NYALIC®
Spacecraft Proven Protection

**PRODUCT MANUAL**

**The matt green panel is the side of a John Deere Harvester at a dealership in Goondiwindi.**

The factory paint has perished but is shown reflective and rejuvenated at the left… See the reflection of the picture taker. **That magic is NYALIC**

**call Jeff 0420 982 329**

NYALIC®
Clear Surface Protectant

# THE SHORT MANUAL


# But this is Colour?

Exactly - How does Nyalic® do that?

As Nyalic® is 100% Chrystal Clear, hopefully this short manual will explain how Nyalic has so many uses. Fixing faded coloured paint is just one use!

Nyalic works very well with colours - LINFOX Red is somewhat dramatic, the restoration actually confounds normal logic.

**A liberal application on a very old PAN-TECH box trailer... the old thing came back like new... this is quite astounding!**

**Astounding ~ even more so when you consider the Pan-tech is clad in fibreglass**

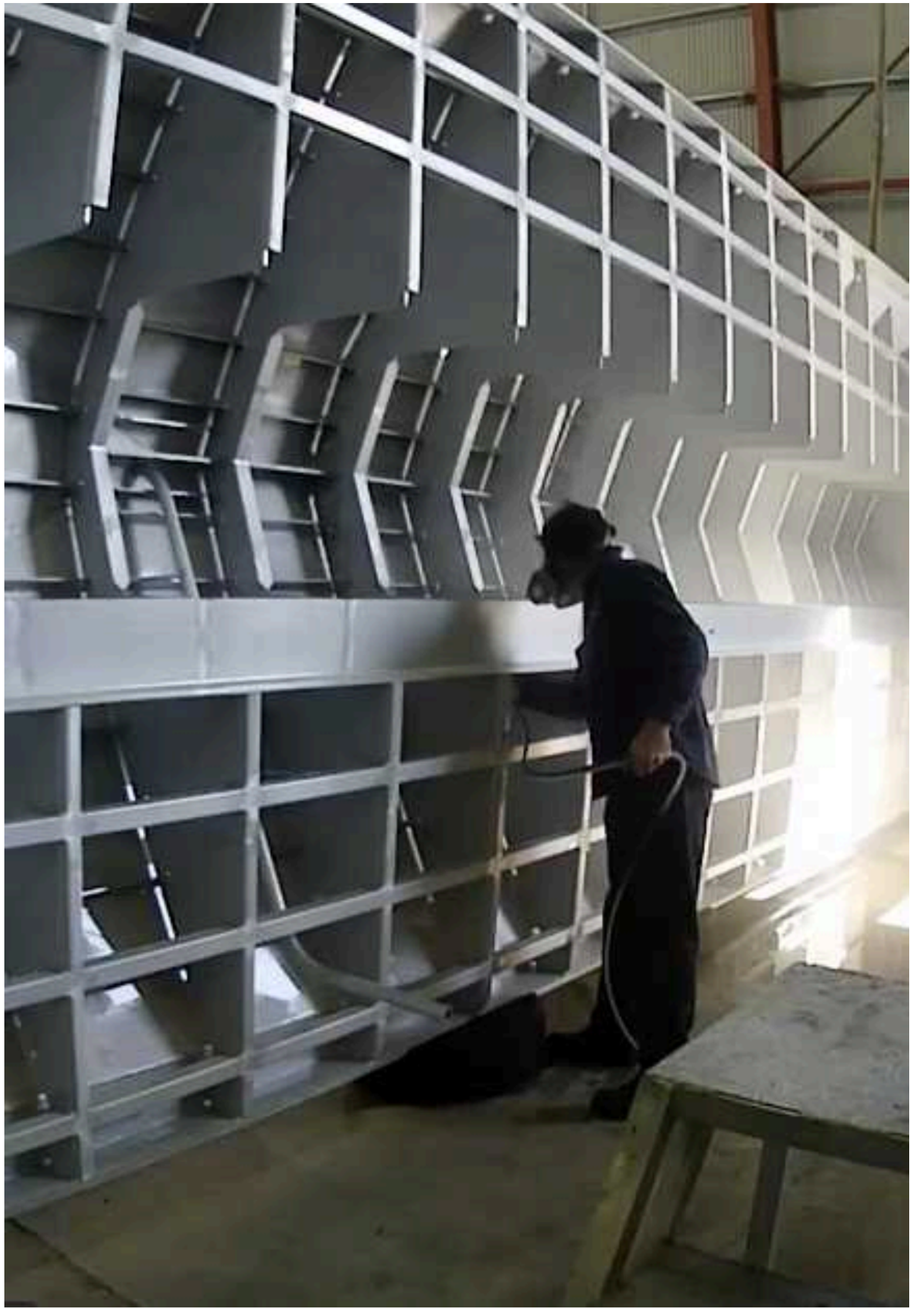
Developed over 50 years ago for the Apollo space program, Nyalic is more than a clear coat surface protectant.
It is high-performance technology developed to protect metal and painted surfaces from corrosion in the most extreme environments.

# Nyalic® is very good on boats

This hull being coated at Yamba is coated inside and out with Nyalic® to protect the vessel from corrosion.

Why inside? Because they rot from the inside outwards!

The crew at Yamba Welding & Engineering in the seaside metropolis of Yamba build some great patrol craft. Framed and welded solid!






# Big ones - small ones

- One built in Geraldton
- One built in Tasmania
- One built in Fremantle

All great units to work hard ~ built tough and by professionals …

**All Nyalic® over-coated**

# Pre-Prep of the surface

## When we say “clean”… we do mean “clean”

You decided you want Nyalic, so you came to us for corrosion protection. That says you put a value on your asset, so let us explain the need to do things to a process.

Nyalic® application is easy at every step but look at your project a little clinically.

If we say - get it clean, we mean clean!. There is nothing worse than doing a really good job and discovering a streak, or at worst a grandchild's handprint slap bang in the middle of job...

Nyalic is a Clear Coat which provides you corrosion protection.
Yes, a 100% Clear-Coat and like all clear coats, it will hide **nothing**!!!

Commercially there are various cleaning and pre-treatments available. Some people like acid wash, some don't! Everybody has a friend with great ideas as well, but these are our opinions. We know 'our' way works!

**The best cleaner for metal is soap and water**.
There are many soaps you could use but be wary. Things which people use for degreasing may contain chemicals that are not good for you...




Do you wonder why half the Mortein tin stayed shiny, as it happens, one half was Nyalic over-coated. One half wasn’t. **No oxygen can reach the surface, so you see no rust!**

A particular commercial truck wash used in volumes of 000's of litres - we know it contains GLYCOL... Not only does that knacker paint, it is not very EPA friendly!

Our company products Simple Prep™ and Right Rinse™ have been created expressly for cleaning metal and other substrates. Neither was designed to "etch" your surface...

They were explicitly created to pre-clean and create the optimum neutral surface for a Nyalic application.

For quick jobs you can substitute these cleaners - By grabbing some *SIMPLE GREEN* available from Bunnings - Thin this down with water and rinse slowly to achieve similar results - cheaper as well!

If you have issues, call Jeff on 0420 982 329, and we can talk through any questions

In NZ call John on 0800 692 542 (Nyalic)

# Fact & Myths

Everybody has a friend who uses Penetrol or Tectal or Lanolin, even Fisholene…
**These all have a place**, Nyalic is just better, cleaner and more long term.

**Fact**: Some aluminium is very prone to corrosion in aggressive environments. That is why over the years we started to paint the surface - and now why we use Nyalic to solve the corrosion problem.
We seal the aluminium to stop the atmosphere getting to the surface of the alloy.

**Fact**: By its nature, traditional paint has a habit of being ejected off the surface - sadly its also true that over time all coatings break down and allow moisture to ingress - i.e. sneak under - A corrosion  reaction occurs and whoops - your paint falls off! Unfortunately, the humidity helps give us corrosion and the bubbles under the paint!

**Fact**: Paint and Nyalic have quite different properties - Nyalic is a mix of proprietary polymer and is in reality NOT a paint.
The Nyalic polymer, when correctly applied bonds to the aluminium, at which point then water H2O and corrosive salts cannot get under the coating!! Hence you see no corrosion - no access for air, the polymer does not pop off. Apply Nyalic right - it solves a heck of a lot of problems

Recapping, Nyalic coating encapsulates the metal when the surface is prepared and is correctly done.  Nyalic gets into the pores of the metal and locks out the Oxygen O2. No Oxygen. No salts, no problems!

**Fact**: Most aluminium corrosion is aluminium oxide; **this a sturdy material that actually protects the aluminium from further corrosion**. **It is natural and part of aluminium**.

Aluminium oxide corrosion nodules look a lot like a dull grey to powdery white. Oxide nodules can scratch your skin and look terrible, so it is can be advantageous to stop this action.

**Fact**: Aluminium, when it is delivered new to a factory, is often wrapped in plastic to stop the air and moisture. The same process as what Nyalic does, we must all be onto something!
Even when wrapped in plastic, all metal is dirty., there will be mill oil or something so, even your new boat will always need a wash before you start doing anything.

**Fact**: Aluminium surfaces to be coated with Nyalic must be clean, dry and free of any oil, films, grease, silicones and wax.

An example. At every boat show, many a vendor or salesman will polish a brand new alloy boat for a quick sales presentation.  No finger marks - look pretty etc. Typical sales 101, all-flash performance.

All the cleaning product needs to be removed - who knows what was used... hence you need to clean well with each and every coating job. Silicon wax does not like Nylon or Vinyl - its simple school chemistry and better to be a little fussy with your preparation efforts!

**Fact**: Contaminated surfaces may not allow proper adhesion leading to protection failure. Pretty basic stuff.

Wash off the natural aluminium with a solution of water - Simple Prep and Right Rinse will help remove all of these products.

Good potable rinsing water is paramount to a successful job.  And never forget that recycled water is not always pristine...
Myth: Recycled water is always drinkable or potable? Heck no!!! All water sources vary in quality and a water test is a great idea.

How do we know? At a very professional shipyard with recycled water systems, we re-tested their supposed perfect water ... We found it was contaminated with paint thinners.

Even in different states, you may need to question if the water is hard or worse, filled with odd “stuff”..... If you have any worry at all, just grab the phone and call your Nyalic Guy.... We have lots of history world-wide.

Our team are more than happy to assist in assessing water quality and systems in any warm country for both an exorbitant fee and first class airline tickets. Just joking! **Taste the water**!

Mostly.. preparation of raw metal it is clean - clean - ensure the rinse water appears to ‘sheet’ off the surface... No beading effect like when you hose down your freshly waxed car!
“Sheeting” - you will know this effect as soon as you see it... It's not complicated.
Myth: it is a myth that using a gas flame heater will help you getting a surface dry... It will get the surface dry eventually, but it wont help you much. Flame and gas can fill the air with soot - the soot will settle on your surface and you will need to start all over again.
Personally, my wife's hairdryer has been used most effectively to blow air out of cracks and I have used some


of her old towels. Just don't use her favourites!... Lastly be careful with cold “steel” on cool days, you don't want to trap water!
When your surface has been properly cleaned - it is best from this point on not to touch the metal with a bare hand. Your sweat will leave oils on the surface. I have seen the perfect paw print of an 8 year old grandson imbedded under a Nyalic coating!

Good gloves can save a lot of heartache and recontamination!

# Methods of application

So... **we recommend that you always wear gloves** - cheap nitrile or vinyl from the supermarket are great... Use them AND regularly change them!
Note: When wearing gloves - Always "double glove" - invariable a finger in a glove will break and having a second glove underneath not only saves you, it even seems to make the gloves last longer.

You can spray - brush - roll or even wipe using a lint free rag. Yes… and use any low pressure SPRAY GUN

Nyalic is easy to apply and you can use any of these methods.
Nyalic can be successfully brushed using foam type applicator brushes, these you can buy in various sizes. Personally, while most hardware stores have vast choice, we do not wish to offend anybody but... Asian foam is not always as good as good old Australian. We have even purchased great foam brushes from a craft shop.

If more than one coat is to be applied ensure that the first coat has adequately dried before doing any re-coating.
Drying - Generally, 20 minutes when sprayed 16 deg C is adequate but this will vary due to prevailing conditions humidity etc.
In New Zealand, you may have 16° C, in Australia 28° C - in Atlanta 77° F and in Dubai 55° C.

**The local dry time is important as are ambient conditions - talk the issue of any local humidity through with your Nyalic Guy.**
Any brush or roller used to apply Nyalic must be made to withstand solvent reaction so, check with manufacturers. Our comment about foam brushes rings true with rollers... Cheap is not always the best but the decent local brand is normally fine... Take the choice that your paint guy suggests for enamel...
Best are solid foam - and most are double-ended...


The use of bad rollers can promote bubble lines in the applied Nyalic. The

# Cloth Application

**Mandatory here to use Gloves, you do not want contamination of the product.**

Dip the rag into the Nyalic, squeeze out rag until just enough product is left ... so that it doesn't run... Wipe on an area approximately 100 x 100mm.

An effective applicator for use on stainless steel or aluminium railing can be made with a 100 mm 50 mm x 10 mil thick poly foam encased in a piece of terry towel (white) larger than the sponge and easy dipping into Nyalic. These are very good for wiping rails.

**Runs and Sags**
Because Nyalic is so thin, runs and sags may take several minutes to appear.

When applying you should go back over areas you have coated to check for runs and sags. They are easy to fix ... simple by brushing or even rolling them out. You can remove by wiping through them with a lint free rag and the re-touching the spot up by roller or brush.

If one discovered after the point where Nyalic has dried to the touch, these are still easy to fix... Wipe the affected area with either additional Nyalic or Xylene solvent.

Do you think this sounds odd... Softening Nyalic with Nyalic??? Not at all!!

- **One of the greatest features of Nyalic is that it is "self annealing"....**

  and the benefit to you is....

- **Being self annealing, Nyalic is 100% repairable into perpetuity.**...


You simply re-coat if you ever wear or damage a section ...

Fix a run or sag - just follow the simple steps suggested..

**Removing Nyalic**?
If it becomes necessary to remove Nyalic from a surface, the best method is use of a lint free cloth dampened with Xylene. Clean white handkerchiefs are also great but not all that popular at home....

The key to removal is a lint free! Washed white towelling material is perfect. Wipe the rag across the surface to begin to loosen the Nyalic. Make smooth even strokes. It may be necessary to go across the surface several times - and it will come off easily.

**Writing every little nuance about coating in a manual might baffle a few people.. A quick call to your local Nyalic Guy will probably give you an instant answer... Call, we don't bite!**

Having us typing long emails to you or using stuff like messenger or facebook - we are now old men! - **just ring, it saves us all time!**

**A Nyalic application is just all sensible clean methods and good common sense.**
Deceptively uncommon!

# ACID WASH

## Shiny alloy or acid wash? EASY

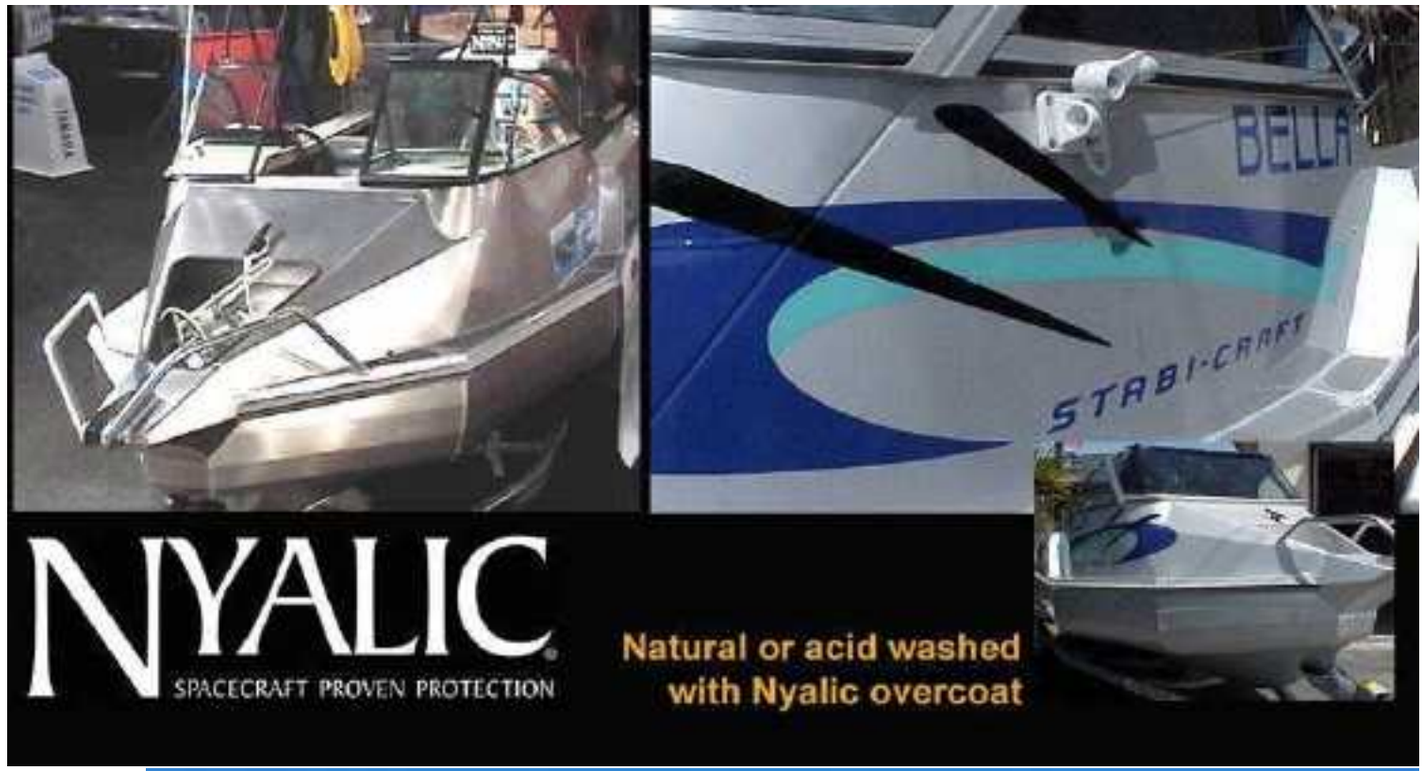
Boat at left coated by Jeff, the other coated by John, both Stabicraft. The boat at left was washed with soap and water - dried then roller coated with Nyalic.

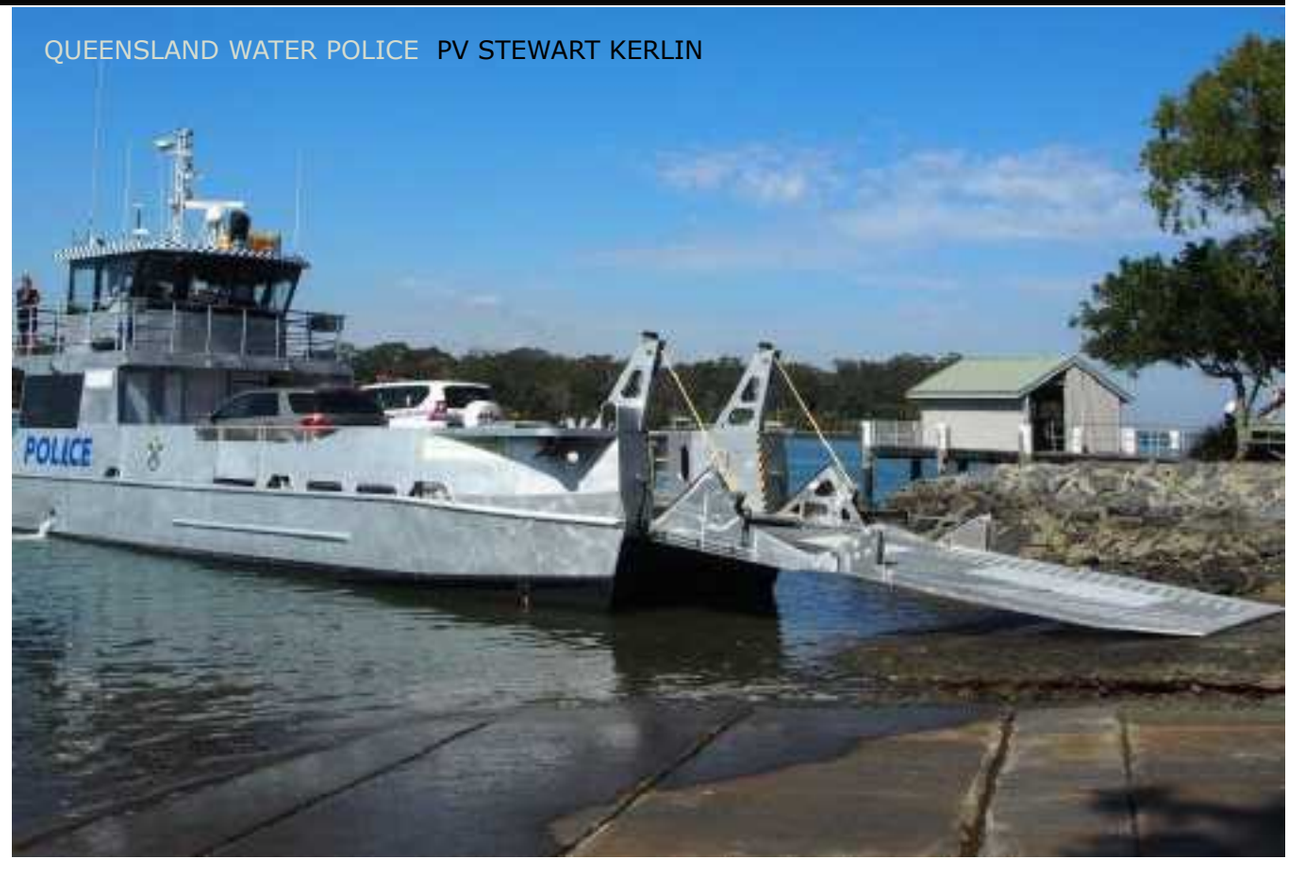
Result being we had a super shiny bright boat for display at the Sydney Boat Show.

It gleamed and the metal did not show the finger marks. The perfect boat for display..

The vessel at right was cleaned first with a soap and water wash - then, while still wet, it was acid washed using a phosphoric acid mix. *Incidentally it was acid washed with the decals on.*
What was previously reflective metal was dulled to this battleship grey patina. After a bicarbonate of soda rinse, this vessel was then sprayed with Nyalic®.

John is better on HVLP spray than Jeff but either way, the Nyalic was laid down on the surface and extremely good corrosion resistant results achieved for both.



# We do coat a few vessels

QUEENSLAND WATER POLICE



OFFSHORE UNLIMITED EXMOUTH

AUSTRALIAN BORDER FORCE

# Spray application - more

And yes, Nyalic does shine up a big orange tractor

**SPRAY! SO MANY OPTIONS**

Any of the spray systems we mention are suitable for the application of Nyalic …

**HVLP** high volume low pressure systems provide the best and most cost effective medium for applying Nyalic. Gun setup can be either **pressure pot** or a **top loader gun**. In either case a 1. to 1.5 cap should be used. In all cases filters for oil and water contaminates are always required.

**Conventional Air Spray** - either top loading or pressure pot can be used, the air cap and needle should be in the 1 to 1.4 range.

**Air Assist** - for volume production and large jobs this system is ideal. Again any setup with a 1 to 1.4 mm air cap.

We have even used **Wagner** units with success. Just be aware of your tools and understand them and the situation. When out doing a FIFO job, these Wagner's have done quite remarkable jobs and large projects at that... Cheap enough to throw away.

The most important message we offer... Ensure that the last product you put through the system, and all the thinners are well cleaned out of the unit.

- When working, make a note that humidity above 85% may slow your dry time - it can even create a squalling effect.
- Ventilate - have plenty of air so that vapours are removed. The old story OH&S and sources of ignition, you are dealing with vapour... Uncommonly common sense is all you need.
- Have a copy of the MSDS with you.
- Nyalic is applied at the rate of 30 - 33 m² per litre getting a wet film thickness of approximately .5 mils. The dry film fitness will be approximately 5 microns.
- Spray the area from top to bottom using a back and forth horizontal pattern. If the Nyalic is allowed to overlap be sure that all overlaps occur before the resin dries to avoid a dry spray effect.
- Usually one coat is as good as multiple coats on aluminium. It more than one coat is desired, the first coat should be dry to the touch before applying an additional coat.

**Spray or roller will give on average between 28 to 30 Sg M of coverage on a pristine clean surface**

# Things to note

**Do not apply to glass., We accept no responsibility when people put it on windscreens**

It's best not used over silicon.

Call us about the chemistry solution to save you time

**We DON'T recommend thinning Nyalic. If its really hot and you need advice - just call**

## HAVE YOU EVER CONSIDERED **HOW YOU MISTREAT YOUR BOAT** TRAILER AND **THE WHEELS!!!**

Dragged out behind the car - dunked in the water...
Left in the trailer park in sun all day - still covered in salt.

Dunked again... Dragged home - washed roughly and then you wonder why the wheels rust ..

Take them off the trailer, you can leave the tyres on.....

- **Scrub the rims down...**
- **Dry them off.**
- **Nyalic them inside and out**

**Why don't you Nyalic your alloy trailer.** This example show the instant benefit

The hull is Nyalic coated. The trailer is not... and after a trip to Cape York and Darwin, the trailer stayed red.

# WALKWAY @ GERROA

**The project** - create a 250 metre alloy bridge construction as used in Internal marina’s.

**The position**.. Over the Crooked River, the estuary and beach.  Being tidal the construction needed be the best available. Box alloy was welded in lengths, bolted together in sections and then coated with Nyalic clear for corrosion protection against the elements.

- Marine alloy fabrication built for wild southerly coastal conditions with high rails and stanchions
- Designed by recognised marina constructors
- Assembled and erected to support the local community

Every time there is a good southerly, this bridge gets a hiding. Yet it still shines and defies the elements.

# The Story Of Nyalic®

We’re a small company with a big idea: a clear, permanent protectant that prevents rust and corrosion from robbing the life and value of your equipment. It wasn’t an overnight idea. Over 50 years ago, we traveled to the moon and back to perfect our formulation. As part of the Apollo space program, Nyalic was the only product proven to protect in the most extreme conditions.

Today, our proprietary, high-performance formulation protects critical equipment here on earth from agriculture to construction, transportation to marine and much more. We can help protect your corner of the universe too.

## Our Secret Formula is Your Secret Weapon

Nyalic is not a paint or temporary coating. It bonds to exterior surfaces as well as critical internal components forming a clear, permanent seal.

Under the hood, Nyalic performs like a conformal coating, yet is ultra-thin, allowing heat to escape so sensitive electrical and mechanical components remain cool. Our unique formulation is exceptionally durable and won’t yellow, crack, peel or flake. It’s easy to apply and delivers professional results.

Whether it’s the unforgiving fields of America’s heartland, the rugged waters off the New Zealand coast or the corrosive salt mines of the Mississippi River Valley, where working conditions get tough, Nyalic gets to work. With Nyalic, you can avoid crippling downtime, reduce maintenance costs and protect your investment, season after season

## Put Nyalic To Work For You

Nyalic is fit for your operation, regardless of size. Our convenient  aerosol cans are perfect for smaller equipment like mowers and all-terrain vehicles as well as field repair and touch-ups. For larger equipment like tractors, skid steers, dozers and sprayers, we cam offer complete Do-It-Yourself kits.

For fleets, larger jobs, or on-site applications, we can have one of our professional applicators come to you.

**Aust call us on  0420 982 329 or** jeff@nyalic.com.au **today.**

**NZ Call us on 0800 692 542 or** john@nyalic.co.nz

*Image Credit: NASA*
*Bill Anders Apollo 8 1968*

# Appendix

## TUFF PREP™

We talk about a cleaner called TUFF PREP™ for cleaning up of Gel coat and other surfaces. We discovered we have an odd anomaly in that our company "powder based" system is now a gel base… Thus it is now Pre mixed…
to-wit, you put this on a **3M Pad** and air tool or battery sander - and whizz off any dirts and contamination..

As it happens, we still have none of the GEL in Australia at all… but still have the powder… Our factory people forgot to pass the story to those in the field.

The POWDER based version is in my opinion the best, certainly the most economic. You mix it into a slurry, like porridge with ordinary potable water - scrub the surface to be cleaned and the abrasion and beads in the Tuff Prep remove any chalkiness.

Simple…  Water and a bit of fine powder - Just take care mixing it, the powder in dust form is not good to breath, the Water stabilises it… the paperwork says it is a bit silica based.

TUFF PREP really cuts the chalkiness off every surface… A few spoonfuls in a ice cream container and  water, - a little bit goes a long way.

Fact: The dust based is still perfect and most cost effective ~ you will use less.


**Tuff Prep™(gel) - 3.5 pound jar -  Tuff Prep is a mild abrasive gel designed to deep clean mildly oxidised painted surfaces, oxidised fibreglass and oxidised bare metal surfaces prior to coating with Nyalic clear-coat.**

Tuff Prep is a heavy paint oxidation remover that also removes black streaks, and is a biodegradable, environmentally friendly cleaning product.

# Sticky decals and SIGNAGE

## *The glue can come and bite you*

**Signage for any fleet is not cheap - be it yellow stickers on big red vehicles or checker squares on a water taxi or chase boat. It takes money and lots of it. Water is often used in application and on some monster ferry's - we have all seen decal material coming off in sheets.**

A surveyor told me the trick to successful application is before the decal are applied use a single coat of Nyalic to seal the surface, this keeps glues from corroding the alloy.

**His second comment was … cleaning decals**

- Ensure the water pressure is kept below 2000 psi (14 MPa).
- Keep water temperature below 180 °F (80 °C).
- Use a spray nozzle with a 40-degree wide angle spray pattern.
- Keep the nozzle at least 1 foot (300 mm) away from and
  perpendicular (at 90 degrees) to the graphic.
- It is important to note that holding the nozzle of a pressure washer at an angle to the graphic may lift the edges of the film.

*Wraps - get the full hull wrap?*
*Me, I don't get it!*

- Some other care tips to keep in mind when cleaning a vehicle with a car wrap include:
- Wipe off any fuel spills immediately to avoid degrading the vinyl and adhesive.
- Do no use any abrasive polishes or cutting compounds (3M does not recommend using wax or other similar coatings on vehicle graphics).
- If there is wax or wax residue on the surface, remove with an all-purpose cleaner.
- When using a cleaning solution, do not allow it to stand and soak; immediately rinse with clear water.
- Store your wrapped vehicle indoors, in a shaded area, or under a cover whenever possible to preserve and protect the graphics. ( - this is a decal vendors own opinion)
- If storage in a garage is not available, consider using a cloth car cover at night to protect against dew or rain which may contain acidic pollutants. So much for the local coal loader!