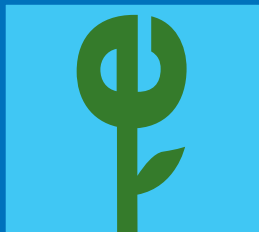


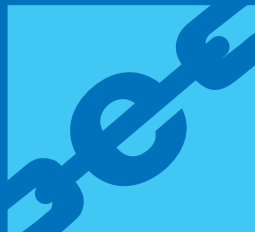
# There's One Cool Solution For Sustainable, High-Performance Roofing



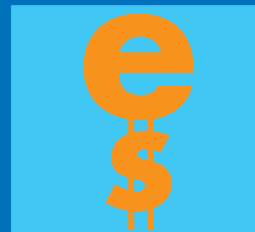
**Energy**



**Environment**



**Endurance**



**Economics**



**Engineering**

**DURO-LAST® ROOFING, INC.**

# Duro-Last: Defining Rooftop Sustainability

In the commercial roofing industry, reflectivity has been the dominant discussion point for several years, and the Duro-Last® Cool Zone® roofing system has set the standard for single-ply roof reflectivity and the resulting energy savings. Now the term “sustainability” is receiving a lot of attention, and once again, Duro-Last is raising the bar.

But what does sustainability really mean for building owners, facility managers, architects, and other specifiers? It means that the design, manufacture, maintenance, life-cycle impact, adaptive re-use, destruction, and recycling of roofing components help meet the long-term environmental standards demanded by today’s high-performance buildings.

For a roofing system to be considered sustainable, it must have the Five E’s of high-performance roofing: Energy, Environment, Endurance, Economics, and Engineering. In each of these areas, the Duro-Last Cool Zone system leads the commercial roofing industry.

Read on to learn more about the Five E’s and how the Duro-Last Cool Zone roofing system delivers on the multiple demands of high-performance roofing.

## The Five E’s of High Performance Roofing

A truly “cool” roof is one that provides trouble-free service, competitive life-cycle costs, and environmental advantages. We’ve defined five interrelated attributes that are important in the selection of a high-performance roofing system. We call them the Five E’s:



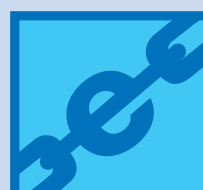
### Energy

**Energy** – With energy costs continuing to rise, it’s more important than ever to select a roof that can reduce energy use and improve a building’s efficiency in any climate.



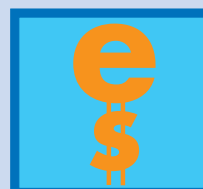
### Environment

**Environment** – High-performance roofing minimizes the impact on the Earth’s environment throughout the roof’s life, while also helping to maintain a healthy, productive environment inside the building.



### Endurance

**Endurance** – A high-performance roof meets or exceeds performance requirements for long life: all-weather reliability; chemical, fire, and puncture resistance; and ease of maintenance and repair.



### Economics

**Economics** – A high-performance roof has to make economic sense, not just at the time of purchase, but also in the long run. A true economic comparison analyzes the cost of a roof throughout its life-cycle.



### Engineering

**Engineering** – Utilizing the right materials, design, and manufacturing process is the key enabler of the other four E’s, resulting in a complete, integrated roofing system that can be installed easily and performs reliably over the long run.

When you consider these Five E’s, alone and together, high performance roofing takes on a new meaning, and one very cool solution emerges: the Duro-Last Cool Zone roofing system.

# Energy Efficiency Delivered by “Cool Roof” Reflectivity

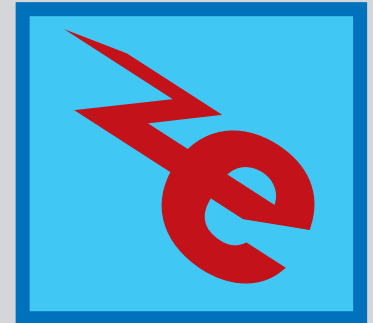
A high-performance roof can be a powerful asset in reducing energy consumption and improving long-term energy efficiency. When used with appropriate insulation on low-sloped or flat roofs, a high-reflectivity, high-emissivity Duro-Last Cool Zone roofing system can:

- Reduce building energy consumption by up to 40 percent
- Improve insulation performance to reduce winter heat loss and summer heat gain
- Preserve the efficiency of rooftop air conditioning
- Potentially reduce HVAC capacity requirements

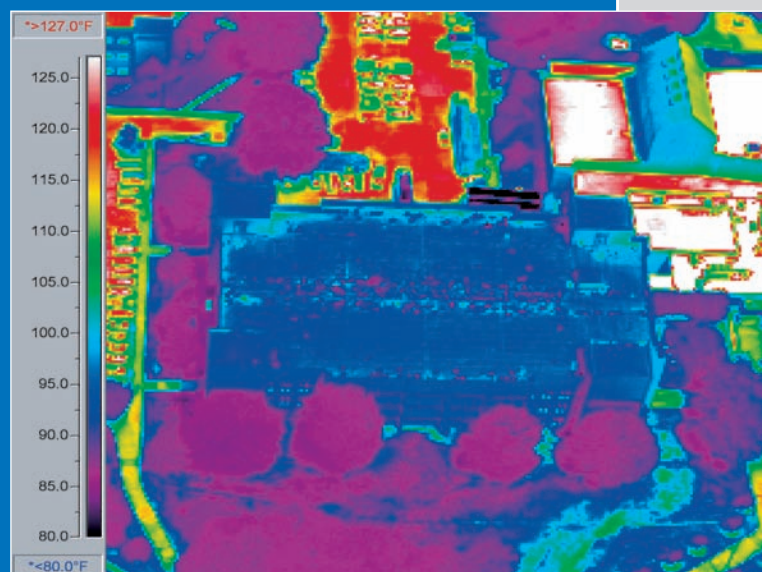
Duro-Last Cool Zone roofing systems meet these “cool roofing” standards for both reflectivity and emissivity:

- ENERGY STAR® Roof Product Program
- Cool Roof Rating Council
- Title 24 of California’s Energy Efficiency Standards for Residential and Non-residential Buildings

In addition, the energy savings of a Duro-Last Cool Zone roofing system are generated immediately and last for decades. Unlike some “garden” roof systems, there is no waiting for plants to grow, no weight concerns, and no ongoing maintenance. And unlike reflective coatings, the single-ply monolithic Duro-Last roofing system won’t crack, peel, or wear away. Our cool roof performance is the fast, easy, and cost-effective route to greater energy efficiency that lasts.



**Energy**



A Cool Zone roofing system helps keep the Boggs Chemistry Building at the Georgia Institute of Technology cool on a hot day.

# Better for the Environment – Inside and Out



## Environment



In addition to reducing energy use, the Duro-Last Cool Zone roofing system can minimize environmental impact in several ways:

- Our closed-loop manufacturing process recycles production scrap, reducing waste
- Because the roofing system is lightweight, less fuel is needed to transport it to the job site
- A high-reflectivity, high-emissivity Duro-Last Cool Zone system can decrease the effects of Urban Heat Islands and related urban air pollution
- The Duro-Last Cool Zone system can often be installed over an existing roof, reducing waste, landfill space, and disposal costs. If installation over the existing roof is not possible, Duro-Last offers a “Recycle Your Roof” program, which reduces disposal costs of PVC membrane tear-offs.
- At the end of its life as a roof, the Duro-Last Cool Zone roofing system can be recycled into other useful products such as specialty flooring (manufactured by Oscoda Plastics Inc., Duro-Last’s sister company) and other post-industrial applications

A Duro-Last Cool Zone roof can also contribute to better indoor air quality and occupant comfort. With optimized insulation and venting, it can help to keep buildings dry and relieve positive air pressure to keep indoor air cleaner.

# Endurance That Passes the Test of Time



## Endurance

If you’re looking for a roof that will last, consider our track record. More than one billion square feet of Duro-Last membrane have been installed throughout North America since the late 1970s – and many of our oldest roofs are still in service today.

What makes a Duro-Last Cool Zone roofing system so durable? Each roof we make is:

- Resistant to water, fire, chemicals, grease, and punctures
- Able to stand up to all types of weather – including high winds and temperature extremes over the long-term
- Virtually maintenance-free, unlike other roofing materials that may require regular patching and repairs
- Reinforced with a high-density weft-insertion scrim for exceptional strength and durability

Not only does a Duro-Last Cool Zone roof perform well over the years, it can actually help extend the useful life of other building components. By keeping moisture out while reflecting ultraviolet (UV) and infrared (IR) radiation, it can help to protect underlying insulation and the roofing substrate from deterioration.

Duro-Last protects commercial and industrial installations with a comprehensive 15-year full warranty or a 20-year prorated warranty. Both are transferable and both provide maximum protection, including coverage against consequential damages that result from defects in the Duro-Last material. And both warranties offer a feature that’s unique among roofing system manufacturers: they contain no exclusion for ponding water.

Cedar Point Breakers Hotel  
Sandusky, Ohio  
Installed January of 1987

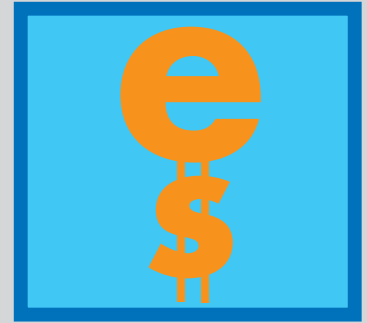


# Better Economics over the Long Haul

While some types of roofing may have lower initial costs, the true costs of a roofing system are measured over its total life-cycle. These include roof longevity, maintenance and repair costs, energy savings, and tear-off and disposal costs.

A Duro-Last Cool Zone roofing system delivers excellent life-cycle economics. Key benefits include:

- Reduced installation costs through custom factory prefabrication
- Low maintenance and repair costs
- A standard warranty that provides protection from interior damage costs through leak-proof performance
- Savings incurred through reduced energy consumption, and related rebates or incentives



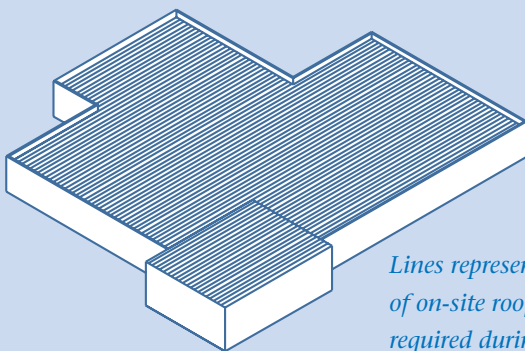
**Economics**

# Expert Engineering Enables Long-Lasting, Money-Saving Performance

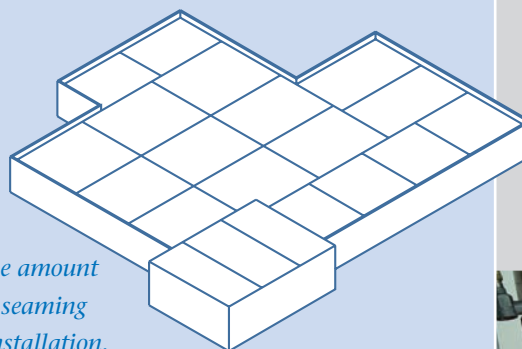
Every Duro-Last Cool Zone roof is designed to be a completely integrated system, prefabricated to the exact measurements of each building. Up to 85 percent of membrane seaming is completed in a factory-controlled environment. Plus, roof stacks, flashings, and edge details are also completed at the factory and shipped to the job site as part of the complete roofing system. The few remaining seams are then hot-air welded on-site by an approved contractor and inspected by a Duro-Last technical representative before a warranty is issued.

Thanks to the precision fabrication of Duro-Last roofing systems, installation is much faster and less disruptive than for a typical “roll-goods” roof. The installation process is quiet, with no noxious fumes or flames, so building occupants can continue with their regular routines.

## Typical “Roll-Goods” Single-Ply System



## Duro-Last Roofing System



*Lines represent the amount of on-site rooftop seaming required during installation.*

The exceptional performance of our lightweight system can often eliminate the need to tear-off the existing roof, saving hundreds, perhaps thousands of dollars in labor costs, and keeping truckloads of material out of landfills.

# Long-Lasting,



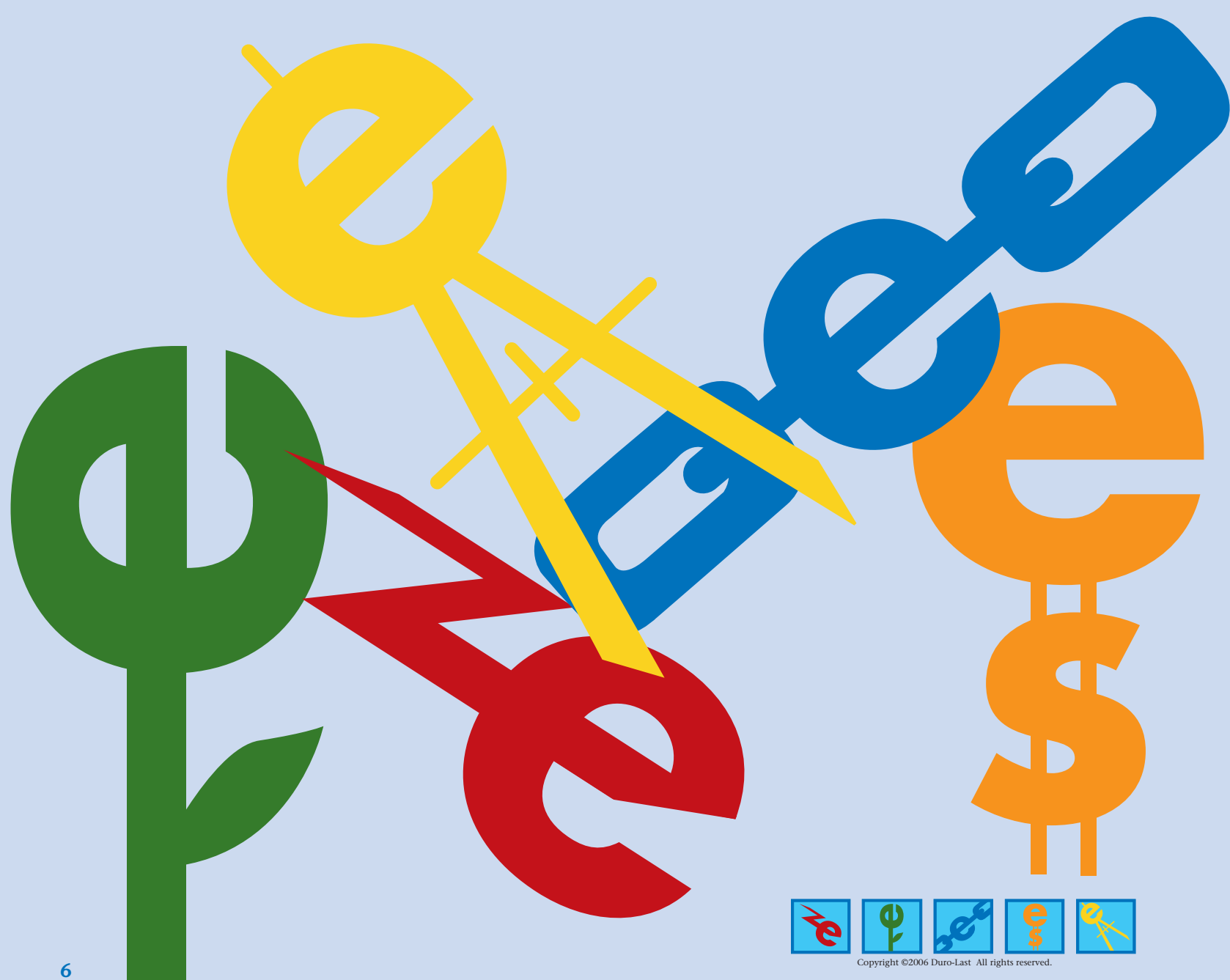
**Engineering**



# When You Think Sustainability, Start at the Top

If you're looking for sustainable building solutions that meet long-term environmental standards, start with a high-performance Duro-Last Cool Zone roofing system. It offers much more than reflectivity and energy savings. It offers long-lasting, money-saving, and sustainable solutions for all your high-performance needs: Energy, Environment, Endurance, Economics, and Engineering.

If you want to know more about the Duro-Last Cool Zone roofing system, visit us at [www.duro-last.com/coolzone](http://www.duro-last.com/coolzone) or call us toll-free at **800-248-0280** today. You can also request our free brochure: How to Make Your Roofing Investment Pay Off. It offers a worksheet for calculating the life-cycle cost of your roofing system investment.



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## WORLD HEADQUARTERS

### Michigan

525 Morley Drive  
Saginaw, Michigan 48601  
(989) 753-6486 (800) 248-0280  
Fax: (989) 753-4472 (800) 432-9331

## OTHER MANUFACTURING LOCATIONS

### Oregon

111 N. Valley Drive  
Grants Pass, Oregon 97526  
(541) 476-9918 (800) 356-6646  
Fax: (541) 479-7071 (800) 566-2698

### Iowa

1409 E. SADC Avenue  
Sigourney, Iowa 52591  
(641) 622-1079 (888) 500-3574  
Fax: (641) 622-2878 (888) 501-3574

### Mississippi

6200 I-55 South  
Jackson, Mississippi 39272  
(601) 371-1973 (800) 434-3876  
Fax: (601) 373-9863 (800) 566-4478

[www.duro-last.com](http://www.duro-last.com)



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