



# DURO-FLEECE® MEMBRANE

Product Environmental Profile

Duro-Last® Duro-Fleece membrane is an excellent choice for projects requiring a long lasting, energy efficient roofing product. The combination of fleece and the proven performance of Duro-Last roofing membrane results in an ideal product for use in adhered and mechanically attached applications for a wide variety of roof substrates. Duro-Fleece is available in 50 mil, 60 mil, and 80 mil nominal thicknesses in 7 different colors and also offers a complete line of custom prefabricated accessories. The Duro-Fleece membrane incorporates a weft-inserted knitted scrim to provide exceptional strength and waterproofing.

## Environmental Facts:



### POST-INDUSTRIAL RECYCLING

Up to 100% recyclable. Post-industrial scrap from the manufacturing of Duro-Fleece is recycled into concrete expansion joints.



### SOLAR READY

Is solar ready with low-maintenance custom fabricated flashings which are ideal for any rack-mounted commercial rooftop solar application.



### ENERGY EFFICIENT

Duro-Fleece white reflective roofs, when designed and installed properly, can help increase energy efficiency, especially during periods of peak demand.



### SUSTAINABILITY CERTIFICATION

The Duro-Fleece membrane is NSF 347 gold certified as a more durable, energy efficient, and sustainable, single-ply membrane product.



### GREEN CODES

Complies with California Title 24, IgCC, and efficiency programs requiring the use of a highly reflective roof membrane.

*Duro-Last membranes are tested for radiative properties by the Cool Roof Rating Council.*

Cool Roof Rating Council (CRRC)						
	Solar Reflectance		Thermal Emittance		Solar Reflective Index (SRI)	
	Initial	3-Year	Initial	3-Year	Initial	3-Year
White	0.87	0.67	0.89	0.89	110	81
Blue	0.14	Pending	0.89	Pending	Pending	Pending
Copper	0.18	Pending	0.89	Pending	Pending	Pending
Charcoal	0.08	Pending	0.89	Pending	Pending	Pending
Green	0.08	Pending	0.88	Pending	3	Pending
Light Gray	0.43	Pending	0.89	Pending	Pending	Pending
Patina	0.31	Pending	0.89	Pending	Pending	Pending
Light Tan	0.71	Pending	0.89	Pending	Pending	Pending



## Product Environmental Profile: Duro-Fleece

The Duro-Fleece roofing system can help buildings obtain credits under the U.S. Green Building Council's LEED® (Leadership in Energy and Environmental Design) rating system, as well as GBI's (Green Building Institute) Green Globes certification. Both programs promote sustainable building management and construction practices.

LEED® Contributions (version 4)			
Program	Category	Credit	Contribution
LEED BD+C: New Construction	Sustainable Sites	SSc5: Heat island reduction	Initial Solar Reflective Index white membrane: 110 3-year aged SRI: 81 Duro-Fleece roofs can also be installed under a vegetative roof.
	Energy & Atmosphere	EAc2: Optimize energy performance	Cool roofs can help reduce heating and cooling loads which reduces building energy consumption.
	Materials & Resources	MRc1: Building life-cycle impact reduction	The Duro-Fleece life-cycle assessment (LCA) is featured in the Athena Sustainable Materials Institute's Building Impact Estimator so project teams can easily model a whole building LCA
		MRc2: Building product disclosure & optimization - environmental product declaration	Duro-Fleece has a 3rd party verified environmental product declaration (EPD), which is valued as one whole product.
		MRc3: Building product disclosure & optimization - sourcing of raw materials	Duro-Last offers a take-back program so old roofs can be recycled into new product.
LEED O+M: Existing Buildings	Sustainable Sites	SSc3: Heat island reduction	Initial Solar Reflective Index white membrane: 110 3-year aged SRI: 81 Duro-Fleece roofs can also be installed under a vegetative roof.
	Energy & Atmosphere	EAc4: Optimize energy performance	Cool roofs can help reduce heating and cooling loads which reduces building energy consumption.
	Materials & Resources	MRc3: Purchasing - facility maintenance & renovation	Duro-Fleece contains post-industrial recycled content.
Pilot Credit		Certified multi-attribute products & materials	Duro-Fleece is NSF/ANSI 347 Gold certified, and has achieved two points in credit 5.2.2

Green Globes® Contributions (version 2.2)			
Program	Category	Credit	Contribution
Green Globes New Construction	3.2.2 Ecological Impacts	3.2.2.4 Heat island effect	Initial Solar Reflective Index white membrane: 110 3-year aged SRI: 81 Duro-Fleece roofs can also be installed under a vegetative roof.
	3.5.1 Building Core & Shell	3.5.1.1 Path A: Performance path for building core & shell	The Duro-Fleece LCA is featured in the Athena Sustainable Materials Institute's Building Impact Estimator so project teams can easily model a whole building LCA
		3.5.1.2 Path B: Prescriptive path for building core & shell	Duro-Fleece is NSF/ANSI 347 gold certified, and has a brand specific 3rd-party verified EPD to comply with this credit.
	3.5.6 Resource Conservation	3.5.6.1 Minimized use of raw materials	Custom fabricated accessories help reduce waste created onsite.
	3.5.7 Building Envelope - Roofing/ Openings	3.5.7.1 Roofing membrane assemblies and systems	Most Duro-Fleece roofs are inspected by a trained QA technical representative.
		3.5.7.2 Flashings	Most Duro-Fleece flashings, provided by EXCEPTIONAL® Metals, are inspected by a trained QA technical representative.
	3.5.10 Envelope - Barriers	3.5.10.1 Air barriers	Duro-Guard® Soprapav'r is a self-adhesive vapor membrane that works as an air barrier to stop thermal discontinuities.
		3.5.10.2 Vapor retarders	Duro-Guard Soprapav'r is an air barrier as well as a vapor retarder.