



MIROTONE

Leading the way in coating systems since 1938

Data Sheet

Date of Issue	23 Feb 2009
Document Ref	3125
Version No	49
Date Printed	30 Jun 2009

MIROLAC NC 3125 Universal White Undercoat



Important Information

Mirotone only warrants the quality of the product in the can. It is your responsibility as the user, before application, to ensure that the coating system meets your requirement and is fit for the intended purpose.

Environmental Health & Safety



- Formaldehyde Free
- Aromatic Hydrocarbon Free
- Aliphatic Hydrocarbon Free
- Isocyanate Free
- Phthalate Free
- Styrene Free
- Free of toxic heavy metals
- Complies with AS/NZS ISO 8124.3:2003 (Childrens Toy Safety Requirements)
- Complies with BS/EN71-3:1995 (Safety of Toys) Part 3. Specification for migration of certain elements.

Product Description

MIROLAC NC 3125 is an extremely fast drying single pack pigmented undercoat for internal wood and medium density fibreboard (MDF). It is aromatic free and contains no formaldehyde or phthalates making it safer for the user and the environment. MIROLAC NC 3125 has excellent sanding properties and is suitable for topcoating with a wide variety of topcoats including nitrocellulose, precatylised, acid catalysed, and polyurethane coatings. Ideal for curtain coating applications and for high volume coating applications. This product is designed for interior use only.

Features & Benefits

Aromatic Free:	Reduced greenhouse gas emissions and low toxicity solvents. Safer for workers and the environment.
Formaldehyde Free:	Safer for the applicator. Zero formaldehyde emissions in rooms in which coated articles are installed or used results in improved internal air quality.
Phthalate Free:	Ideal for children's toys. There are concerns regarding the potential adverse health effects of phthalates, particularly reproductive and developmental health effects. In the European Community (EC) three common phthalates are now subject to a near total ban in all toys and childcare articles.
Versatility:	May be topcoated with a number of Mirotone pigmented topcoats and is compatible with a broad range of other solvent and waterbased coating systems.
Fast Drying:	Enables increased production throughput.
Minimises risk of wax extraction:	This unique formula provides a fast drying, smooth, uniform finish over Medium Density Fibreboard (MDF) and High Density Fibreboard (HDF).
Good Build:	Enhances the finished appearance of the topcoat by sealing MDF fibres.
Easy to Sand:	Powders easily, ensuring the quickest time to sand, reduced labour cost and best possible surface for topcoating.
Excellent Flow & Levelling:	Results in minimal sanding time, less coating waste and low sandpaper consumption.
Single Pack:	Easy to use: no pot life issues to manage and less waste of product.

Typical Applications

For all approved topcoats:

- Domestic Furniture
- Internal Doors
- MDF Building Products (Door skins & Mouldings)
- Peg Board for Display Areas
- Children's Toys

Only when approved MIROBILD AC or MIROTHANE PU Topcoats are used:

- Kitchens
- Commercial Furniture
- Dining & Bedroom Suites
- High Rise Office & Hotel Fittings

Product Properties

Colour	White
Tinted Undercoat	Special colours will be made to order - minimum order quantities apply.
Gloss Level	Undercoat
Vertical Hang-Up	Very Good
Solvent Resistance	Resists splash and spillage of mineral turps but has poor resistance to industrial solvents
Sandability	Very Good
Build	Very Good
Water Resistance	Fair

Hardness	Maximum after 7 days
Levelling & Flow	Excellent
Sink Back	Minimal

Application Methods	
Suction Gun	Use 1.5 to 2mm (0.59-0.81 thou) orifice with 350-400kpa (50-55 psi).
Pressure Pot	Use 1.5 to 2mm (0.59-0.81 thou) orifice with pressure pot air-cap. Gun pressure 350-400kpa (50-55 psi) and a pot pressure of 45kpa (6 psi) max.
Airless Spray	Use 9 to 13mm (0.229-0.330 thou) orifice, 15cm fan (dependent on job) with regulated pump pressure of 350-400kpa (50-55 psi).
Air Mix Guns	Settings similar to airless spray with the air-assisted regulator pressure at 70-90kpa (10-15psi).
Curtain Coater	40-60 seconds viscosity with applied wet film thickness (WFT) of 150 micrometres. Consult Mirotone's Technical Service Department for full specification.


Mirotone recommends and supplies a range of spray equipment. Please contact your Mirotone representative for information on equipment for your application.

Recommended MIROSOL® Thinners							
Thinner Rating Guide							
••• Highly Recommended		•• Recommended		• Approved			
Speed of Dry (Listed Fastest to slowest)	Rating	MIROSOL Thinner	Aromatic Free?	Pack Size Available			
				4 Litre	20 Litre	60 Litre	205 Litre
Ultra Fast	••	MIROSOL 1234	Yes		*	*	
	••	MIROSOL 1286	No		*	*	*
Fast	•••	MIROSOL 1222	No	*	*	*	*
	••	MIROSOL 1280	No		*	*	
	••	MIROSOL 1232	Yes	*	*	*	
	•••	MIROSOL 1220	Yes	*	*	*	*
	•••	MIROSOL 1225	Yes		*	*	
	••	MIROSOL 1217	Yes	*	*		
	•••	MIROSOL 1252	Yes	*	*		
Medium	•••	MIROSOL 1294	Yes	*	*	*	
	••	MIROSOL 1263	No	*	*	*	
	••	MIROSOL 1265	Yes	*	*	*	
	••	MIROSOL 1266	Yes	*	*	*	
Slow	•••	MIROSOL 1242	No	*	*	*	
	••	MIROSOL 1260	Yes	*	*	*	
	••	MIROSOL 1218	No	*	*	*	
Ultra Slow	••	MIROSOL 1218	No	*	*	*	
Specialty Reducers	••	MIROSOL 1297 Retarder	No	*			

Thinner Reduction Rate
Thin 25-40% depending upon application requirements.
Note: In hot or draughty conditions Mirotone recommends that no more than 10% Ultra Slow Thinners is added. Exceeding this amount will retard the drying and could lead to problems with sanding, printing and blocking. Use faster thinners to achieve required viscosity and then use (only if required) a small amount of Ultra Slow Thinner to improve flow and levelling.

Application Viscosity & Wet Film Thickness
Spray only in properly constructed and compliant spray booth.
Spraying Viscosity: 20-30 seconds BS4 Flow Cup at 25°C.
Wet Film Thickness: 125-175 microns wet film thickness per coat.

Approximate Drying Times @ 20°C	
Dust Free:	5 minutes
Touch Dry:	10 minutes
Sanding:	25 minutes
Hard Dry:	16 hours to overnight depending on application thickness
Block Stacking:	16 hours dependent on WFT and temperature
Full Cure:	48 hours

 **Note: Low temperatures or heavy film thickness may retard drying times.**

Force Drying Procedure	
Flash Off:	10 minutes @ 20°C
Force Dry:	30 - 45 minutes @ 40-50°C (dependent on airflow)
Cool Down:	10 minutes @ 20°C
The above temperatures are dependent on airflow.	

Shelf Life
MIROLAC NC 3125 Universal Undercoat has 12 months shelf life when stored in sealed containers below 35°C.

Coverage (theoretical)
3 m ² per litre at 100% transfer rate when applied with a conventional spray gun at 125-150 micron wet film build applied at 25 seconds BS4 application viscosity. These measurements are dependent on the application equipment / gun set-up and the articles being coated. Note: The above coverage is the maximum rate possible and will vary dependent on the application equipment set up and total wastage.

Packaging		
Product	Can Size	Net Contents
MIROLAC NC 3125 Universal Undercoat	4 Litre 20 Litre	4 Litre 20 Litre

Application Equipment Clean Up							
Clean all equipment immediately after use with any of the MIROSOL thinners listed below. Do not leave MIROBILD AC acid catalysed, MIROTHANE PU polyurethane or MIROPOL PE polyester coatings in your equipment longer than the recommended pot life as this could result in the equipment becoming unusable.							
Gun / Equipment Wash Rating Guide							
		••• Highly Recommended	•• Recommended	• Approved			
				Pack Size Available			
Speed of Dry (Listed Fastest to slowest)	Rating	Thinner	Aromatic Free?	4 Litre	20 Litre	60 Litre	205 Litre
Ultra Fast	•••	MIROSOL 1208	Yes		*	*	*
	••	MIROSOL 1215	Yes		*	*	*
	•••	MIROSOL 1234	Yes	*	*	*	*
	•	MIROSOL 1286	No		*	*	*
Fast	•	MIROSOL 1222	No	*	*	*	*
	•••	MIROSOL 1224	Yes	*	*	*	
	••	MIROSOL 1280	No	*	*	*	
	•••	MIROSOL 1232	Yes		*		
	•	MIROSOL 1220	Yes	*	*	*	*
	•	MIROSOL 1225	Yes		*		
	•••	MIROSOL 1217	Yes	*	*		
Medium	•	MIROSOL 1252	Yes	*	*		
	•	MIROSOL 1294	Yes	*	*	*	
	•	MIROSOL 1263	No	*	*	*	
	••	MIROSOL 1265	Yes	*	*	*	
Slow	••	MIROSOL 1266	Yes	*	*	*	

Application System
<p>Surface Preparation</p> <p>All wood and wood related substrates must be free from dust, grease, dirt and all other contaminants before proceeding. Contaminants may be removed by washing the substrate with MIROSOL 1231 Medium Thinner which is ideal for removing wax and grease. Fill all wood defects with MIROPUTTY 916 water based wood filler (i.e. cracks, holes, etc) or fill open grain woods with MIROFIL 1702, if a full finish (closed pore) high build finish is required.</p> <p>Sanding</p> <p>Wood Substrates - Sand to a smooth even finish using 180-240 grit 3M Production Fre-cut paper. MDF Boards - Sand to a smooth even finish using 240-320 grit 3M Production Fre-cut paper. Melamine coated MDF - Due to variations in Melamine coated boards, Mirotone recommends that all Melamine coated surfaces be thoroughly sanded to an even dull surface with new 180 grit Fre Cut sand paper to ensure adequate intercoat adhesion. Remove all sanding dust using an air gun and clean lint free cloths.</p> <p>Undercoating</p> <p>Undercoat substrate with MIROLAC NC 3125. Undercoating MDF: When undercoating raw MDF MIROLOK SB 3511 is recommended to reduce problems associated with wax extraction and stress cracking on routed components and edges. Apply one light coat then allow a 10 minute interval before sanding with 320 grit fre-cut paper to remove any raised fibres from the MDF. Sand MIROLOK SB 3511 to a smooth finish and apply MIROLAC NC 3125 in even coats to achieve the desired film build, maximum total wet film thickness 125-175 WFT per coat. Allow a minimum of 30 minutes to dry and then sand with 280-320 grit 3M Production Fre-cut paper. Time required before sanding is temperature and air flow dependent. Remove all sanding dust using an air gun and clean lint free cloth.</p> <p>Topcoat</p> <p>MIROLAC NC 3125 Universal Undercoat may be topcoated with:</p> <ul style="list-style-type: none"> MIROLAC NC 3150 Pigmented Topcoat

- MIROBILD AC 3750 Pigmented Topcoat
- MIROBILD AC 3770 Pigmented Topcoat
- MIROTHANE PU 5650 Pigmented Topcoat
- MIROTHANE PU 5605 Pigmented Topcoat
- Most commonly used decorative solvent and water based enamels

Caution: If using a product other than a Mirotone topcoat it is up to the user to test the product prior to top coating to ensure system compatibility. Some coatings may contain ingredients that reduce the adhesion of the full coating system including the primer.

Apply topcoat per the relevant product Data Sheet.

Warnings

Follow Directions: Carefully read the contents of this Data Sheet and the associated Material Safety Data Sheet (MSDS). Please do not apply this product unless:

- You have a Material Safety Data Sheet (MSDS) in your possession.
- You fully understand these important documents, and
- You are prepared to follow all directions.

Not Recommended: This product is not recommended for the following applications:

- Exterior exposure
- Bar and counter tops
- Kitchen bench tops
- Bathroom vanity tops
- High humidity and / or wet areas

Product Testing: This product has been tested for adhesion in Mirotone's own NATA accredited laboratory over commercially available MDF panels to AS1580 408.4: Adhesion (cross cut) with a rating of "0". This rating indicates the highest coating performance of 100% adhesion to the substrate. However, be warned that subsequent topcoats applied over this sealer may reduce this rating. As Mirotone has no control over the types and amount of coating subsequently applied, users must satisfy themselves regarding the suitability of this product to meet their specific market requirements. To reduce the potential for failure in the field, Mirotone strongly recommends it's customers carry out regular and appropriate quality control testing of their production output.

Harsh In-Service Environments: For harsh in-service environments Mirotone recommends the use of MIROTHANE PU 5545 Clear sealer with MIROTHANE PU 5555 Clear topcoat or MIROTHANE PU 5625 or MIROPOL PE 5110 & 5111 pigmented undercoat with MIROTHANE PU 5650 or 5605 pigmented topcoat.

Damage caused by sharp objects: Coatings can be damaged by sharp objects. Due care should be taken in harsh in-service environments to protect the coating e.g. use placemats, coasters, table cloths or other protective coverings.

Recommended Coating System: For superior coating properties and in-service performance, Mirotone recommends the application of one sealer coat followed by two coats of an approved topcoat. Alternatively for high volume production environments a two sealer / one topcoat system may be used but this will lead to reduced physical properties of the coating system. In clear coating systems excessive application of sealer or topcoat may result in milky or cloudy appearance in the final finish.

MIROSOL Thinners: The use of any thinner other than the approved list on this data sheet will void any warranty that Mirotone may offer. Refer to Mirotone's Technical Bulletin "Mixed Coating Systems".

High Humidity and Moisture In-Service Environments: All wood will swell and discolour if allowed to come into contact with water vapour. The protection provided by a coating is dependent on the moisture transmission of the coating and on the thickness of the dry coating film applied. Coated sharp edges are usually the most vulnerable to damage either from the coating being removed or by inadequate film builds in high wear / traffic areas. Special care during sanding and coating should always be given to sharp edges as the coatings do not build as well onto them, resulting in reduced protection in high moisture environments.

Damp Wood: Do not apply coatings over damp wood (moisture content greater than 15%) as the following may result:

- Loss of adhesion to the wood
- Cracking or veneer checking of the wood
- Frying of the coating system, particularly with Acid Catalysed systems

High Humidity at Time of Application: Application of coatings at high humidity will:

- Speed up the drying process and reduce the pot life of polyurethane coatings.
- Increase the risk of blooming (whitening).
- Blooming may occur if the coating is applied over damp wood or exposed to water or dew during the first hour of drying.

Milkiness: Coating systems using multiple coats of any sealer will increase the risk of the dry film appearing milky (especially when applied over dark stains or woods) and may result in white marking if the film is damaged by sharp objects.

Cold Temperature: Application of any coating at low temperatures will reduce the general in-service performance of the coating due to reduced cross linking of the coating. Application of MIROTHANE PU or MIROPOL PE below 15°C and MIROCAT PC or MIROBILD AC below 10°C may affect drying and the gloss level of the coating.

Inter-coat Adhesion: To ensure sound inter-coat adhesion, thoroughly sand between coats. To reduce the potential for adhesion failure in the field, Mirotone strongly recommends it's customers carry out regular and appropriate quality control testing of their production output.

Bridging: On routed MDF panels and doors DO NOT exceed the recommended wet film thickness, as cracking or bridging of the dry film in the grooves may occur.

Gloss Level: Care must be taken to apply a uniform wet film thickness (WFT). Gloss level is dependent on WFT and will be lower at low WFT and higher at high WFT.

Handling: The transfer of oils or fats from the skin to the surface of the coating may leave visible finger prints on dry coatings. The lower the gloss level and the darker the colour the more visible the finger prints will be. Therefore use of dark low gloss colours should be carefully considered. In most cases Mirotone's Sprayglow will remove finger prints.

Buffing: To improve gloss level of topcoats use light hand or machine buffing/polishing with the 3M Perfect IT polishing system. If sanding of the coating is required to remove surface defects, the panel must be sanded and resprayed in a dust free environment.

In Can Appearance: Clear coatings in subdued gloss levels (matt, satin & semi-gloss) may have a slightly milky in-can appearance.

High Gloss: MIROLAC NC 3121 is not recommended where a very high gloss topcoat finish is required. For high gloss finishes in MIROBILD AC or MIROTHANE PU, the user must refer to the appropriate Mirotone Data Sheet for the topcoat and apply the recommended MIROBILD AC, MIROTHANE PU or MIROPOL PE undercoat.

Health & Safety

Refer to Material Safety Data Sheet (MSDS). MSDS sheets are available at www.mirotone.com

Ensure that all Personnel using this product have read and understood this data sheet and the associated MSDS and packaging label before using this product.

Engineering Controls: Avoid inhalation of vapour or sanding dust by maintaining adequate ventilation. Avoid pockets of vapour. This is normally achieved by applying in a well-exhausted spray or sanding booth complying with AS 4114. If inhalation risk exists (e.g. spraying) the operator must wear a half-face respirator complying with AS1716 (type A/P) and use in accordance with AS1715.

Personal Protection: Contact with any chemical should be avoided. Avoid contact with skin and eyes, and avoid breathing the vapour or spray mist. Wear suitable protective clothing including rubber or PVC gloves and safety goggles. When using, do not eat nor smoke.

Mirotone Accreditations

Research Laboratory: Mirotone's head office research laboratory in Sydney, Australia holds N.A.T.A. accreditation No. 865 under ISO/IEC 17025:1999 General Requirements for the Competence of Testing and Calibration Laboratories.
N.A.T.A. - National Association of Testing Authorities

Quality System: Mirotone is N.A.T.A. certified to AS/NZS ISO 9001:2000 Quality Systems for design and manufacturing.

Mixed System Policy

A Mixed System is:

Where any coating or additive manufactured by another coating manufacturer is applied under, between, in, or on top of, coatings manufactured by Mirotone. [Additives may include thinners, retarding solvents, hardeners, flow additives, stains or catalysts]; or

Where products manufactured or supplied by Mirotone are used in a manner not approved or recommended by Mirotone on its labels or Data Sheets.

Policy: Mirotone will not recognise any warranty claim from customers or third parties if any Mirotone product has been used in a Mixed System. Mirotone can only warrant the quality of its own range of coatings when used in strict accordance with the recommended coating systems thinners and additives stated on Mirotone's labels and Data Sheets.

Limitation of Liability

This Data Sheet is based on information in Mirotone's possession at the "Date of Issue" above. Later experience may lead to amendments. Users should check with Mirotone to ensure that this Data Sheet is still current.

The information contained in this Data Sheet is based on data appraised in our Laboratories and on our own research, and that of others whose work we believe is reliable. Due to possible differences between controlled laboratory test conditions and methods, and actual application conditions and methods, coupled with possible differences in interpretation of results, the user of this product must satisfy himself that the end result obtainable under his particular application conditions meets his requirements. Special attention is directed to the problem of chemical compatibility, as Mirotone can control only the quality and formulation of its own materials. Mirotone has no control over quality, formulation or consistency of other manufacturers' products or the substrate to which its product is applied. Therefore Mirotone supplies its products only on condition that the consumer himself is satisfied as to the performance of the product in meeting his particular requirements.

Mirotone Contact Details

Australia (Mirotone Head Office)

Mirotone Pty Ltd
21 Marigold Street
Revesby, NSW, 2212
Australia
PH: +61 2 9795 3700
Fax: +61 2 9771 3601

Malaysia

Mirotone (Malaysia) Sdn. Bhd.
No. 9 Jalan Sejahtera 25/124 Section 25
Axis Premier Industrial Park
40400 Shah Alam, Selangor
Malaysia
PH: +60 3 5124 6136
Fax: +60 3 5124 6137

China

Guangzhou Haosen Trading Co Ltd
Rm 2705, B Building, Gao Ke Mansion
North of Tian He Road Guangzhou
Guangdong
China
PH: +86 20 3828 9789
Fax: +86 20 3828 8210

New Zealand

Mirotone (NZ) Ltd
32 Cryers Road
Auckland 1730
New Zealand
PH: +64 9 272 2730
Fax: +64 9 272 2733

Chile

South Trading & Services S.A.
Avda. Ricardo Lyon 3505
Nunoa, Santiago
Chile
PH: +56 2 205 5412
Fax: +56 2 223 4369

Philippines

Cebu Furnitech Marketing Inc
Francisco Yang Building
Warehouse #1 & 2 Mabini Street
Looc, Mandaue City 6014
Cebu Philippines
PH: +63 3 2420 2968
Fax: +63 3 2346 0616

India

Forhands International
3 Kothari Complex
Basni Road, Opp Diesel Shed
Jodhpur-342005 (Rajasthan)
India
PH: +91 291 325 0563
Fax: +91 291 263 7148

Thailand

Mirotone (Thailand) Co., Ltd.
83 Moo 4 Poochaosamingprai Rd
Samrong Klang, Prapradaeng
Samutprakarn 10130
Thailand
PH: +66 2 754 4451

Email: forhandsinternational@gmail.com

Fax: +66 2 754 4450

www.mirotone.com

