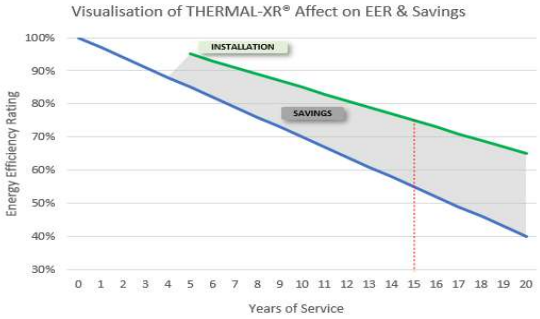
THERMAL-XR® OVERVIEW

REDUCING EMISSIONS & ENERGY COSTS

- Cooling is the most significant energy consumption in buildings (up to 60% ~ IEA) and is a considerable operating expense.
- UN Carbon Neutrality 2050 drives businesses to reduce CO_2 emissions.
- Businesses seek innovative energy-saving alternatives.

HVAC-R ENERGY EFFICIENCY RATING LOSS

- HVAC-R equipment can reduce its heat exchange capability (Energy Efficiency Rating) mainly due to corrosion and underperforming system components.
- Aluminium and copper coils are generally untreated and lose efficiency from the initial installation.
- Poor performing equipment, installation and design can also lead to efficiency loss.



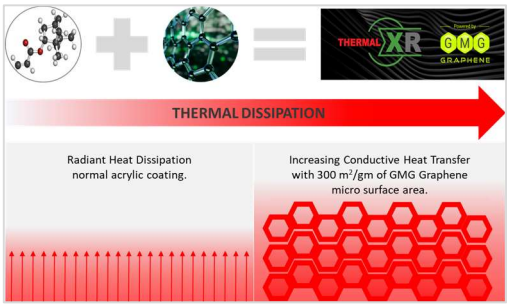
THE SOLUTION

THERMAL-XR® powered by GMG Graphene has created a unique and novel way of increasing heat transfer and improving the thermal efficiency of HVAC-R equipment. It is suitable for applying on aluminium and copper coils used in air-cooled heat exchange equipment, namely air conditioning and refrigeration. *Not suitable for water-chilled systems.

- Energy Savings.
- Emission Reductions.
- Corrosion Protection.
- Increased Thermal Efficiency.
- Faster Cooling with Less Energy
- Extends Equipment Life and Defers Capital Investment.
- Optimises Compressor Operation by Reducing Stop/Start Cycles.
- Non-Evasive One-Time Application.

HOW DOES IT WORK?

THERMAL-XR® leverages GMG Graphene's thermal properties to provide improved heat transfer and superior cooling performance.



Thermal Conductivity

Graphene is reported to have a thermal conductivity 10-15 times greater than aluminium and copper, increasing heat dissipation across a system's condenser coil.

Corrosion Resistant

GMG graphene creates an impervious layer that prevents oxygen from reaching metal surfaces, eliminating metal corrosion and leveraging Graphene's **hydrophobic** (water repellence) properties.

m^2Surface Increased

Up to 300m^2 of micro surface area per gram of Graphene enables increased heat dissipation within the thin coating layer of THERMAL-XR RESTORE ®.

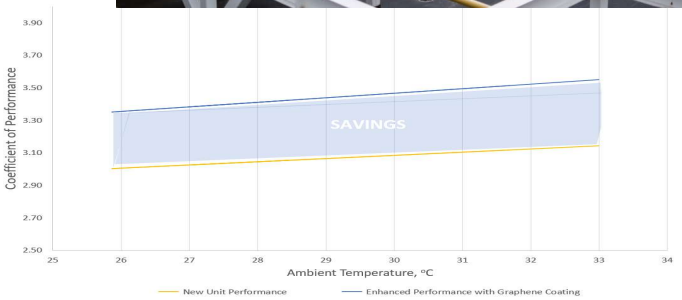
A HVAC-R ENERGY SAVINGS COATING SYSTEM

THERMAL-XR® OVERVIEW

THE SERVICE AND RESULTS

GMG has developed a proprietary diagnostic tool that can estimate thermal efficiency and energy reduction gains after the THERMAL-XR® application. Before and after summary results, the methodology provides immediate proof of concept and a robust tool for the customer's investment decision.

- **SYSTEM HEALTH CHECK & SERVICE OPTIMISATION**
- **ENERGY COST SAVINGS**
- **EMISSION REDUCTIONS**
- **INCREASED PROFITABILITY**
- **ASSET PROTECTION & LONGEVITY**



APPLICATIONS FOR THERMAL-XR®

- New or existing air-cooled condenser types.
- Large Vehicle Air-Conditioning Systems (e.g. Public Bus Transport).
- Air-Conditioning, Refrigeration & Chiller Systems, Oil & Gas Heat Exchangers.

PROVEN PERFORMANCE

THERMAL-XR® installations have proven to deliver positive emission and energy-saving results. Examples are listed on the GMG website under THERMAL-XR Projects.

https://graphenemg.com/thermal-xr-projects/

Project example CMVP verified.

ENERGY REDUCTION	**52%**
PROJECT	Public Library
EQUIPMENT	Temperzone OPA 85kw
ENERGY SAVINGS	**4021 kWhr** (annualised)
EMISSION SAVINGS	**3.3mt CO_2** (annualised)

GMG OVERVIEW

GMG is a clean-technology company that has developed and proved its proprietary production process to manufacture Graphene powder from readily available hydrocarbons. This process produces high quality, low cost, scalable, 'tuneable' and contaminant-free graphene. GMG's initial focus has been developing applications for **Energy Saving and Energy Storage Solutions.**

GMG has exclusive distribution rights for THERMAL-XR® in most regions in the world, including the Americas, Middle East, Europe, Africa and North-East Asia.

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