

FROM THE ROOFTOPPS®

A MONTHLY NEWSLETTER FROM TOPPS PRODUCTS®

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HOW TOPPS SEAL PERFORMS ACROSS GLOBAL ROOFING ENVIRONMENTS

From Antarctica to the Middle East

Roofing systems around the world face vastly different environmental challenges. A roof in the UAE must withstand **intense solar exposure** and prolonged heat loading, while roofing systems in Kenya often contend with significant heat buildup. In Japan, **humidity and seasonal weather** patterns create unique performance demands, while Antarctica presents the opposite extreme, where **freeze-thaw cycles** can accelerate deterioration on aging roofs.

Despite these differences, the challenge remains the same: **managing the environmental stresses that impact roof performance**. Topps Seal and Topps Seal Excel are designed to address these challenges by helping control thermal loading, protect against moisture intrusion, and maintain system flexibility across a wide range of climates.

KENYA: HEAT LOAD

In many Kenyan regions, especially semi-urban and industrial zones, roofing systems are often installed on structures with limited roof cavity ventilation. This leads to significant heat retention beneath the roof assembly during peak solar hours.



The result is not just higher surface temperature, but prolonged heat soak into the structure, which increases internal thermal loading even after peak sun exposure has passed. This is particularly relevant in warehouses, commercial buildings, and lightweight metal structures.



How Topps Seal Performs:

Topps Seal Excel, used on the roof above, **reduces peak heat absorption** at the roof surface by increasing reflectivity in the solar spectrum, limiting heat transfer into the roof assembly during the most critical loading window. This reduces sustained heat soak into enclosed spaces and helps stabilize internal temperature fluctuation in

buildings where mechanical ventilation is limited or inconsistent.

JAPAN: MOISTURE STRESS

Japan introduces a **different performance challenge** driven by high ambient humidity, typhoon exposure, and seasonal climatic variation across regions.

In coastal and lowland areas, persistent humidity combined with warm temperatures increases the likelihood of moisture entrapment within roofing assemblies, particularly where aging membranes or micro-cracks exist. In addition, frequent typhoon events introduce high wind uplift forces that place significant stress on adhesion points, seams, and termination details.



In northern regions, seasonal freeze-thaw cycles introduce additional movement stress as trapped moisture expands and contracts within the roof system structure.

THE TOPPS SEAL ADVANTAGE:

Topps Seal, used in the photos above, provides a seamless protective layer that

improves surface integrity against moisture ingress pathways while maintaining flexibility under dynamic loading conditions. This flexibility is particularly important in environments where roofs are subjected to repeated wind uplift events combined with seasonal expansion and contraction, helping **maintain adhesion stability** and reducing fatigue at transitions and detailing points.

ANTARCTICA: FREEZE-THAW CYCLES

Antarctica presents a completely different roofing challenge than the other regions featured in this newsletter. Rather than excessive heat, roofing systems must withstand **prolonged exposure to freezing temperatures, snow accumulation, ice formation**, and repeated freeze-thaw cycling.



On aging metal roofs, moisture can penetrate small defects, seams, and fastener locations. As temperatures fluctuate, trapped moisture expands when frozen and contracts when thawed, accelerating coating deterioration and creating additional stress on roof components.



THE TOPPS SEAL SOLUTION:

Topps Seal provides a seamless, flexible membrane that helps **protect vulnerable areas from moisture intrusion** while maintaining its integrity under extreme temperature fluctuations. Its **elongation properties** allow it to **accommodate substrate movement** without becoming brittle, making it well-suited for restoring aging metal roofs in some of the world's harshest operating environments.



UAE: EXTREME HEAT

The UAE presents one of the **highest sustained solar exposure environments** for roofing systems, with prolonged high ambient temperatures and intense irradiance levels placing continuous thermal load on building envelopes.



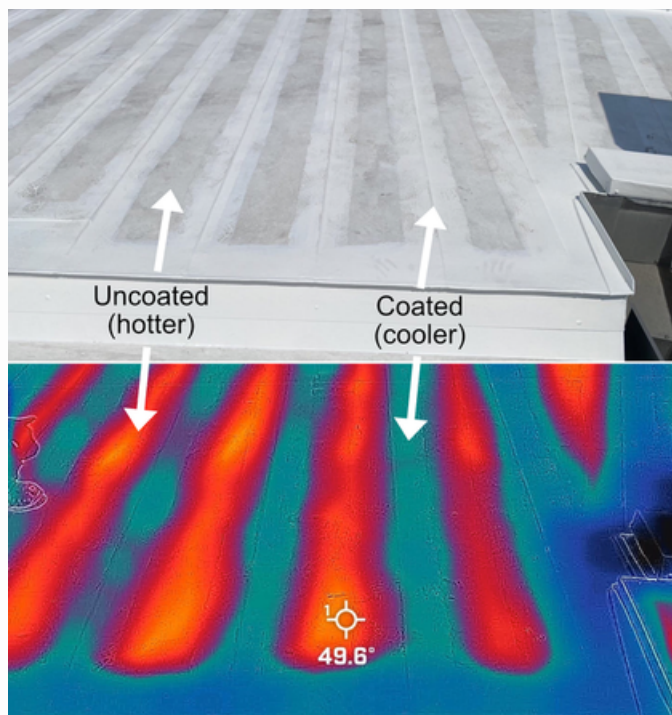
In this type of environment, the key performance issue is not just peak temperature, but duration of heat exposure. Roof assemblies remain at elevated temperatures for extended cycles, which increases conductive heat transfer into conditioned spaces and places constant demand on HVAC systems.



TOPPS SEAL'S PERFORMANCE UNDER PRESSURE:

Topps Seal Excel is particularly suited for this environment due to its high reflectivity and thermal emissivity performance, which helps reduce equilibrium roof surface temperature under sustained irradiance. By lowering long-duration heat absorption, the coating reduces continuous thermal

loading on the building envelope and improves overall energy efficiency in high cooling demand climates.



ONE PRODUCT, GLOBAL RELIABILITY

From the heat-loaded structures of Kenya and the extreme solar exposure of the UAE to the humidity and seasonal weather patterns of Japan and the freeze-thaw conditions of Antarctica, roofing systems face vastly different environmental challenges.

Topps Seal and Topps Seal Excel are **engineered to perform across these diverse conditions** by helping manage thermal stress, resist moisture intrusion, and protect aging roof systems. Their proven use across multiple continents demonstrates the versatility needed to deliver long-term roofing performance—regardless of climate.

Learn more about our cool roof coatings here:
[Topps Seal®](#) | [Topps Seal® Excel](#)

PRODUCT SPOTLIGHT



High-performance
cool roof coating

High elongation
system

Moisture and
corrosion
resistance

Global climate
performance

Topps Seal® Excel is a high-performance, thermoplastic roof coating designed for extreme climates. It offers strong elongation, high reflectivity, and excellent adhesion, helping reduce roof temperatures, control thermal cycling stress, and protect against moisture and corrosion. Suitable for multiple substrates, it delivers durable, long-term performance across hot, humid, and high-UV environments worldwide.



TIPS WITH TOMMY & TAMMY



Hey Tammy! On metal roofs, is a cool roof coating really doing anything structurally, or is it just an energy efficiency add-on?

Hey Tommy! It's not just energy efficiency—on metal roofs the main issue is thermal cycling. A cool roof coating reduces peak surface temperatures and, more importantly, the daily temperature swing, which reduces mechanical stress on the system and helps extend overall roof service life.



TEST YOUR KNOWLEDGE - TAKE THE TOPPS TEST



In hot-climate metal roofing systems, what is the most accurate way to describe the mechanical impact of a cool roof coating?

- A** It increases roof rigidity to prevent all movement at seams
- B** It reduces thermal-driven expansion and contraction forces acting on the assembly
- C** It chemically bonds fasteners to eliminate loosening under load
- D** It converts the metal roof into a fully insulated structural system

Check us out on social media for the answer! and more!
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