

# **Liquid NanoTint**Transparent Thermal Insulation



### **Product Overview**





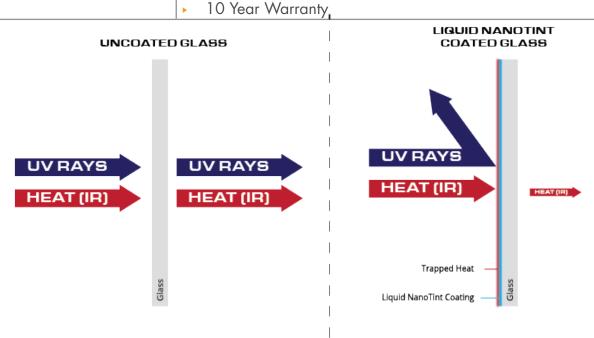
**DryWired Liquid NanoTint**® is a thermal insulation coating ideal for single-pane glass and polycarbonate surfaces. Applied like a paint, Liquid Nanotint is capable of blocking 100% of Ultraviolet (UV) rays, up to 95% of Infrared (IR) rays and maintaining up to 72% Visible Light Transmission (VLT). Through the combination of solvent borne metaloxide nano-particles and an inorganic adhesive binder, Liquid NanoTint forms a 10 micron thick self-leveling clear coat that bonds directly to glass and polycarbonate surfaces.

Unlike conventional window films, Liquid NanoTint will not peel, crack, bubble or fade over time lasting a minimum of 10 years. In addition, NanoTint can be applied to curved glass, historic building windows, skylights and textured glass surfaces. With the ability to mitigate both radiant and conductive heat, Liquid NanoTint can effectively keep indoor environments cooler in summer and prevent heat loss in the winter all while allowing you to benefit from the natural daylight gain.

#### Coverage:

- 1 kg Kit: 400 sq. ft. (40 sq. m.)
- > 200g Kit: 85 sq. ft. (8.5 sq. m.)

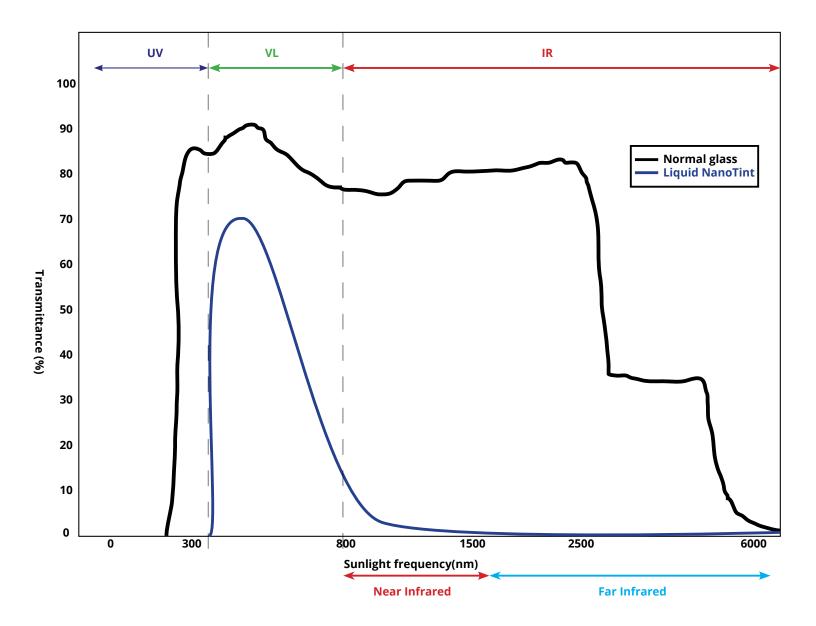
# Uses Features ▶ Commercial glass ▶ Reduces seasonal heating/cooling costs ▶ Residential glass ▶ Cost effective & environmentally friendly ▶ Glass manufacturing ▶ Easy application by custom paint roller ▶ Polycarbonate ▶ Can be applied on top of or under window film ▶ Skylights ▶ Fully cures in 14 days ▶ Zero off gassing when fully cured



Uncoated glass allows for the transfer of heat.

Liquid NanoTint coated glass blocks 100% of UV rays and up to 95% of IR rays all while maintaining a VLT of 72%.

# Liquid NanoTint Technical Data



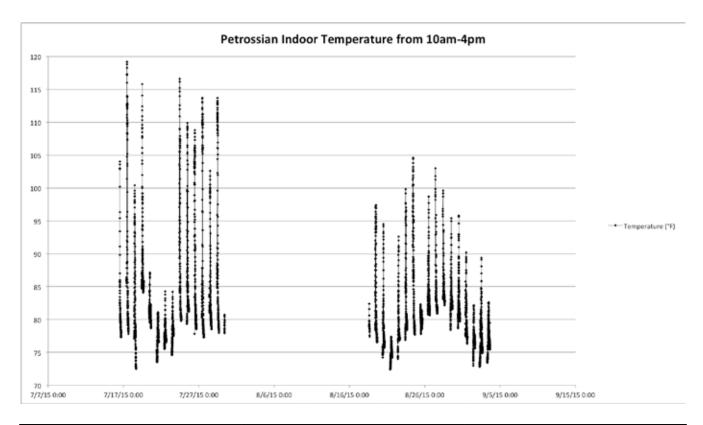
Property	3mm Float Glass	Liquid NanoTint
Visible Light Transmission (%)	92.0	72.0
Total Solar Absorption (%)	6.0	48.4
Total Solar Reflection (%)	8.0	6.1
Total Solar Transmission (%)	86.0	45.5
Infrared Rejection (%)	16	95
Ultraviolet Rejection	29.0	99.9
Solar Heat Gain Coefficient	0.87	0.46
Shading Coefficient	1.00	0.53

# Case Study#1

**Date:** July 2015

Location: West Hollywood, California

**Overview:** Liquid NanoTint reduced the temperature in the Petrossian West Hollywood Restaurant by approximately 15°F, after only coating 50% of the restaurants windows.



	Before Application	After Application
Average	110.43	95.66
Max	119.2	104.6



Case Study#2

**Date:** Fall 2015

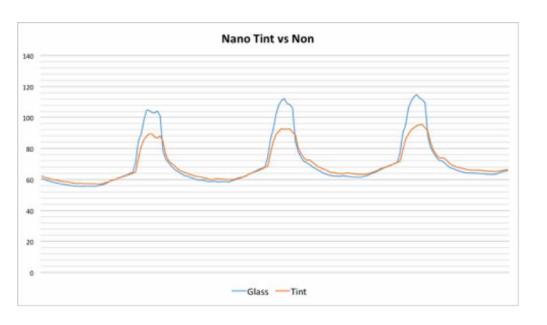
Location: University of Idaho

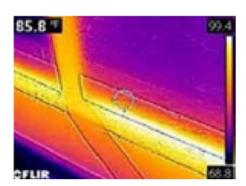


Overview: "With the amount of solar heat gain into the offices, another experiment was brought into the mix. The company DryWired, had a product which potentially would block 100% of UV, 95% of Infrared, yet maintain 90% visible light. The liquid is applied to the glass and only takes 14 days to cure and has low VOC's. Product testing showed results of lowering cooling costs for buildings, so it was worth a try. If successful, the pricey product could become a great solution for older buildings which would be too costly to fully renovate.

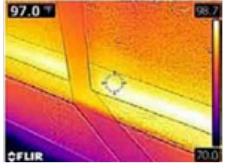
Another office of the western side of the second floor was chosen and the windows were cleaned, primed, and tinted. With the products claims, we were expecting great results. In the first two weeks, thermal data showed that the glass was warmer than neighboring untreated glass. So the heat was being trapped at the glass, but was it passing through? Further testing showed that the room was actually taking in less solar heat gain than the glass without the Liquid NanoTint. The chart below shows that the tinted glass was blocking 20 degrees of heat when the sun was shining."

#### - Fred Pollard University of Idaho Resource Conservation Manager





**Normal Glass** 



**Liquid NanoTInt Glass** 

# Frequently Asked Questions

#### Q1: How does the NanoTint coating work?

A1: The specially formulated NanoTint coating blocks up to 100% of ultra-violet (UV) light and absorbs up to 95% of Infra-Red (IR) light on the window, while still allowing for up to 72% visible light transmission.

#### Q2: How is DryWired® Liquid NanoTint applied?

A2: Liquid NanoTint is a 2-component solution that, once mixed, has a pot life of 2 hours. The mixed solution is applied with a high-density foam roller. For each designated coating area the mixed solution must be applied evenly within approximately 4 minutes from start to finish. For more detailed information, please consult the application instructions for DryWired® Liquid NanoTint.

#### Q3: Is Liquid NanoTint applied on the interior or exterior of a glass surface?

A3: DryWired® recommends coating the interior surface of a glass. Interior environmental conditions are more easily controlled resulting in optimum clarity and uniformity of the final fully cured coating.

#### Q4: Are special conditions required during the application process?

A4: Yes, DryWired® recommends application at a temperature between 41-95°F (5-35°C) and relative humidity 70% or less. Air circulation should be minimized to mitigate contamination in the form of dust and dirt during the application process and for at least the initial 60 minutes time.

#### Q5: What is the coverage rate of the DryWired Liquid NanoTint?

A5: Each high-density foam roller used will absorb and retain 30 grams of Liquid NanoTint solution. In addition to these initial 30 grams, every additional 30 grams of Liquid NanoTint solution will cover an area of 1m<sup>2</sup> (10ft<sup>2</sup>).

#### **Q6:** What type of surface preparation is required?

A6: All obvious dirt and contaminants should be removed with a paper towel. Masking materials should be used to protect adjacent surfaces and window fixtures. DryWired® LNT Glass Primer is then used to clean the surface. For more detailed information, please consult the Standard Operating Procedure for DryWired® Liquid NanoTint.

# Q7: How large of a surface area can a single person coat in the recommended 4 minute time frame?

A7: One person can coat approximately  $2m^2$  (21ft²) before encountering application challenges.

# Q8: Can the Liquid NanoTint coating be applied by a method other than the high-density foam roller?

A8: Not at this time. Consult Drywired if you have another suggested process.

#### Q9: Are there any odors associated with the application of the product?

A9: Similar to a household paint, there is an initial odor that lasts about 4 hours. We recommend vacating the premises during the application for a minimum of 4 hours. Once the coating has fully cured, no off gassing occurs as validated by independent third party testing. This documentation is available upon request.

#### Q10: What are the recommended safety procedures?

A10: As with any material being used in the workplace or home, please refer to label for safety precautions. More detailed information is provided in the DryWired® Liquid NanoTint Safety Data Sheet which includes safe handling, storage, personal protective equipment, and disposal procedures.

#### Q: Can the Liquid NanoTint coating be removed from glass surfaces?

A: Yes.

#### Q: Is there a warranty on this product?

A: There is a warranty on this product. What is covered in this warranty is available upon request.

#### Q: Can the NanoTint surface be cleaned with common cleaning supplies?

A: Yes, after it has fully cured for 14 days. Abrasive materials should be avoided.

#### Q: Can this coating be physically scratched?

A: Abrasion of the coating is possible. It is important to remember that the coating is only as sound as the substrate. If a material will abrade glass, it will abrade the Liquid NanoTint Coating.

#### Q: What is provided in the Liquid NanoTint kit?

A:

#### **Included Materials:**

- 1 kg NanoTint Liquid
- 110g NanoTint Hardener
- 32oz LNT Glass Primer
- Roller Applicator Handle
- High Density Foam Rollers (x4)
- Metal Tray
- Glass Mixing Rod
- Mixing Cups (x6)
- 1" Masking Tape (12 rolls)
- 1x Squeegee
- 4x Microfiber cloth

#### **Recommended Materials:**

- Thermometer / Hygrometer
- Multi-Purpose Respirator
- Glass Scraper
- Paper Towels
- Aluminum Foil
- Lint Free Paper Towels (i.e. KimWipes 15"x17") or
- Microfiber cloth
- Disposable Drop Cloths (i.e. Tape and Drape)
- Powder-Free Nitrile Gloves
- DryWired Glass Cleaner (for heavily soiled surfaces)

All statements, technical information and recommendations contained in this document are based upon tests or experience that DryWired believes are reliable. However, many factors beyond DryWired's control can affect the use and performance of a DryWired product in a particular application, including the conditions under which the product is stored or used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the DryWired product to determine whether it is fit for a particular purpose and suitable for the user's method of application. No warranty or condition, expressed or implied, is given regarding the accuracy of the statements, technical information or recommendations contained in this document. Except to the extent prohibited by law, DryWired will not be liable for any losses or damages arising in any way from the DryWired product including, without limitation, any direct, indirect, special, incidental or consequential damages, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability. For questions, contact DryWired, LLC at +1-323-581-8181.



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