



Membrane

REFERENCE GUIDE



Designed for those
who sell Duro-Last®
Roofing Systems

The Duro-Last® Story

Duro-Last, Inc. offers four decades of proven PVC roof system performance with billions of square feet of membrane installed across North America. As a third generation, family-owned and operated company, Duro-Last prides itself on being a world-class manufacturing operation making premium roofing products in the U.S.A. Duro-Last has been successful since the beginning by providing our customers with unmatched service and expertise in the roofing industry.





Edge-to-Edge & Deck-to-Sky™ Solutions

Duro-Last's founder, John R. Burt, was passionate about controlling the quality of every aspect of a Duro-Last roof. Because of his commitment, Duro-Last today provides complete roofing systems – including the membrane, fasteners, accessories and edge termination. Metal details are manufactured by our EXCEPTIONAL® Metals division, and insulation is offered under our Duro-Guard® brand.

Duro-Last offers the “World’s Best Roof®”

Duro-Last membranes are manufactured using a proprietary thermoplastic formulation that provides exceptional flexibility, reflectivity, resistance to UV radiation and flame retardance. As the leader in the single-ply roofing market, Duro-Last roofing membranes have:

- A thick top weathering layer for enduring performance. Thickness and protection where it matters most.
- Supreme chemistry for harsh rooftop environments and most importantly, premium UV resistance.
- Exceptional waterproofing.
- Resistance to chemical attack, animal fats and grease.
- A high density, weft-inserted anti-wicking scrim for strength and durability.
- Industry-leading warranties.

The Custom-Fabrication Advantage

Custom-fabrication sets Duro-Last apart from the rest of the roofing industry because it provides Time off the Roof™ solutions:

- Up to 85% of seams on the Duro-Last flagship membrane can be factory welded in a quality-controlled environment to reduce rooftop labor.
- Custom-fabricated stacks and curb flashings reduce considerable rooftop labor on the most critical roof areas.
- Less rooftop scrap and cleanup at the job site.
- Fewer rooftop seams means a more predictable and secure installation, reducing the possibility of call backs.

Duro-Last® Membrane Highlights

All membranes offered by Duro-Last are composed of a top and bottom layer of PVC film laminated to both sides of a high-strength, weft-inserted polyester reinforcement scrim. The PVC film is a proprietary thermoplastic formulation of resins, plasticizers, stabilizers, biocides, flame retardants and UV inhibitors.

Features Offered by All Duro-Last Membranes

- **Proven Performance:** As the commercial roofing industry's leader in PVC roofing, Duro-Last produces roofing membranes with a history of providing long-term durability and watertight protection.
- **Superior Scrim:** Our scrim is knitted in-house and has a density of either 18 x 14 or 18 x 9 threads-per-inch. The fabric is made from polyester threads that provide superior tear and puncture resistance; the fabric is treated to prevent wicking.
- **Custom-Fabricated Accessories:** Experience the benefits of our Time off the Roof™ solutions with custom-fabricated accessories that are compatible with all thicknesses of Duro-Last membranes. Using custom-fabricated accessories makes penetrations and transitions easier, which are the most time-consuming part of installation.
- **Energy Efficient:** The highly reflective Duro-Last, Duro-Tuff®, Duro-Last® EV, Duro-Fleece® and Duro-Fleece Plus® white membranes are ENERGY STAR® qualified and provide energy savings in all climates.
- **Colors:** Multiple color options are available for many of our membranes.
- **Recyclability:** Our mechanically attached membranes are recyclable after their life on the rooftop.
- **Lightweight:** PVC is lightweight, and our roofing membranes can often be installed over an existing roof without a tear-off.
- **Serviceability:** PVC is a durable and serviceable product, meaning a Duro-Last roof can have a longer life than roofs made from other materials.
- **Code Approvals:** All Duro-Last roofing membranes are UL and FM approved. For the most complete and up-to-date listing of codes and approvals, visit duro-last.com.

Installation Methods

Duro-Last, Duro-Last EV and Duro-Tuff Membrane Attachment:

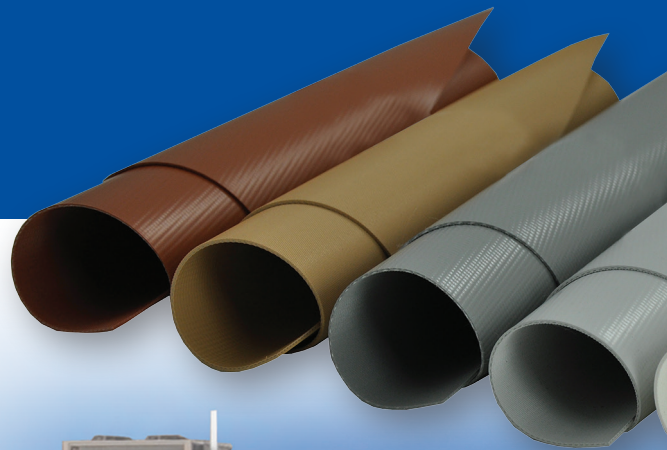
- **Mechanically Fastened:** May be mechanically fastened to a variety of roof decks and wall materials.
- **Adhered:** May be adhered to a variety of properly prepared roof decks, walls, coverboards and insulations including concrete, Duro-Guard® DensDeck® Prime Roof Board, Duro-Guard SECUROCK® Gypsum-Fiber Roof Board, DEXcell™ Roof Board and Duro-Guard ISO products.
- **Duro-Bond® Induction Welding System:** Provides for reduced fasteners, faster installations and unwanted air intrusion.

Duro-Fleece Plus and Duro-Fleece Membrane Attachment:

- **Adhered:** May be adhered to a variety of properly prepared roof decks, walls, coverboards and insulations including concrete, gypsum, lightweight concrete, DensDeck® Prime Roof Board, SECUROCK® Gypsum-Fiber Roof Board and Duro-Guard ISO products. It may be adhered directly to an existing built-up roof (BUR) by using Duro-Fleece® Adhesive or spatter applied Duro-Grip® CR-20.
- **Mechanically Fastened:** May be mechanically fastened to a variety of roof decks and wall materials. An appropriate slip sheet or coverboard may be required.

Duro-Last® Membranes

With four decades of proven performance in the roofing industry, the Duro-Last membrane is our flagship product.



PRODUCT SNAPSHOT

- 40, 50, or 60 mil thick
- Only product in the marketplace to offer custom-fabrication of the entire roofing membrane
- A complete line of Duro-Last custom-fabricated accessories is available for all Duro-Last membranes
- A 15-year warranty with consequential damages is available at no additional charge

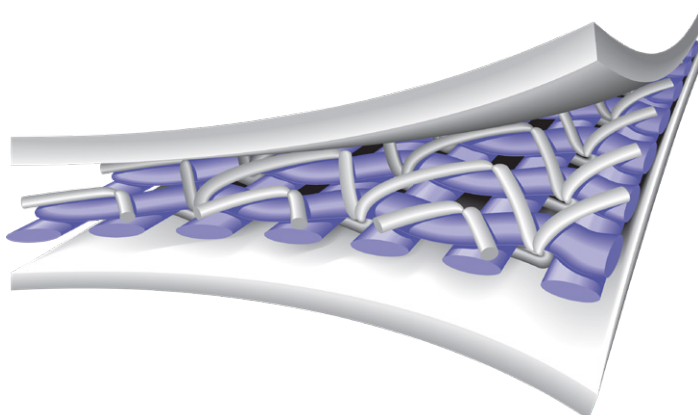


Target Market – 40 Mil

- Most flat or low-sloped applications
- Main Street North America – Small businesses
- Niche applications, such as:
 - Warehouses
 - Commercial refrigeration and coolers

Key Sales Point – 40 Mil

- Four decades of proven performance



Target Market – 50 and 60 Mil

- Universal solution, from Main Street North America to specification markets
- Institutional applications such as:
 - Schools and universities
 - Hospitals
 - Museums
- Commercial applications:
 - Hotels
 - Shopping centers
 - Warehouses
- Industrial buildings:
 - Manufacturing facilities
 - Food processing plants

Key Sales Points – 50 and 60 Mil

- The material thickness over scrim of Duro-Last 50 mil membrane is thicker than that of many of our competitors' 50 or 60 mil PVC membranes.

Mil	PVC Film Above Scrim	Weight	Scrim	Colors
40 mil	17 mil	0.22 lbs. per sq. ft.	18 x 14	White, tan, gray, dark gray
50 mil	28 mil	0.29 lbs. per sq. ft.	18 x 14	White, tan, gray, dark gray, terra cotta
60 mil	28 mil	0.36 lbs. per sq. ft.	18 x 14	White, tan, gray, dark gray

Duro-Tuff®



The Duro-Tuff product line was introduced to appeal to traditional roll good contractors, and contractors looking for a more cost-effective and more reliable sheet that provides the superior membrane characteristics Duro-Last is known for.

PRODUCT SNAPSHOT

- Available in roll goods only
- 50, 60, or 80 mil thickness
- A complete line of custom-fabricated accessories is available for the Duro-Tuff membrane
- Product line does not include consequential damages
- Eligible for Basic and Ultra Warranties

Target Market

- Great for contractors who:
 - Prefer using roll goods
 - Enjoy the benefits of custom-fabricated flashings
- Architects and specifiers
- Projects where the price of the roofing system may be the most important factor

Target Market – 60 Mil

- Often specified in public work, i.e. government facilities

Target Market – 80 Mil

- Buildings with heavy roof traffic
- Industrial facilities
- Areas with rooftop industrial processing
- Manufacturing plants

Key Sales Points

- In addition to white, Duro-Tuff 50, 60, and 80 mil membranes may be specially ordered in a variety of colors to complement the design of any facility.
- Thick top layer thickness over scrim.
- The 80 mil Duro-Tuff membrane is intended for the architect and specifier market.
- 10' rolls reduce welding and enable a quick, quiet, easy and predictable installation.
- The installed membrane is smooth on the surface and aesthetically pleasing.
- Duro-Tuff has a uniform thickness over scrim that provides high durability.
- Unique to the industry, Duro-Tuff color membranes are the same color top and bottom with the exception of the white Duro-Tuff membrane which has a gray bottom.

Duro-Tuff® Roll Goods Sizes

50 mil	10" x 100'	30" x 100'	5' x 100'	10' x 100'
60 mil	10" x 100'	30" x 100'	5' x 100'	10' x 100'
80 mil	10" x 65'	30" x 65'	5' x 65'	10' x 65'

Mil	PVC Film Above Scrim	Weight	Scrim	Colors
50 mil	26 mil	0.28 lbs. per sq. ft.	18 x 9	White, light gray, patina, light tan, charcoal, green, copper, blue
60 mil	31 mil	0.35 lbs. per sq. ft.	18 x 9	
80 mil	41 mil	0.51 lbs. per sq. ft.	18 x 9	

Duro-Fleece®

Our Duro-Fleece membranes are an ideal product for use in adhered and mechanically fastened applications over a wide variety of roof substrates.

PRODUCT SNAPSHOT

- Available in roll goods only
- 50, 60, or 80 mil thickness
- A complete line of custom-fabricated accessories is available for the Duro-Fleece membrane
- Product line does not include consequential damages
- Eligible for Basic, Ultra and Residential Warranties

Compatible for Direct Application with the Following Substrates:

- Structural concrete (poured in place or precast)
- Gypsum (poured in place or precast)
- Lightweight concrete (insulating or cellular)

Target Market

- Both flat and steep-sloped applications
- Great for contractors who:
 - Prefer using roll goods
 - Want to use high-quality fleece products
- Architects and specifiers

Duro-Fleece® Roll Goods Sizes

50 mil	5' x 100'	10' x 100'
60 mil	5' x 100'	10' x 100'
80 mil	5' x 65'	10' x 65'

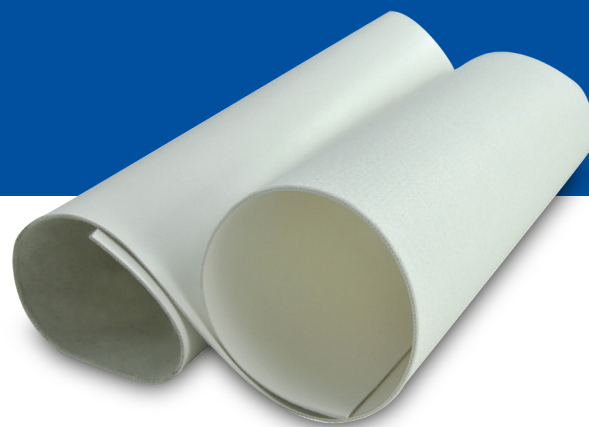
Mil	PVC Film Above Scrim	Overall Thickness with Fleece	Weight	Scrim	Color
50 mil	26 mil	68 mil	0.33 lbs. per sq. ft.	18 x 9	White, light gray, patina, light tan, charcoal, green, copper, blue
60 mil	31 mil	78 mil	0.39 lbs. per sq. ft.	18 x 9	
80 mil	41 mil	98 mil	0.53 lbs. per sq. ft.	18 x 9	

Key Sales Points

- Highly effective on adhered concrete deck installations and roof decks with minimal penetrations.
- Can be used over aged cap sheets, older BURs and modified bitumen which may reduce project material costs and speed up installations that otherwise would require an additional separator sheet.
- In addition to white, Duro-Fleece 50, 60, and 80 mil membranes may be specially ordered in a variety of colors to complement the design of any facility.
- The 80 mil Duro-Fleece membrane is intended for the specifier market.
- Great for those who are looking for a quick, but effective installation when used with Duro-Grip® CR-20 spatter application.
- The 3.8 ounce per square yard, needle-punched polypropylene fleece on the Duro-Fleece membrane provides excellent properties for adhering or mechanically attaching to a variety of substrates.
- Each roll of membrane has one 3-inch selvage edge, without fleece, to enable rooftop hot-air welding to the adjacent membrane.
- Once installed, Duro-Fleece is smooth on the surface and aesthetically pleasing.

Duro-Fleece Plus®

With a thicker fleece and higher density scrim, Duro-Fleece Plus is the premium fleece membrane product.



PRODUCT SNAPSHOT

- Available in roll goods only
- 50 or 60 mil thickness
- A complete line of custom-fabricated accessories is available for the Duro-Fleece Plus membrane
- Consequential damage warranties are available
- Eligible for Basic, Ultra, Supreme and Residential Warranties

Compatible for Direct Application with the Following Substrates:

- Structural concrete (poured in place or precast)
- Gypsum (poured in place or precast)
- Lightweight concrete (insulating or cellular)

Target Market

- Both flat and steep-sloped applications
- Great for those who:
 - Prefer using roll goods
 - Want to use high-quality fleece products

Duro-Fleece Plus® Roll Goods Sizes

50 mil	5' x 100'	10' x 100'
60 mil	5' x 100'	10' x 100'

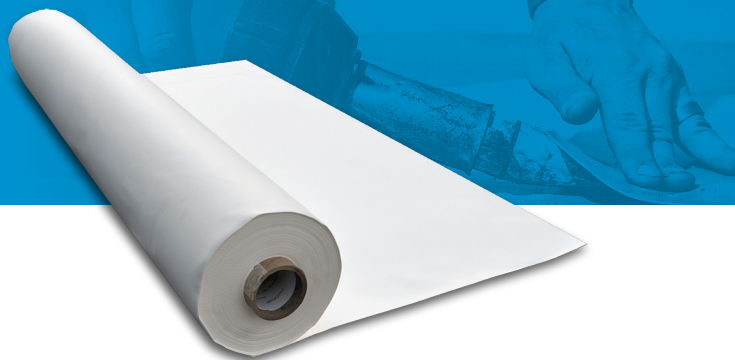
Key Sales Points

- Robust overall thickness for maximum protection.
- Highly effective on adhered concrete deck installations and roof decks with minimal penetrations.
- Great wind uplift when adhered.
- Great for those who are looking for a quick, but effective installation when used with Duro-Grip® CR-20 spatter application.
- Can be used over aged cap sheets, older BURs and modified bitumen which may reduce project material costs and speed up installations that otherwise would require an additional separator sheet.
- Provides durability against hail.
- The 5.5 ounce per square yard, needle-punched polypropylene fleece on the Duro-Fleece Plus membrane provides excellent properties for adhering or mechanically attaching to a variety of substrates.
- Each roll of membrane has one 3-inch selvage edge, without fleece, to enable rooftop hot-air welding to the adjacent membrane.
- Once installed, Duro-Fleece Plus is smooth on the surface and aesthetically pleasing.

Mil	PVC Film Above Scrim	Overall Thickness with Fleece	Weight	Scrim	Colors
50 mil	28 mil	80 mil	0.35 lbs. per sq. ft.	18 x 14	White
60 mil	32 mil	90 mil	0.40 lbs. per sq. ft.	18 x 14	White

Duro-Last® EV

Duro-Last EV membranes are excellent choices for projects requiring a long-lasting, energy efficient roof membrane with chemical resistance.



PRODUCT SNAPSHOT

- Available in roll goods only
- 50 or 60 mil thickness
- Includes DuPont's™ branded Ketone Ethylene Ester (KEE), Elvaloy® polymer
- A complete line of custom-fabricated accessories is available for the Duro-Last EV membrane
- **It's important to note that EV membranes are only compatible with EV membranes**
- Product line does not include consequential damages
- Eligible for Basic, Ultra and Residential Warranties

Target Market

- Those looking for a cost-effective, high-performing KEE-containing membrane
- Architects and specifiers

Key Sales Points

- Membranes containing Elvaloy®, such as Duro-Last EV, are increasingly being specified by architects.
- The installed membrane is smooth on the surface and aesthetically pleasing.
- Like the Duro-Last flagship membrane, EV membrane remains flexible and weldable in low temperatures and can be installed effectively in cold weather; thus, it will continue to perform well in cold, harsh environments.

Duro-Last® EV Roll Goods Sizes

50 mil	10" x 100'	30" x 100'	5' x 100'	10' x 100'
60 mil	10" x 100'	30" x 100'	5' x 100'	10' x 100'

Mil	PVC Film Above Scrim	Weight	Scrim	Color
50 mil	26 mil	0.28 lbs. per sq. ft.	18 x 9	White
60 mil	31 mil	0.30 lbs. per sq. ft.	18 x 9	White



Duro-Last® Designer Series Membranes

Our Designer Series products are ideal for applications where building appearance is important, but conventional shingles or roofing ballast may not be practical. Each membrane provides a unique look, plus the watertight performance and long-term durability of Duro-Last's single-ply roofing system.



PRODUCT SNAPSHOT

- Available in roll goods only
- 50 mil thick membrane
- The Rock-Ply® membrane is printed with the appearance of a ballast roof
- The Shingle-Ply® membrane is printed with a shingle design
- The pattern on both products is protected by a special polymer coating applied to help safeguard the finish from marring, fading and accumulating dirt
- A complete line of custom-fabricated accessories is available for the Designer Series membranes
- Eligible for Basic, Ultra and Residential Warranties

Rock-Ply® Roll Goods Sizes

50 mil	5' x 100'	5' x 50'	30" x 100'
	30" x 50'	10" x 100'	10" x 50'

Shingle-Ply® Roll Goods Sizes

50 mil	5' x 100'	5' x 50'
	30" x 100'	30" x 50'

Target Market

- Installations on multi-level facilities where lower roofs are visible from higher elevations
- Projects where building management wants the aesthetic look of a ballast roof
- To reduce undesired reflectivity
- Hospitals/medical facilities
- Schools and universities
- Government facilities

Key Sales Points

- Both the Rock-Ply and Shingle-Ply membranes are manufactured and backed by Duro-Last.
- The Rock-Ply system is unique; it provides a ballast look for rooftops, where a conventional ballast installation may not be practical because of difficult roof access or other reasons.
- Duro-Last Shingle-Ply is intended to be used primarily for commercial applications where building appearance is important, but conventional shingles are not practical because the roof's slope may not provide good water runoff or the roof has other limitations.
- Also offered by Duro-Last, the Duro-Last Vinyl Rib System is ideal for applications that need the aesthetic appeal of architectural standing seam with the proven watertight integrity of singly-ply applications. This application consists of separate vinyl ribs that are attached to an installed Duro-Last membrane.

Print	Mil	PVC Film Above Scrim	Weight	Scrim	Colors
Rock-Ply	50 mil	21 mil	0.29 lbs. per sq. ft.	18 x 14	Rock print
Shingle-Ply	50 mil	21 mil	0.29 lbs. per sq. ft.	18 x 14	Slate gray, sandstone

Duro-Last® Warranties

Supreme Warranties:

These warranties include consequential damage for the first 15 years.

Warranty Name	Membranes Covered	Min. Mil	Border Color
15-Year NDL Warranty	Duro-Last; Duro-Fleece Plus	40 mil	Green
20-Year NDL Warranty, 15-year Consequential Damage Coverage, and an Additional 5-year Material	Duro-Last; Duro-Fleece Plus	50 mil	Orange
20-Year NDL Warranty, 15-year Consequential Damage Coverage, and an Additional 5-year Labor and Material	Duro-Last; Duro-Fleece Plus	50 mil	Purple

Ultra Warranties: Performance warranties that cover material and labor, but do not include consequential damages.

Warranty Name	Membranes Covered	Min. Mil	Border Color
15-Year NDL Hail Warranty	Duro-Last; Duro-Fleece Plus	50 mil	Brown
15-Year NDL Hail and High Wind Warranty ⁽¹⁾⁽²⁾⁽³⁾	Duro-Last; Duro-Fleece Plus	50 mil	Yellow/Brown
15-Year NDL High Wind Warranty ⁽¹⁾⁽²⁾	Duro-Last; Duro-Fleece; Duro-Fleece Plus; Duro-Tuff; Duro-Last EV	40 mil	Yellow
20-Year NDL High Wind Warranty ⁽¹⁾⁽²⁾	Duro-Last; Duro-Fleece; Duro-Fleece Plus; Duro-Tuff; Duro-Last EV	50 mil	Fuchsia

Basic Warranties: Warranties do not include consequential damages.

Warranty Name	Membranes Covered	Min. Mil	Border Color
15-Year NDL Warranty	Duro-Last; Duro-Fleece; Duro-Fleece Plus; Duro-Tuff; Duro-Last EV	40 mil	Burgundy
20-Year NDL Warranty	Duro-Last; Duro-Fleece; Duro-Fleece Plus; Duro-Tuff; Duro-Last EV	50 mil	Blue
25-Year NDL Warranty ⁽⁴⁾	Duro-Last; Duro-Fleece; Duro-Fleece Plus; Duro-Tuff; Duro-Last EV	60 mil	Yellow/Green
30-Year NDL Warranty ⁽⁴⁾	Duro-Last; Duro-Fleece; Duro-Fleece Plus; Duro-Tuff; Duro-Last EV	80 mil	Orange/Red

Residential Warranties: Warranties do not include consequential damages. Material only warranties.

Warranty Name	Membranes Covered	Min. Mil	Border Color
15-Year Residential	Duro-Last; Duro-Fleece; Duro-Fleece Plus; Duro-Tuff; Duro-Last EV	40 mil	Pink
20-Year Residential	Duro-Last; Duro-Fleece; Duro-Fleece Plus; Duro-Tuff; Duro-Last EV	50 mil	Pink/Blue

(1) Engineering pre-approval is required. Duro-Last must supply all products.

(2) Warranty coverage for 55-mph and over wind speeds require a High Wind Warranty Letter of Intent from Engineering Services.

(3) Warranty coverage requires a Hail Wind Warranty Letter of Intent from Engineering Services.

(4) Issued with accompanying Care and Maintenance Guide, which must be followed for the life of the warranty



For more information give us a call
or visit our website today.

800-248-0280

duro-last.com

Duro-Last, the "World's Best Roof", EXCEPTIONAL, Duro-Guard, Duro-Tuff, Duro-Fleece, Duro-Fleece Plus, Duro-Bond, Duro-Grip, Rock-Ply, and Shingle-Ply are registered trademarks owned by Duro-Last, Inc. DensDeck is a registered trademark owned by or licensed to Georgia-Pacific Gypsum LLC. Securock is a registered trademark of USG Corporation. Elvaloy is a registered trademark owned by DuPont™. ENERGY STAR® is only valid in the United States.

