

## 1 Description

Nanoman Raw Timber is a Nanotechnology penetrating protective breathable sealer that is 100% all natural, nontoxic and eco-friendly. It is non-film forming and will not alter the natural beauty of timber. The water-based formula uses proprietary nanotechnology to form a flexible breathable barrier by coating the wood fibres at the cellular level. Once applied the nano particles self-organise to form an invisible protective layer on the surface and penetrate deep into the pores of the timber.

After applying Nanoman Raw Timber the timber acquires super hydrophobic properties, which effectively repel liquids and particles of contamination that would otherwise adhere to the surface and degrade the timber. It creates an invisible coating which does not affect the appearance or texture of the timber. It protects and stabilizes timber against water damage and decay while allowing it to age and grey naturally.

With its hydrophobic properties, Nanoman Raw Timber ensures the integrity of the timber is preserved by inhibiting rot, mould, moss and mildew growth. It makes it more difficult, if not impossible, for them to get a foothold onto the treated surface.

With the timber surface rejecting liquids, most contaminants are simply picked up by water (rain or manual spraying) and roll off the surface. Stubborn contaminants can be removed with water in most cases. Nanoman Raw Timber will not only protect timber from weather corrosion and rotting, it will also protect it against staining, whilst being unaffected by expansion and contraction. And as an added bonus it is UV resistant.

Once applied the SiO<sub>2</sub> (Silicon Dioxide) nano particles penetrates and bonds with the timber and creates long life protection of up to 5 years.

Nanoman Raw Timber can be used on raw internal and external timber surfaces and on timber that has already been stained or weathered previously provided appropriate preparation and sanding has been performed prior to application.

Nanoman Raw Timber is ISO 11507 certified and is industrial grade, suitable for both residential and commercial use.

## 2 Features and Benefits

- Breathability of timber surface remains.
- Prevents any water or other liquids soaking into the timber preventing weather degradation, rotting and the build up of mould and algae.
- Coats, penetrates and protects porous timber surfaces.
- Strong hydrophobicity (water pearls off).
- Strong non-stick properties (prevents the usual build up off contaminants).
- Excellent easy-clean effect (self-cleaning on external surfaces).
- Invisible to the human eye (coating thickness: 50 - 60 nm).
- Permanent (UV-stable, very resistant to abrasion).
- Simple one coat application via bush, roller or spray.
- Will not harm people, plants or pets.
- Environmentally friendly, non-toxic, VOC Free.



### 3 Applications

Nanoman Raw Timber is designed to be used on all types of unfinished interior and exterior wood surfaces to make them water repellent including:

- Timber decking and patios
- Outdoor furniture
- Building Materials
- Landscaping projects
- Indoor wooden surfaces and furniture
- Public parks and play areas
- Timber fences, features and walls
- Planters
- Plywood
- Shingles
- Wooden benches

Nanoman Raw Timber is not suitable for painted or varnished surfaces. Before applying to furniture, always check a small section to ensure the surface has not been coated with another sealant.

Some types of timber (merbau, redwood, cedar, and blackbutt) when raw, have a high oil content which may prevent the coating from penetrating into the timber. Before applying Nanoman Raw Timber to these types of timbers allow sufficient time for tannins to leach out naturally before coating.

Timber from a thickness of approx. 0.5 mm can be sealed with Nanoman Raw Timber. Timber veneer can also be protected with and achieves the same level of protection.

### 4 Directions for Use

**Nanoman Raw Timber can be applied by:**

- Brush
- Roller, or
- Sprayer (pump-up garden sprayer; air-assisted; and/or airless sprayer. Use 15-17 tip and medium to coarse spray pattern).
- HVLP (Nozzle size: 0.8-1.0 mm, pressure of 50-60 psi) (Usually provides best coverage for larger areas/items).
- Apply liberally ensuring that the whole surface is covered and the surface has a wet look after application.
- As a guide, use 50 - 80ml per m<sup>2</sup>, however this will depend on the absorbency of the particular surface.
- Allow to dry for 24 hours at room temperature (more time is required in high humidity).
- Do not use the surface or allow it to get wet during this time.

**Specific application instructions:**

- Ensure the surface is dry and free of dirt, dust and any contaminants. For older timber remove all pre-existing coatings and sand, clean/power wash surface to eliminate built-up dirt and grime before application.
- Shake bottle before application.
- For raw/unsanded surfaces spray or roll on enough coating to wet and cover all of the surfaces.
- For finely sanded surfaces spray the timber, but do not let it pool on the surface. Wipe the surface with a clean sponge to remove any excess coating.
- Allow to cure for 24 hours. Don't use the surface or allow it to get wet during this time.
- Amount to be applied depends on the absorbency of the substrate. (Avg. 60 to 80ml M<sup>2</sup>). Apply one coat only.
- Never scrub the coated timber surface. Remove liquid spills by dabbing with a damp cloth.
- For oil-rich timbers like Cesar, Redwood Merbau and Blackbutt allow the wood to leach out their tannins before coating.



### Cautions

- Do not use if air or surface temperature is below 45°F/7.22°C or above 95°F/35°C.
- Do not apply in rain or when rain is expected within 12-24 hours.
- DO NOT THIN. Mix well. Stir contents or shake thoroughly prior to use.
- Test a small area to ensure acceptable appearance and penetration.
- For best results, apply in the shade and out of direct sunlight.
- When applying in direct sunlight and wood surface is hot, spray with a mist of water and apply NANO immediately on dampened surface.
- Do not use with other waterproofing products.
- Apply in a dust-free environment to avoid surface contamination.

### Working Conditions:

- The wearing of protective gloves/protective clothing/eye protection/face protection is recommended when using this product. Final choice of personal protective equipment will depend upon individual circumstances and/or according to risk assessments undertaken.
- Consult SDS for proper handling, clean-up, disposal, and use of personal protective equipment.
- Please ensure the area being treated is well ventilated.
- Avoid breathing in spray.
- Store in a sealed container and keep away from children.
- Clean equipment immediately after using.

Protection of adjacent nonporous areas from overspray and runoff, including glass and metal is not necessary but it is recommended, that any overspray be wiped off with a dry cloth as soon as possible to avoid crystallisation.

## 5 Surface Preparation

To ensure maximum performance, it is important that the surface is completely clean, dry and free from dust and grease prior to application.

All surfaces should be cleaned before sealing for best penetration and performance. Remove all old coatings, dust, debris and loose material. Remove oil, grease, algae, grime, mill glaze and mould and mildew stains with appropriate cleaners. We recommend that all surfaces be brushed down and if necessary wiped or mopped down with a damp cloth. It is important that the surface is completely dry before applying Nanoman Raw Timber.

After cleaning, test absorbency of surface by sprinkling a few drops of water on the surface. If the water does not readily penetrate the surface, stripping will be necessary to remove old coatings prior to applying Nanoman Raw Timber.

## 6 Coverage

- As a guide, usage is 50 - 80ml per m<sup>2</sup>, however this will depend on the absorbency of the particular timber.
- A 250 ml bottle of Nanoman Raw Timber covers around 3m<sup>2</sup>.

## 7 Cure Time

- Drying time – Allow 2-3 hours for surface to dry depending upon temperature and humidity, (more time is required in high humidity).
- Allow 12-24 hours for drying.
- Do not use the surface or allow it to get wet during this time.



- The surface should be kept dry for 24 hours after application although it is water resistant almost immediately. It will reach its optimal performance after approximately 5 days. During this time, the microscopic nanoparticles will not only bond with the timber surface but will also penetrate deep into the timber.

## 8 Physical Characteristics

<b>Colour:</b>	Colourless to light yellow
<b>Flash Point:</b>	None
<b>pH:</b>	6-7
<b>Solvent:</b>	Water
<b>Specific gravity:</b>	1.002-1.006
<b>Odour:</b>	Odourless
<b>VOC Content:</b>	Not detected
<b>Coats:</b>	One coat application
<b>Boiling Point:</b>	>97°C

## 9 Packaging

Nanoman Raw Timber is available in:

- 250ml, 750ml trigger sprayer
- 1L, 2L, 5L, 20L containers
- 100L, 200L drums

## 10 Shelf Life and Storage

- Store in a sealed container and keep away from children.
- Unopened original containers can be stored for up to 12 months.
- Recommended storage and transport temperature: +5 to +25°C.
- Store out of direct sunlight and in a dry environment.

## 11 Safety Instructions

The instructions on the Nanoman Raw Timber Safety Data Sheet must always be followed.

- Please ensure the area being treated is well ventilated.
- Avoid breathing dust/fume/gas/mist/ vapours/spray.
- Store in a sealed container and keep away from children.
- In the event of eye contact, wash out immediately with water.
- Do not swallow. Seek medical advice if necessary.

## 12 Surface Maintenance / Cleaning

With Nanoman Raw Timber applied, there is no need to use expensive and environmentally unfriendly cleaners and detergents. In fact, these will only adversely affect the Nano coating. To clean the treated surface, we recommend to simply hose down with fresh water and/or wipe down using a soft wet towel.



### 13 Disclaimer

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. Users should satisfy themselves that it is suitable for their needs. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. As we cannot control or anticipate the conditions under which this product may be used, each user should review the information in specific context of the planned use. To the maximum extent permitted by law, Nanotech Products Pty Ltd will not be responsible for damages of any nature resulting from the use or reliance upon the information contained in this data sheet. No express or implied warranties are given other than those implied mandatory by law.

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