and the colours below.



## CLADDING

Decorative appearance on Foreverbeech™



Decorative appearance on Earthen Radiata



## DECKING

Decorative appearance on Foreverbeech™



Decorative appearance on Earthen Radiata



Disclaimer: Colours are demonstrated on Foreverbeech™, American White Oak & Earthen Radiata and are as accurate as print and digital displays allow.

**PROCEDURE TO FINISH FOREVERBEECH MICRO BEVELLED  
SOLID TIMBER FLOORS AND PANELLING, AND  
FOREVERBEECH ENGINEERED FLOORS WITH  
FORVERBREATHE CLEAR JAVA HIGH SOLID OIL  
(Primer, Plus Two Top Coats)**



\*picture set does not necessarily match size

Step one: Preparation: 17- 25 degrees is the target temperature. The objective is to maintain a constant room temperature with good airflow. The surface must be dry, clean and free of grease. Timber moisture content should be no more than 14%. Foreverbreathe Micro-clean can be used to remove isolated embedded marks. Add 1 cap full of Micro-clean to 1 litre of water in a handy spray bottle. Shake well before use, Mist spray the solution over the floor. Use sparingly and only apply to affected areas.

Lightly sand the floor in the direction of the grain using the Pole & Sander Head with 120 grit sand screen supplied. It is imperative that Foreverbreathe Java High Solid can penetrate the surface of the timber. **IMPORTANT:** do not burnish the surface of the timber by trying to achieve a very fine sand.

Step two: Vacuum

Special care should be taken to remove any dust from the pores of the timber. Vacuum the area thoroughly to remove dust and dirt. A light broom may be necessary to move some of the dust caught between boards

Step three: Apply Foreverbreathe Primer, 1<sup>st</sup> Coat

Mix primer oil by shaking or tipping the container to allow oil to mix thoroughly and ensure non separation. Empty the primer oil into a roller tray. Application temperature should be between 17-25 degrees C. Use a good quality 50mm brush to neatly apply the oil to areas where the floor meets walls or door frames before rolling. Roll up to the “cut in” line within 15 mins to prevent visible overlap. Using a high quality 6mm microfibre roller, roll the primer oil liberally and evenly onto the timber in the direction of the boards. Leave for 12-24 hours to dry, with good ventilation.

#### Step four: Apply first top coat Foreverbreathe Java High Solid

The second application should be a fine coat of Foreverbreathe Java High solid, on top of the primer. Thin layers dry and cure more efficiently, ensuring a tougher finish. Be careful to prevent build up along edges. Mix oil by shaking or tipping the container to allow the oil to mix thoroughly and ensure non separation. Empty the Foreverbreathe Java High Solid into a clean roller tray. Application temperature should be between 17-25 degrees C. Use a high quality 50mm brush to neatly apply the oil to areas where the floor meets walls or door frames before rolling. Using a high quality 6mm Micro Fibre Roller, roll sparingly and evenly onto the timber in the direction of the boards. Leave for 12-24 hours to dry, with good ventilation.

#### Step five: Apply second top coat

Apply the second top coat as the first. Leave for 12-24 hours to dry, with good ventilation.

**WARNING: SPREAD, OIL SOAKED TOWELS AND CLOTHS OUTSIDE TO DRY. DO NOT LEAVE IN A CRUMPLED STATE OR SELF COMBUSTION CAN OCCUR**

#### Clean up:

Clean brushes/rollers in white spirit, followed by warm soapy water. Safety Instructions: Keep out of reach of children. Do not pour oil residue into the sewer. Let the remnants dry out and dispose of with your domestic rubbish collection.

#### Initial Floor and Panelling Care:

Treat all new floor and panelling surfaces with great care as they continue to harden for up to 4 weeks. Correctly applied, Java High solid Oil will cure to good strength after a period of 10-14 days, avoid water contact and do not wet mop before this time. The surface will continue to harden for up to 28 days. It's advisable to take extra care throughout this time & use felt pads under your furniture etc.

#### General Cleaning:

Use Foreverbreathe Micro-wax and Foreverbreathe Micro-clean for your weekly or regular cleaning. Add 1 cap full of Micro-wax and 1 cap fill of Micro-clean to 1 litre of water in a handy spray bottle. Shake well before use, Mist spray the solution over the floor. Mop using a micro fibre mop, leave to dry.

#### Nourish & Replenish:

Use Foreverbreathe Micro-wax with a 50/50 solution of water to rejuvenate your floors and panelling. Use a handy spray bottle. Shake well before use, Mist spray the solution over the floor or panelling. Mop or wipe back using a micro fibre mop, leave to dry.

#### Manage:

For stubborn marks and surface scratching use undiluted Foreverbreathe Micro-wax lightly burnished in the direction of the grain using a green 3M hand scourer available at supermarkets. Polish dry with a cotton cloth.

To reorder Microwax & Microclean, visit our online store [www.healthbasedbuilding.com](http://www.healthbasedbuilding.com)

## PROCEDURE TO STAIN & FINISH FLOORS AND PANELLING WITH FOREVERBREATHE JAVA HIGH SOLID OIL

(Selected Stain, Plus Two Top Coats)

(Including, Foreverbreathe Engineered Oak, Engineered Foreverbeech, Solid Foreverbeech or Rimu.  
Can also be used for internal joinery)



\*picture set does not necessarily match size

Step one: Preparation: 17- 25 degrees is the target temperature. The objective is to maintain a constant room temperature with good airflow. The surface must be dry, clean and free of grease. Timber moisture content should be no more than 14%. Foreverbreathe Micro-clean can be used to remove isolated embedded marks. Add 1 cap full of Micro-clean to 1 litre of water in a handy spray bottle. Shake well before use, Mist spray the solution over the floor. Use sparingly and only apply to affected areas.

Lightly sand the floor in the direction of the grain using the Pole & Sander Head with 120 grit sand screen supplied. It is imperative that the Foreverbreathe Java High Solid Stain can penetrate the surface of the timber. **IMPORTANT:** do not burnish the surface of the timber by trying to achieve a very fine sand.

Special care should be taken to remove any dust from the pores of the timber.

Vacuum the floor area thoroughly to remove dust and dirt. A light broom may be necessary to move some of the dust caught between boards.

### Step two: Lamb's Wool Applicator:

Mix the stain by shaking or tipping the container to ensure the stain is thoroughly mixed together. Application temperature should be between 17-25 degrees C. Attach the Lamb's Wool Applicator to the collapsible Extension pole provided. Pour the Stain into a paint tray and dip the applicator into the Stain. Dab Applicator evenly on the tray spreader to remove excess stain. To apply the stain, wipe the applicator onto the floor, brush across the grain to massage the colour into the timber. Continue working with the grain without adding more stain, until appearance is even. Wipe back the excess stain using the second clean applicator pad (or cotton cloth). Wipe in the direction of the grain until the colour is even and there are no visible brush marks. Work in manageable areas of approx 4 sqm, blending as you go. If you apply too much stain, wipe your applicator on a cotton cloth and keep dry brushing over the area, with the grain, wipe back to an even finish with a cotton cloth or towel. Edges and corners should be hand brushed and clothed as you go. Leave for 12-24 hours to dry, with good ventilation.

### Step three: Apply first top coat

The second application should be a fine coat of Foreverbreathe Java High Solid Clear, on top of the Stain. Thin layers dry and cure more efficiently, ensuring a tougher finish. Be careful to prevent build up along edges. Mix oil by shaking or tipping the container to allow the oil to mix thoroughly and ensure non separation. Empty Foreverbreathe Java High Solid oil into a clean roller tray. Application temperature should be between 17-25 degrees C. Use a high quality 50mm brush to neatly apply the oil to areas where the floor meets walls or door frames before rolling. Using a high quality 6mm Micro Fibre Roller, roll liberally and evenly onto the timber in the direction of the boards.

**IMPORTANT: It is important to leave this coat for 48 hours to thoroughly dry & cure.**

### Step four: Apply second top coat

Apply the second top coat as the first. Leave for 12-24 hours to dry, with good ventilation.

**WARNING: SPREAD, OIL SOAKED TOWELS AND CLOTHS OUTSIDE TO DRY. DO NOT LEAVE IN A CRUMPLED STATE OR SELF COMBUSTION CAN OCCUR**

### Clean up:

Clean brushes/rollers in white spirit, followed by warm soapy water. Safety Instructions: Keep out of reach of children. Do not pour oil residue into the sewer. Let the remnants dry out and dispose of with your domestic rubbish collection.

### Initial Floor Care:

Treat all new floor surfaces with great care as they continue to harden for up to 4 weeks. Correctly applied, Java High Solid Oil will cure to good strength after a period of 10-14 days, avoid water contact and do not wet mop before this time. The surface will continue to harden for up to 28 days. It's advisable to take extra care throughout this time & use felt pads under furniture etc.

### General Cleaning:

Use Foreverbreathe Micro-wax and Foreverbreathe Micro-clean for your weekly or regular cleaning. Add 1 cap full of Microwax and 1 cap full of Microclean to 1 litre of water in a hand spray bottle. Shake well before use, mist spray the solution over the floor. Mop using a microfibre mop, leave to dry.

### Nourish & Replenish:

Use Foreverbreathe Microwax with a 50/50 solution of water to rejuvenate your floor. Use a hand spray bottle. Shake well before use, Mist spray the solution over the floor. Mop or wipe back using a microfibre mop, leave to dry.

### Manage:

For stubborn marks and surface scratching use undiluted Foreverbreathe Microwax lightly burnished in the direction of the grain using a green 3M hand scourer available at supermarkets. Polish dry with a cotton cloth.

To reorder Microwax & Microclean, Please visit our online store  
**[www.healthbasedbuilding.com](http://www.healthbasedbuilding.com)**

## FOREVERBREATHE™ INTERIOR OIL MSDS

Date: 5/4/15 Version No : 2

ForeverBreathe Interior Oil Page: 1/5

### MATERIAL SAFETY DATA SHEET

#### 1. Identification Of The Material & Supplier

**Product Name:** ForeverBreathe Interior Oil and Wax

**Other Names(s) :** Pure Danish Oil

**Chemical Characterisation:**

Mixture of binding agents based on plant oils, natural waxes, wood rosin and dearomatized hydrocarbons.

**Use or Description:**

Finishing interior timber surfaces.

**Emergency Telephone:** +49 (0) 30 192 40 (Toxic Substance Emergency Call Centre Berlin)

Refer: World Health Organization's (WHO) European Directory of Poison Centres

#### **2. Hazards Identification**

**Hazard Classification:**

3.1D - Substance that is a Combustible liquid.

6.1E - Substance that may be harmful if swallowed and enters airways.

6.3B - Substance that may cause mild skin irritation.

**Hazard statement codes:**

H227 Combustible liquid.

H304 May be harmful if swallowed and enters airways.

H316 Causes mild skin irritation.

**Precautionary statement codes - prevention:**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of the reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Precautionary statement codes - Response**

P314 Get medical advice/attention if you feel unwell.

P332 + P313 If skin irritation occurs: Get medical advice/attention.

P370+P378 In case of fire: Use foam, carbon dioxide or dry chemical.

**Precautionary statement codes - Storage:**

P403+P235 Store in a well-ventilated place. Keep cool.

**Precautionary statement codes - Disposal:**

P501 Disposal of this substance must be in accordance with the Hazardous Substances

(Disposal) Regulations 2001 with reference to all local council regulations. This may also include any method of disposal that must be avoided.

### **3. Composition / Information On Ingredients**

Potentially Hazardous Ingredients	% by weight (approx)	TLV (TWA) mg/m3	STEL (TWA) ppm	Cas No.
Alkanes	45-55	1200	171	90622-58-5
Zirconium Drier	0.1-1	100		94581-21-2
Zinc Drier	0.1-1	100		84418-50-8
Manganese Drier	0.1-1	100		37449-19-7
Acticide CF Preservative	0.1-1	100		26530-20-1

### **4. First Aid Measures**

**Inhalation** Move the victim to fresh air immediately. Begin artificial respiration if breathing has stopped.

**Skin Contact** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Eye Contact** Hold eyelids and flush the eye continuously with running water. Continue flushing for at least 15minutes. Get medical assistance. if irritation persists.

**Ingestion** If swallowed, do not induce vomiting. Give a glass of water if person is conscious. Begin artificial respiration if the victim is not breathing. Use mouth to nose rather than mouth to mouth. Obtain medical attention.

**Health Hazard Information:** Treat according to symptoms. Gastric lavage may be indicated if ingested. Do not wait for symptoms to develop. Measures should be taken to control acidosis and maintain urine output.

### **5. Fire Fighting Measures**

Extinguishing Media to be used:  
Dry Chemical  
Alcohol Foam

#### **Special Fire Fighting Procedures**

Use water to keep fire exposed containers cool. Do not use a heavy water stream, in order to avoid the fire to extend. If a leak or spill has not ignited, use water spray to disperse the vapours and to protect personnel attempting to stop leak. Prevent extinguishing media from escaping to drains and waterways.

#### **Unusual Fire and Explosion Hazards**

Vapour density heavier than air. This product is combustible.

### **6. Accidental Release Measures**

#### **Spill and Leak Procedure**

Eliminate every possible source of ignition. Avoid breathing vapour and contact with skin, eyes and clothing. Wear recommended personal protective equipment.

Shut off leaks if without risks.

If Material Is Released Or Spilled: Absorb on fire retardant treated sawdust, diatomaceous earth, etc.

Prevent entry of product into public water, sewers, or soil.

Shovel up and dispose of at appropriate waste disposal facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal.

## **7. Handling & Storage**

### **Handling**

Avoid prolonged repeated skin contact. Avoid contact with eyes. Wear safety glasses. Avoid inhalation of vapours or mists.

Use in well ventilated area away from all ignition sources. Take special care to avoid static electric discharge. Keep container closed.

### **Storage**

Store in a cool area. Do not pressurise, cut, heat or weld containers- residual vapours are flammable. This product is combustible and will fuel a fire in progress.

## **8. Exposure Control / Personal Protection**

### **Recommended Personal Protective Equipment to be worn during use of product:**

Protective Overalls  
Synthetic Apron  
Safety Glasses  
Splash Goggles  
Dust & Vapour Respirator  
Gloves  
Boots

## **9. Physical And Chemical Properties**

### **Appearance and Odour**

Low viscosity liquid in various colours with a solvent odour

**Density** 0.800

**Boiling Range, °C** 195 - 203

**Viscosity** N/A

**Flash Point°** 65

**Evaporation Rate (BuAc=100)** NE

**Vapour Pressure, mm Hg at 20°** 0.069

**Vapour Density (Air=1)** >1.0

**VOC's** 65g/L

**Solubility in Water** Negligible

**Melting Point/Freezing Point, °C** NA

**Aromatics, %** NE

**Aniline Point, °C** (Mixed)

**Colour** Various

**Refractive Index, @ 20°** NE

**Residue On Evaporation, mg/100ml** NE

**pH** NA

**Flammability Limit, %vol**

<b>Lower (LEL)</b>	<b>Upper (UEL)</b>	<b>Auto Ignition Temperature, °C</b>
0.7	5.4	365

NA = Not Applicable, NE = Not Established,  
NR = Not Regulated Against D = Decomposes

## **10. Stability And Reactivity**

### **Reactivity Data**

Stable at room temperature and pressure.  
Avoid sources of heat and ignition, open flames.

### **Hazardous Decomposition By products**

Carbon dioxide and carbon monoxide.

### **Hazardous Polymerisation**

Will Not Occur

## **11. Toxicological Information**

### **Ingestion**

Small amounts of liquid aspirated into the lungs during ingestion, or from vomiting, may cause chemical pneumonitis, or pulmonary oedema. Ingesting large amounts of this product will result in headaches, nausea, dizziness and tracheal burning.

### **Skin Contact**

This product is mildly irritating to the skin with prolonged exposure. It may result in dryness and cracking of the skin.

### **Inhalation**

Vapour concentrations above recommended exposure levels are irritating to the nose and throat. The inhalation of this product in large quantities will yield moderate discomfort. Over exposure may be evident through symptoms of dizziness, nausea, headaches and other central nervous system effects.

### **Eye Contact**

This product may be mildly irritating to the eyes, but will not permanently damage the eye tissue.

**Mutagenic Effects** None

**Reproductive Effects** None

**Chronic Effects** No chronic health data is available for this product.

## **12. Ecological Information**

Not identified as being harmful to aquatic life.

## **13. Disposal Considerations**

This product can degrade rapidly in air. Expected to be removed in wastewater treatment. Based upon data for similar components or estimated data, this product is expected to be biodegradable according to OECD guidelines.

## **14. Transport Information**

### **Land Transport ADR/RID**

UN No: Not regulated

HAZCHEM: Class 3.1D

Technical name: Paint

**Marine Transport IMDG/GGV**

UN No: Not regulated  
HAZCHEM: Class 3.1D  
Proper shipping name: Paint

**Air Transport ICA/IATA**

UN No: Not regulated  
HAZCHEM: Class 3.1D  
Proper shipping name: Paint

## **15. Regulatory Information**

This product is not classified as dangerous goods.

## **16. Other Information**

**IF PRINTED THIS MSDS SHEET IS UNCONTROLLED.**

Access Pacific Ltd urges each customer or recipient of this MSDS to study it carefully to become aware of the hazards associated with the product.

The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS. To promote safe handling, each customer or recipient should:

- (1) notify its employees, agents, contractors and others whom it knows or believes will use this material or the information in this MSDS and any other information regarding hazards of safety;
- (2) furnish this same information to each of its customers for the product; and
- (3) request its customers to notify their employees, customers, and other users of the product of this information.

NOTE: The information and recommendations contained in this data sheet have been compiled from sources believed to be reliable and represent the best current opinion on the subject. No warranty, guarantee or representation is made by the company as to the absolute correctness or sufficiency of any representation contained in this data sheet and the company assumes no responsibility in connection therewith. Nor can it be assumed that all acceptable safety measures are contained in this data sheet or that other additional measures may not be required under particular or exceptional circumstances or conditions.



28 April 2016

Hardie & Thompson Ltd  
1062 Colombo Street  
Edgware  
Christchurch  
Via email: [shane@hardie-thomson.co.nz](mailto:shane@hardie-thomson.co.nz)

To Whom It May Concern

**RE: Compatibility of Fireshield 1FR over FOREVERBREATHE™ plant oil based stain.**

We can confirm that the Protega laboratory in Sweden reviewed the supplied FOREVERBREATHE™ stain and carried out adhesion tests, including attempting to ignite the product once coated with Fireshield 1FR system.

FOREVERBREATHE™ stain did not have any adverse effects or adhesion issues when used with the Fireshield 1FR system.

If applied in accordance with our application instructions by an approved applicator, timber coated with FOREVERBREATHE™ plant oil based stain, and the Fireshield 1FR system, will achieve a Group 1-S surface finish for compliance purposes.

Please do not hesitate to call or email if you have any questions.

Sincerely,

Matthew Hughes  
Business Development Manager  
[matthew@fireshield.co.nz](mailto:matthew@fireshield.co.nz)

**Fire Protection Coatings Ltd, exclusive importer of PROTEGA intumescent paints to Australia and New Zealand**

FIRE PROTECTION COATINGS LTD, PO Box 19-888, Woolston, Christchurch 8022

E-mail: [info@fireshield.co.nz](mailto:info@fireshield.co.nz) | Tel: 0800 FIRESHIELD / 0800 347 374

**[fireshield.co.nz](http://fireshield.co.nz)**



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## Forestry Philosophy Ensuring Sustainability

*foreverbeech™*

New Zealand is extremely fortunate to have in place rigorous and detailed legislation governing the management and utilization of natural resources.

In the Forests Act, sustainable forest management is described as:

*"The management of an area of indigenous forest land in a way that maintains the ability of the forest growing on that land to continue to provide a full range of products and amenities in perpetuity while retaining the forest's natural values"*

Part II, section 5 of the Resource Management Act 1991 defines "sustainable management" as:

*"managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well-being and for their health and safety while- sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonable foreseeable needs of future generations, and safe-guarding the life supporting capacity of air, water, soil and ecosystems and avoiding, remedying, or mitigating any adverse effects of activities on the environment."*

Our forest management systems incorporate lessons learned from over 50 years of experience and research. The system follows a philosophy of productive protection and accounts for conservation and environmental values by recognizing the importance of:

- wildlife protection
- plant protection
- water protection
- historic site protection
- landscape protection
- recreational protection

Our sustainable management system involves carefully selecting and harvesting small variable groups of trees of similar size and occurrence to natural forest replacement patterns. Annual harvest rates are such that every year the volume of harvested trees is less than the volume grown naturally.

Our operations are monitored and audited by Ministry of Forestry officials and are in compliance with Part IIIa of the Forests Act and our field staff regularly consult with the Department of Conservation for updates on conservation research.

### **Independent 3<sup>rd</sup> Party Certification.**

Currently NZSFP does not support the 3<sup>rd</sup> party certification of its forest management systems as the attainment of such certification is prohibitive to the scale of the business. Instead we contend that the heavily regulated system we operate under guarantees legality and ensures producers are at least meeting definitions of sustainability as outlined under the Forests Act and The Resource Management Act.

Foreverbeech forest resource was documented by the United Nations Food and Agriculture Organization as one of the twenty examples of exemplary forest management in the Asia Pacific region. <http://www.fao.org/docrep/007/ae542e/ae542e00.htm>



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## Applied Sustainability

*foreverbeech™*

### About the Author:

**Helmut Janssen M.Sc. (Forest Ecology); B.Sc. (Resource Management);**

Helmut Janssen is an environmental scientist, experienced in policy advice on soil quality and biodiversity and its implementation; specializing in resource information and integrated management of useful natural resources via ecological reforestation of native forests. He founded and co-directs Adaptive Resource Management Ltd - [www.bushvitality.org.nz](http://www.bushvitality.org.nz) and the charity Reciprocate Biocapacity - [www.lifecapacity.org](http://www.lifecapacity.org)

He is the author of "Bush Vitality Assessment" and representative of Tanes Tree Trust.

Recently he attended field trip to view modern beech forest silvicultural regimes in practice and here interviews NZSFP forester Jon Dronfield...

### **Question. Are you advocating clearing our remaining forests?**

Not at all! Our natural forest ecosystems are unique and our ecological forestry retains permanent forest-cover and supports indigenous re-forestation initiatives elsewhere.

Historic forest clearances and pests have put indigenous biodiversity at risk throughout NZ.

Ecological forestry however, can reverse biodiversity decline, enhance the resilience of remaining forests and its resource value to the community. We recognize that beech forests are very robust and productive ecosystems. We are able to harvest small volumes of timber from private forests, (often previously modified) and over time improve the quality of timber and ecosystem health.

### **Question. What comes to mind when I ask you to tell me what Sustainability is?**

Before anything else, sustainability has always been about maintaining the organizational integrity of the environment. On a broad scale it's how we as a species recognize our consumption is a burgeoning debt on the planet, while also realizing that we can't get off. How, when we project population growth forward 25, 50, 200 years and the corresponding energy and raw materials demands, we can find logical solutions to live in balance. In a nut shell societies must find a way to produce what they require while protecting and strengthening the life supporting capacities of all ecosystems.

### **Question. What then is Applied Sustainability?**

Quite simply it's DOING what needs to be done to sustain environment and people. To do this well one needs to understand how indigenous forests evolve and survive in the face of natural and man-made disturbance., the needs of people and how people must apply themselves to enhance ecosystem productivity and maintain environmental and cultural resilience.

**Question. What does your ecological forestry look like in practice?**

The simple message of ecological forestry is: what stays behind is more important than what is removed.

This is the difference between managing forests long-term and unsustainable clear-felling. There are many examples around of high-graded forest, where the best trees have been removed to suit economic objectives. Our challenge is to go beyond this rather short-sighted approach.

Ecological forestry replicates small scale natural disturbance patterns from natural death or wind-throw to establish an uneven-aged stand structure with high productive and biodiversity values. We target our harvest at sites to recover dying trees and then build on gaps to promote regeneration while retaining cavity bearing trees and standing dead snags, to preserve the forest's naturalness, productivity and diversity. We thin tight cohorts of younger trees before intense competition has to detrimental an effect on trees with best vitality. I like to call it "swimming with the current", because remember our goal is to retain a highly productive and functioning ecosystem, the existence of which is the basis for any yield in the first place, so why would you ever exploit and degrade that productivity?

There are many examples around the world of this approach leading to healthy forest ecosystems and improving timber quality and value.

In the past Germany's foresters, like their NZ colleagues, implemented plantation strategies for incompatible trees (spruce, pines, eucalypts) with disastrous results for soils and long-term ecosystem productivity. Today ecological forestry strengthens forest structures and sustains multiple species and values. Forests are managed as continuous-cover stands and are thriving. So yes you can certainly manage and plan for increasing timber quality and yields by working alongside indigenous forests' ecological processes.

**Question. How do you then align demand and supply?**

Well, both need to develop together and have been out of synch for some time.

The local market is in a weakened state and we use more specialty timber than we produce. We import vulnerable hardwoods from Africa and threatened hardwoods from Indonesia.

This understood, it is crucial that we recognize and market the true value of our natural timber resources. Where wood was discarded, or chipped in the past, due to tree damage and rot, today we make best use of the resource (for example as veneer). We need to retain the capacity and skills to add value to our timber products and maintain a demand as a price-taking commodity - in other words an appreciative market needs to grow in synch with our productive capacity and pay the true costs of developing sustainable production methods.

**Question. Is there a need to inform potential customers to acknowledge the true costs and buy into accepting a uniquely sustainable native forest product?**

Exactly, I talk about "informed consumerism", and I mean we have to empower the consumers with information so they can make ethical choices. So often choices are price driven, but there's a growing number of buyers who demand sustainability. In other words, people who care as much about the source of the product as we care in producing it. Secondly, we have to re-educate consumers that natural products contain features and character that define and describe the past history of the tree and forest, in essence they reflect the wild beauty of New Zealand. This is why we refer to 'nature's perfect imperfection'



11 May 2010

**CONFIRMATION OF SUSTAINABLE FOREST MANAGEMENT PLAN PURSUANT TO PART 3A FORESTS ACT 1949, NEW ZEALAND**

At the date of this letter, the forest listed below is subject to a registered Sustainable Forest Management (SFM) Plan, approved by the Ministry of Agriculture and Forestry (MAF), pursuant to Part 3A, Forests Act 1949.

Trees harvested in compliance with this registered SFM Plan and associated Annual Logging Plans approved by MAF, meet the requirements of the Forests Act 1949 regarding the sustainable management of indigenous forests.

Explanatory notes on sustainable forest management are on page 2.

<b>SFM Plan/ No:</b>	4 / 09 /0055
<b>Forest Owner / Landholder:</b>	New Zealand Sustainable Forest Products Limited
<b>Date of Approval:</b>	20/02 /2001
<b>Date of Expiry</b>	19/02/2101
<b>Location:</b>	Rappahannock Valley, Maruia
<b>Forest Area:</b>	355 hectares
<b>Species Under Management:</b>	Red Beech, Silver Beech
<b>Approved Annual Harvest</b>	Red Beech - 859 m <sup>3</sup> (standing volume) Silver Beech - 227 m <sup>3</sup> (standing volume)

Yours faithfully

A handwritten signature in blue ink that reads 'Robert Miller'.

**Robert Miller**  
Manager, Operations



## **Sustainable Forest Management (SFM)**

The Forests Act 1949 provides for the sustainable forest management of privately owned indigenous forests in New Zealand through the issuing of SFM Plans and Permits. Sustainable forest management means the management of indigenous forest land in a way that maintains the ability of the forest growing on the land to continue to provide a full range of products and amenities in perpetuity while retaining the forest's natural values.

### **SFM Plans**

SFM Plans generally have a 50 year duration and provide for the long term management of the forest. They are registered on the land title and bind the forest owner or land holder. In addition to requiring harvests of timber from the forest to be sustainable, SFM Plans require replacement of harvested species, either through natural regeneration or planting, protection of the forest from fire, pests and weeds and maintenance of natural and amenity values, including flora and fauna.

### **SFM Permits**

SFM Permits are of a shorter duration (10 years), and provide for a capped maximum harvest of 250 cubic metres in total of timber from kauri, or podocarp or shade tolerant or exposure sensitive broadleaved hardwood species, and 500 cubic metres of beech or light demanding hardwood species. Where these quantities are more than ten percent of the timber of each species on the forest subject to the SFM Permit, the harvest is limited to ten percent in each case. Like SFM Plans, Permits require replacement of harvested species (either through natural regeneration or planting), protection of the forest and maintenance of natural and amenity values. SFM Permits must also be registered on the land title.

### **Annual Logging Plans**

Harvesting under a SFM Plan or Permit must be undertaken in accordance with approved Annual Logging Plans. These require coverage of such matters as:

- Selection and marking of trees to be harvested
- Approval of harvesting areas
- Approval of harvesting methods
- Requirements for protecting water ways or other special logging requirements
- Location of roads and landings

### **Auditing and Compliance**

MAF carries out periodic forest inspections and auditing of Annual Logging Plans for compliance purposes. MAF forestry officers have powers of entry and log seizure under the Forest Act. Penalties of up to \$200,000 may be applied by the Courts for some of the offences under the Act.