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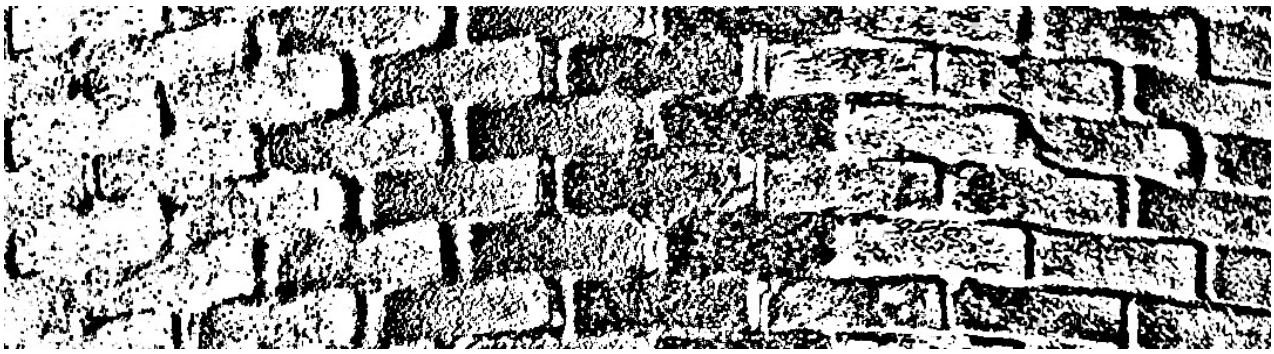
TDS TDC™-Coatings



Introducing the TDC ™Coating System:

Revolutionising Thermal **D**ynamic **C**oating **for Superior Performance**

In the realm of heat-reflective paints, Thermal Dynamic Coating (TDC™) stands out as a ground-breaking solution that goes beyond conventional thermal paint options. TDC™ is not just a paint; it's a game-changer that redefines how we approach environmental sustainability, energy efficiency, and surface protection. Reduces heat absorption by 30% (NATA tested), acting as a barrier and adding to reflecting heat away from buildings, keeping interiors cool. (UNI SA Adelaide tested a 10-degree Celsius difference from outside to inside). TDC™ thermal dynamic coatings are based on an IP-protected mineral composition that also produces a fire-retardant layer.

The TDC™ Advantage:

1. Unparalleled Heat Absorption Technology: TDC™, also known as Aliphatic Urethane Dispersion (AUD) coatings, sets itself apart by its exceptional heat-reflective properties. Unlike traditional paints that only reflect heat, TDC™ acts as a barrier, not only reflecting radiant heat away from buildings when the sun is up but also slowing any heat going through to the building down 24/7. This revolutionary approach significantly reduces the absorption of heat, ensuring interiors stay cooler, especially in the scorching summer months. By curbing heat absorption, TDC™ minimises the need for excessive air conditioning, leading to substantial energy savings. It sets itself apart by its exceptional “exterior/interior durability in combination with proprietary mineral formulation”

2. Durability Beyond Compare: TDC™ is not just a temporary fix; it's a long-lasting solution. With an impressive average lifespan of 15 + years, TDC™ outshines Acrylic Polymer Paint, which typically lasts only 3-5 years in the harsh Australian environment. The durability of AUD coatings extends beyond longevity; they exhibit remarkable resistance to physical and chemical damage. They get better with age. This resilience ensures that TDC™ maintains its effectiveness, even under severe environmental conditions or heavy usage, making it the ultimate choice for sustainable coating applications.

3. Versatility and Superior Adhesion: What makes TDC™ even more remarkable is its versatility. These coatings demonstrate excellent adhesion to various substrates, including metals, plastics, and concrete. This versatile nature makes TDC™ suitable for a wide range of applications. In addition, the strength of AUD coatings can be further enhanced through the incorporation of additives like cross-linking agents, fillers,

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and pigments. This flexibility allows customisation to meet specific needs, enhancing properties such as scratch resistance, hardness, and colour stability.

4. Rigorous Testing and Certification: TDC™ doesn't just make bold claims; it proves them through rigorous testing. Certified by the National Association of Testing Authorities (NATA), TDC™ has demonstrated its ability not only to reduce heat/cold transfer by over 30% but also to guarantee reliability in real-world scenarios. Controlled field trials at the University of South Australia (UNI-SA) further validate the superior strength and performance of TDC™ beyond laboratory expectations with up to 10C reduction on the inside themperatures; it can also withstand more than 3 bar water pressure when applied in a standard 1 x Primer and 2x Topcoat application (@ 300 microns minimum) in fact it is a waterproofing coating as well..

5. A True Sustainability Tool: TDC™ is not just a coating; it's a sustainability tool that architects, designers, and maintenance professionals can leverage for transformative projects. Its multifaceted benefits, including waterproofing, anti-slip properties, and zero volatile organic compounds (VOC) or extreme scrub resistance, just to name a few, make TDC™ an indispensable choice for those committed to eco-friendly and sustainable practices.

In conclusion, TDC™ is not just different; it's a leap forward in thermal dynamic coating technology. Elevate your projects with TDC™ and experience the innovation that sets a new standard for durability, energy efficiency, and environmental responsibility. TDC™ thermal dynamic coatings are based on an IP-protected mineral composition, which also produces a fire retardant layer...Choose TDC™ – where innovation meets sustainability.

TDC™-Coatings are a high-performance Thermal Dynamic coating and waterproofing for all types of applications. It is a thermal dynamic, waterproof, flexible polymeric coating that can be applied by various rollers, brushes or airless systems. TDC™ is applied like a standard exterior/interior/floor coating, but will provide a much higher level of protection and durability. TDC™ is perfect for interior and exterior areas where adhesion, Waterproofing, and extra thermal dynamics are wanted. TDC™ contains a patented mineral platform that ensures a high level of thermal dynamics, reducing in excess of 15% radiant heat based on as little as 0.8kg/m2 or 100 microns dry build to get a 300 microns final coating.

Features & Benefits:

- 30% plus reduction in energy transfer
- Up to 10 degrees less heat inside
- Long-term exterior protection
- Low-build Thermal protection
- Water-based
- Waterproof
- Moisture Impermeable
- Excellent Flexibility
- Mould resistance
- High scruff resistance
- Excellent bonding to most surfaces
- Bitumen surface friendly
- Easy to use

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- Easy to maintain
- Early adhesive strength
- High resistance to cracking and peeling
- No VOC
- Not flammable
- Fire retardant mineral composition
- Not combustible

Recommended Use:

TDC™ will provide an excellent base over roofs such as Aluminum and Zincalume guttering or tiled roofs, concrete, bricks, building blocks, cement renders & previous textures, and fiber cement sheeting etc..; Designed to be used where a high-level of temperature, flexibility durability and waterproof is required; TDC™ comes in Primer, Roof, Wall, and Floor options, providing excellent added durability that ensures a low maintenance coating high spec. coating that is sustainable and environmentally sound in the fight to reduce the URBAN HEAT, and more. TDC™-Primer is used in combination with TDC™-topcoats in a matte finish. Normal application one coat of TDC™-Primer and two coats of Topcoats;

Colours:

TDC™-Primer is provided in Low Sheen/matte / light grey only; TDC™-Topcoat is white and can be coloured to Australian Standards non fading.

General Application:

- Any surface to be coated must be cleaned of any rust, oil, old paints, growth or conterminous matter. Use a high-pressure cleaner and /or appropriate mechanical help to achieve a clean and dry surface before the first application. The use of MoudEx as a cleaning agent is advisable for a better and more lasting application.
- Any damage to the substrate should be repaired before the application of TDC™.
- The typical application methods are by Brush, Roller or airless Sprayer (Wagner Pro).
- Ensure the surface is clean and dry prior to applying the first single coat of TDC™-Primer and allow to dry for at least 1 hour before Topcoat.
- Be sure to keep a wet edge with your product and plan your work to suit the product and weather conditions.
- The best practice is to finish at an external or internal corner, or at a control line when work will continue the next day.
- Depending on conditions, keep sheltered from rain and moisture for 24-48 hours after completion.
- The wet film build required for maximum benefit is 3 coats (200-300 microns), apply TDC™-Primer plus TDC™ Topcoats.
- The first coat can be diluted. Dilution rates depend on temperature conditions, but typically can be diluted up to 20% with water for hot surfaces.
- Recoating is typically after 30-60 minutes, depending on conditions at the time of application. It is recommended to discuss this with a technical service representative for thorough guidance before applying below 5°C or greater than 35°C.

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- Touch Dry ~ 30 minutes (standard temperature @25℃). Total drying time at ~ 2 hours (standard temperature @25℃).
- The coverage rate is approximately 5-8m2/ltr (depending on type) and will change when diluted further or on a smooth surface.
- Clean up with water.
- Shake/stir/mix containers well before opening them for initial use.
- To ensure colour consistency, the same paint batch should be used on the finish coat. If this is not possible, then multiple containers should be purchased together. Please make sure you start and finish with the same batch for consistency.
- For a standard low-profile finish, use a 10-20mm lambs wool sleeve/nap, for airless spray use a WAGNER Pro or similar with a 0.021-0.025 tip.
- The applicator should check the colour prior to application. Flux Design Australia will not accept liability once the product has been applied for an inconsistent colour.
- Do not apply on areas of continual dampness or areas saturated with water, the surface has to be dry before application.

Substrate Conditions:

- Should NOT be applied in temperatures below 5℃ or above 35℃, unless you consult your technical support prior to application for evaluation.
- Not suitable for application in areas of constant dampness or areas submerged in water.
- Test a small area first when the humidity is greater than 85%.
- If applying TDC™ over a previously painted surface or rendered finish, ensure the surface is thoroughly cleaned and free of flaked paint or loose cement particles.
- Fresh cementitious substrates such as mixed sand and cement renders or concrete must be left to cure for up to 28 days, containing not more than 15% WME prior to application.
- TDC™Primenr can be diluted up to 20% with water when applied as an initial coat or primer.
- Please be aware that any pre-cast walls/roofs or concrete pre-cast products have to be properly cleaned in the event that diesel was used in the delamination process of the panels/parts in order to achieve adhesion of the coating to the product.
- If applying TDC™ over previously painted surfaces or rendered finishes, ensure the surface is thoroughly clean and free of flaked paint or loose cement particles.

Transport & Storage:

- Store in a cool place
- Keep containers sealed when not in use.
- Container weight is approximately 18-20kg(15ltr), so ensure the correct lifting technique is applied. Coverage 5-8m2/ltr depending on type.

Disposal:

- Spilt material must be absorbed with sand/sawdust or appropriate materials to lift for proper disposal.
- The product must not be allowed to run into drains or open bodies of water.
- Residual small amounts of leftover paint on brushes and rollers should be wiped onto an old cloth or paper and allowed to dry, rather than being washed down the sink.

- Dispose of in accordance with the local regulations.

Health & Safety:

- Avoid contact with skin and eyes. Wear suitable protective clothing.
- Avoid inhalation or ingestion.
- In case of contact with skin or eyes, rinse immediately.
- Seek medical attention immediately if ingested and refer to SDS!

Technical:

TDC™ thermal explained how the 30% reduction comes about and what this is in 'R' rating:

AWTA Laboratory -NATA- test report on ASTM C518-2017

i. Blank Standard Fibre Panel 1359kg/m3 = 0.3168 W/m.K
ii. Substrate Grey Fibre Panel 1364kg/m3 = 0.2723W/m.K
iii. Approx. 0.0445W/m.K improvement in Thermal Conductivity at less than 0.3mm
iv. TDC-Primer will add another 10-12% to the total of 0.0504W

'R' rating equations: λ- 0.0445W/.mK at less than 0.3mm is equal to R 0.022 (typical insulation panels at 100mm with 0.0445W/.mK is equal to R 2.25 or R 2.52 when primer and topcoats are applied).

	TDC™-Primer	TDC™-Topcoat
Volume Solids	55%	45%
Coverage m^2/Lt	5-6m2	7-8m2
UV Resistance (ASTM 5894)	NA	Passes 5000hours
Elongation Break (ASTM D-412)	200%	300%
Flexibility (ASTM E1713) Pass	180^0 Bend	180^0 Bend
Hydrostatic Pressure after 28 days Positive @ 300 micron combined primer + topcoat	Pass 3 bar	Pass 3 bar
Abrasion Resistance (ASTM D2487-17, ISO 11998)	NA	>3000 Cycles
Pull Test Adhesion on Concrete/Mild Steel (AS/NZ 1580.408.5:1994)	1.6MPa	1.5MPa
VOC <0.5g/L considered NO VOC	< 0.10g/L	<0.30g/L

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TDC™ is available for walls TDC-™Wall (interior and exterior); TDC™-Floor for flooring (driveway, garage etc), TDC™-Roof and TDC™-Primer. Available in 15-litre pails and IBC.

Further reference, please also go to www.hydrotdc.com

- **Please refer to the relevant TDS/SDS for further information. For further information, please contact us through the mailbox: fluxdesignaustralia.com**
- **Notice to the reader**
- **While the Information provided in this TDS is believed to provide a useful summary of the hazards of this product as it is commonly used, the safety data sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet does not address hazards that may be posed by other materials mixed with this product or similar. We accept no responsibility for loss or injury caused by improper use, incompetent preparation or ordinary wear and tear. Users should review other relevant material, Safety Data Sheets, before working with this product or its mixed state.**
- **SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY Flux Design Australia Pty Ltd., except that the product shall conform to contracted specifications. Flux Design Australia Pty Ltd retains the right to update this TDS without prior notice. Due to the fluent nature of colours and consequent uncontrollable possible colour changes or colour differences in print or application, Flux Design Australia Pty Ltd is not responsible or can guarantee any final colour.**
- **Any guarantee does not cover paint failure caused by any breakdown of coatings applied previously, or when used on glass and plastics or in combination with other coatings.**
- **Any thermal efficiency guarantee cannot be made on darker tinting colours used.**
- **TDC™-Primer is an undercoat only and can not be used as a topcoat.**
- **Where a roof is used for the collection of water, it is necessary not to collect drinking water within 12 hours after painting to allow the coating to fully dry (at the standard temperature at 25^{0}c).**
- **Flux Design Australia Ltd. believed the information provided herein to be accurate at the time of preparation or prepared by the manufacturer and believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.**

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