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BuyLine 2998



DURO-LAST® ROOFING, INC.

CUSTOM PREFABRICATED SINGLE-PLY ROOFING SYSTEM



- Durable
- Energy-efficient
- Professionally installed by authorized contractors
- Precision-fabricated for every building
- Code compliant
- Delivers long-term value
- Installed with minimal disruption
- Backed by the industry's best warranties

Three Decades Of Distinction
1978 - 2008

CORPORATE HEADQUARTERS



Saginaw, Michigan



Since our inception in 1978, Duro-Last Roofing, Inc. has been the pioneer of custom prefabricated single-ply roofing systems. For 30 years, Duro-Last has been The Proven Performer[®], with over a billion square feet of membrane installed. This position of distinction has led industry leaders, corporations, and sources of specifications throughout the country to recognize our technological contributions to the roofing industry.

THE DURO-LAST MEMBRANE: STRONG AND DURABLE

The Duro-Last roofing system membrane is a proprietary thermoplastic formulation that provides exceptional flexibility, reflectivity, resistance to U.V. radiation, and flame retardance.

Roofing system performance is a balance among film formulation, membrane thickness, and reinforcement. Duro-Last adds no "filler" material to increase membrane thickness; our film is the same proven formula from top to bottom. Plus, our membrane's over-scrim thickness is equal to or greater than that of many competitive single-ply products.

A key Duro-Last difference is the reinforcement scrim within the membrane. It's a weft-insertion scrim

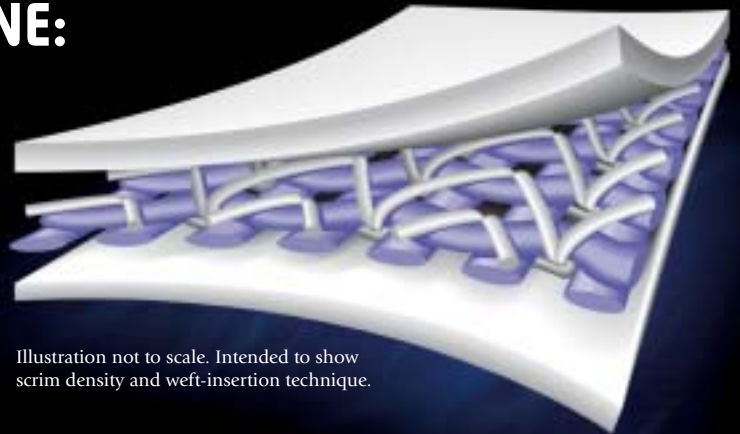


Illustration not to scale. Intended to show scrim density and weft-insertion technique.

with a density of 14 x 18 threads-per-inch – among the highest in the industry.

The Duro-Last 40-mil membrane is classified as a ASTM D4434 Type IV PVC roof system, but the strength characteristics pass all the standards for 50-mil products, which are classified as ASTM D4434 Type III PVC.



The Duro-Last membrane is available in white, tan, or gray.

EVERY ROOF IS MANUFACTURED TO BUILDING SPECIFICATIONS



- Every Duro-Last roof is pre-engineered, designed, and manufactured to address the specific needs of each roofing project
- Prefabrication provides quality-assured products
- Material is custom welded into sheet sizes designed for each building, up to 2,500 square feet each
- 80-85% of membrane seaming is completed in our factory's controlled environment
- Custom prefabrication helps reduce field workmanship performed in the harsh rooftop environment
- Reduces labor costs and installation time associated with roll goods system installations
- Installed 40-mil system weighs .22 lb. per square foot

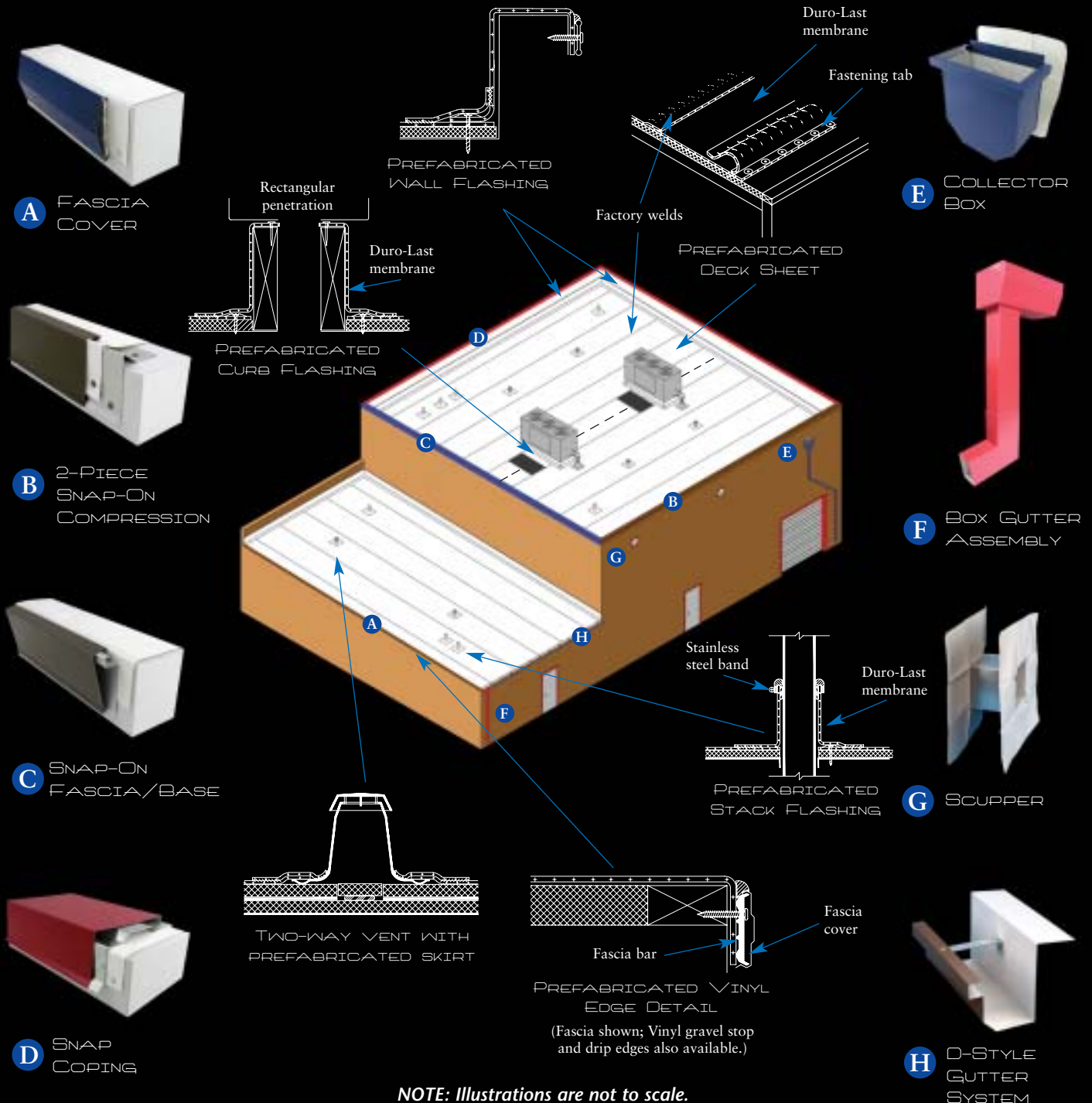


THE DURO-LAST DIFFERENCE — CUSTOM PREFABRICATION

This illustration shows how three prefabricated Duro-Last panels completely cover a roof approximately 7,000 feet in size. The field welding required (dashed line), is much less than the welding done beforehand in Duro-Last's controlled factory environment (solid lines).

Duro-Last also produces a complete line of standard and custom accessories. All flashings, details, and other components are factory-produced, reducing field fabrication. Flashings are made with reinforced membrane to provide unmatched strength at critical transitions. Both vinyl and metal accessories are available in a variety of colors and styles.

Custom prefabrication: if you can draw it, we can make it.



NOTE: Illustrations are not to scale.

HEAT-WELDED ROOFING SYSTEM PROVIDES EASY INSTALLATION AND LOW MAINTENANCE

- Hot air welding bonds all Duro-Last field seams
- Welds are done by a hand-held unit or “walker” welder
- No chemicals, torches, or other unsafe seaming are used
- The Duro-Last membrane is non-curing; patches, curbs, stacks, or other alterations can be easily heat-welded to the membrane throughout the life of the system
- The membrane can be installed over most new or existing substrates; it is watertight and virtually maintenance-free
- The need for costly tear-offs and disposal can often be eliminated



COMPREHENSIVE WARRANTY COVERAGE

Duro-Last is so confident in the durability of our roofing systems that we protect commercial and industrial installations with the best warranties in the industry. Our standard, comprehensive 15-year full warranty is transferable, has no exclusions for ponding water, and provides coverage against consequential damages that result from defects in the Duro-Last material and/or installation workmanship. Duro-Last also has 20-year warranties available.

DURO-LAST'S CODE COMPLIANCE OFFERS CUSTOMERS PEACE OF MIND

- Duro-Last has met or exceeded all major fire/wind code requirements, and obtained necessary regional approvals throughout the United States and Canada
- Factory Mutual ratings: 1-60, 1-75, 1-90, 1-105, 1-135, 1-150, 1-165, 1-195, 1-210, 1-270, 1-435, 1-495
- Rated by Underwriters Laboratories (UL) as a Class A material
- Approved by International Building Code (IBC) and complies with the MIAMI-DADE building code
- Duro-Last is a charter partner of the EPA ENERGY STAR® Roof Products Program, a charter member of the Cool Roof Rating Council (CRRC), and a member of the United States Green Building Council (USGBC). Duro-Last is also a member of the Vinyl Roofing Division of the Chemical Fabrics and Film Association (CFFA)
- The Duro-Last roofing system can help in obtaining credits toward LEED® and LEED-EB certification
- Duro-Last participates in all major roofing industry technical committees, plus the American Society of Testing Materials (ASTM), American Institute of Architects (AIA), Construction Specification Institute (CSI), Roof Consultants Institute (RCI), National Roofing Contractors Association (NRCA), and the Single-Ply Roofing Industry (SPRI)





DURO-LAST COOL ZONE® ROOFING SYSTEM DELIVERS 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.

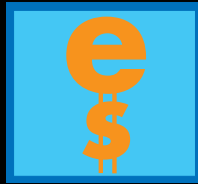


We've defined five interrelated attributes that are important in the selection of a high-performance roofing system. We call them the Five E's:



ENERGY

It's more important than ever to select a roof that can reduce energy use and improve a building's efficiency in any climate.



ECONOMICS

A high-performance roof makes economic sense at the time of purchase and in the long run. A true economic comparison analyzes the cost of a roof throughout its life-cycle.



ENVIRONMENT

High-performance roofing minimizes the impact on the earth's environment throughout the roof's life and helps maintain a healthy, productive environment inside the building.



ENGINEERING

The right materials, design, and manufacturing process enable the other four E's, resulting in a complete, integrated roofing system that can be installed quickly and easily, and performs reliably over the long run.



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.

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

DURO-SHIELD® ROOFING SYSTEM IS THE PERFECT FIT FOR METAL RETROFIT

- Can be installed over an existing metal roof without an expensive tear-off
- A cost-effective, long-term way to protect buildings against rain, temperature changes, interior drips, ice build-up, and rust/corrosion
- Flexible membrane expands and contracts with the weather, eliminating the risk of rooftop leaks

Here's how the Duro-Shield roofing system works:

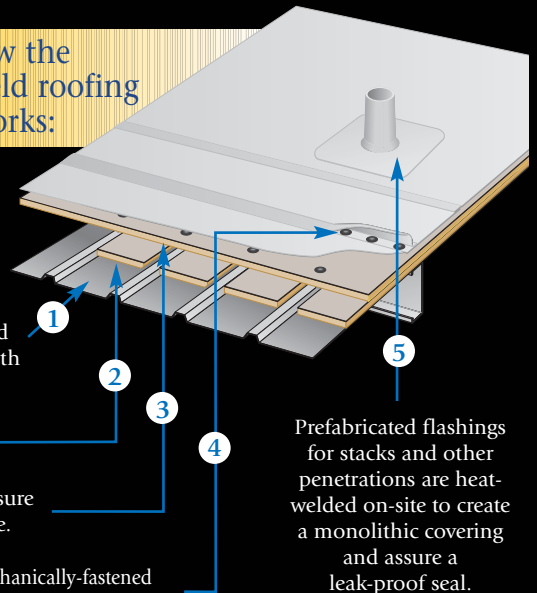


Your existing metal deck can be covered with the Duro-Shield roofing system, with no tear-off required.

Insulation is cut and placed to fill the flutes.

Another insulation layer is added to ensure a flat surface and increase the R-value.

The prefabricated membrane is mechanically-fastened to the deck over the insulation.



Prefabricated flashings for stacks and other penetrations are heat-welded on-site to create a monolithic covering and assure a leak-proof seal.

DURO-LAST PHYSICAL PROPERTIES

Tests outlined by ASTM D-4434	Test Description	Test Method	Metric Results	U.S. Standard Results
	Thickness-Nominal	ASTM D 751	1 mm.	40 mil - Type IV (50 and 60 mil also available)
	Breaking Strength	ASTM D 751 - Grab Method	1912 x 1636 N	435 x 368 lbf./in.
	Elongation at Break	ASTM D 751 - Grab Method	30%	
	Heat Aging	ASTM 3045, 56 days @ 176°F	Pass	
	Factory Seam Strength	ASTM D 751 - Grab Method	2081 N	468 lbf.
	Tearing Strength	ASTM D 751 - Procedure B	404 x 569 N	91 x 128 lbf.
	Low Temperature Bend	ASTM D 2136@-40°F	Pass	
	Accelerated Weathering	ASTM G 154 (Formerly G53)	No cracking, checking, crazing or erosion at 5,000 hours of exposure. Pass	
	Linear Dimensional Change	ASTM D 1204 - 6 hrs. @ 176°F	-0.2%	
	Water Absorption	ASTM D 570 - 166 hrs. @ 158°F	1.40%	
	Static Puncture	ASTM D 5602	25 kg.	56 lb.
	Dynamic Puncture	ASTM D 5635	20 J	474 pdl-ft.

Additional Tests	Test Description	Test Method	Metric Results	U.S. Standard Results
	Fungi Resistance	ASTM G-21	No sustained growth or discoloration	
	Solar Reflectance	ASTM C1549	88%	
	Thermal Emittance	ASTM C1371-98	87%	
	Thermal Emissivity	ASTM E408	95%	
	EMMAQUA Exposure	ASTM G90, Desert Sun	339,790 M/J/m ²	>8.1 million Langley's
	Moisture Vapor Transmission	ASTM E-96, Proc. B, Method A	<.086 g/hr/m ²	<.25 U.S. Perms
	Weight	ASTM D 751	1.1 kg per m ²	.22 lb. per ft ²
	Underwriters Laboratories	UL-790	Classes A, B & C approved	
	Factory Mutual Research	ASTM E-108; FM 4450 & FM 4470	Rated 1-60, 1-75, 1-90, 1-105, 1-135, 1-150, 1-165, 1-195, 1-210, 1-270, 1-435, and 1-495	

MATERIALS THAT CAN BE USED SAFELY WITH THE DURO-LAST ROOFING SYSTEM

The Duro-Last roofing membrane is extremely durable and compatible with dozens of chemicals, construction products, and other materials. Some of the most common are below. For information about materials not listed, contact the Duro-Last Engineering Services Department at 800-248-0280.

- Acid Rain
- Cooking Grease
- Hydrofluoric Acid Cleaner
- Polypropylene
- Acrylic/Latex Paint
- Detergent Solution
- Incinerator Ash
- Sea Water
- Bird Droppings
- Diatomaceous Earth
- Linseed Oil
- Soldering Acid/Flux
- Bleach
- Ethyl/Methyl Alcohol
- Nitrogen Sulfate
- Tannic Acid
- Brick & Masonry Cleaner
- Furnace Residue
- Polyethylene
- Triethylene Glycol



"The World's Best Roof"®



DURO-LAST MANUFACTURING FACILITIES

525 Morley Dr.
Saginaw, MI 48601
800-248-0280
Fax: 800-432-9331

111 N. Valley Dr.
Grants Pass, OR 97526
800-356-6646
Fax: 800-566-2698

1409 E. SADC Ave.
Sigourney, IA 52591
888-500-3574
Fax: 888-501-3574

6200 I-55 South
Jackson, MS 39272
800-434-3876
Fax: 866-602-4387



www.duro-last.com

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