

EVERY INTERVENTION CHANGES HERITAGE.

The Best Conservation Is the One That Leaves the Least Trace.



Heritage conservation is not about making old buildings look new. It is about reducing future intervention while preserving original fabric, appearance and breathability.

PALCCOAT was developed around this principle.

MALAYSIAN HERITAGE DEMONSTRATION

TANGSI HOUSE, KUALA LUMPUR HISTORIC EXTERIOR MASONRY SUBSTRATE

- NO COLOUR CHANGE ($\Delta E < 0.5$) • MOISTURE VAPOUR TRANSMISSION MAINTAINED
- EVALUATED UNDER TROPICAL BIO-FOULING CONDITIONS

- Reduces the need for repeated cleaning Organic soiling decomposes photocatalytically; rainfall lifts residue away, minimising abrasive maintenance cycles.
- Maintains moisture migration essential for historic masonry Non-film covalent binding preserves capillary breathability. No trapped moisture. No spalling risk.
- Preserves original visual character and surface texture ~1 μm thickness. Zero sheen. Imperceptible colour shift ($\Delta E < 0.5$). Invisible at working distance.

"The objective is not to restore appearance, but to slow deterioration while preserving authenticity."

BUILT UPON ESTABLISHED HERITAGE RESEARCH

The scientific principles behind PALCCOAT originate from Professor Fujishima Akira's pioneering work on titanium dioxide photocatalysis (1967). Subsequent research — including KAKENHI-funded investigation into transparent photocatalytic coatings for Nikko Toshogu lacquer (Grant 16H03107, 2016–2018) — has informed conservation approaches for sensitive heritage materials.

PALCCOAT adapts these same scientific principles for the conservation challenges posed by Malaysia's tropical environment.

PALCCOAT MALAYSIAN HERITAGE CONSERVATION SERIES

V3BUILDERS SDN. BHD. | EXCLUSIVE PALCCOAT

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CONSERVATION PHILOSOPHY

PALCCOAT IS DESIGNED TO SUPPORT INTERNATIONALLY RECOGNISED CONSERVATION PRINCIPLES BY SEEKING TO:

- MINIMISE INTERVENTION
- PRESERVE ORIGINAL MATERIAL
- MAINTAIN REVERSIBILITY WHERE POSSIBLE
- RETAIN VAPOUR PERMEABILITY
- REDUCE FUTURE MAINTENANCE CYCLES
- AVOID VISUAL ALTERATION

SUITABLE HERITAGE CONTEXTS

- HISTORIC CIVIC BUILDINGS
- RELIGIOUS ARCHITECTURE
- COLONIAL MASONRY
- MUSEUMS AND ARCHIVES
- ARCHAEOLOGICAL STRUCTURES
- TIMBER HERITAGE
- LIME-RENDERED BUILDINGS
- CONSERVATION PROJECTS
- ADAPTIVE REUSE

COMPATIBLE HERITAGE SUBSTRATES

- [**STONE ICON**] HISTORIC MASONRY MAINTAINS BREATHABILITY WHILE REDUCING BIOLOGICAL GROWTH.
- [**BRICK ICON**] BRICK & TERRACOTTA PRESERVES CAPILLARY TRANSMISSION WITH ZERO SALT MIGRATION.
- [**PLASTER ICON**] LIME PLASTER & RENDERS NO SPALLING, NO TRAPPED MOISTURE, NO TEXTURE CHANGE.
- [**TIMBER ICON**] HISTORIC TIMBER UV PROTECTION WITHOUT FORMING SURFACE FILMS.
- [**METAL ICON**] HERITAGE METALS REDUCES SOILING WHILE PRESERVING NATURAL PATINA.
- [**GLASS ICON**] STAINED GLASS & GLAZING MAINTAINS >98% VISIBLE LIGHT TRANSMISSION, NO HAZE.

CONTINUING THE CONVERSATION

Heritage conservation succeeds through collaboration between scientists, architects, conservators and custodians.

We welcome discussion on how photocatalytic materials may contribute to the long-term stewardship of Malaysia's built heritage.