

SPEC4 DATA

This Spec-Data sheet conforms to editorial style prescribed by The Construction Specifications Institute. The manufacturer is responsible for technical accuracy.

thus covering the fastening tab. Continue unfolding until the next fastening tab appears. Fasten this tab to the deck and repeat the above process until the complete sheet is installed.

Penetrations: During the aforementioned procedure, make cutouts in the membrane for protrusions. Fasten around cutouts with Duro-Last approved fasteners. The skirt of the factory-fabricated accessories when welded to the deck membrane will cover these cutouts.

Breather Vents: One Duro-Last two-way breather vent must be installed for each 1,000 square feet (90 square meters). Duro-Last vents must be installed according to Duro-Last specifications.

Parapet Walls: Duro-Last custom fabricated parapet wall flashings are designed for each individual application. Secure through the fastening tab at the bottom of the wall using approved fasteners and plates. The factory-welded skirt will cover the fasteners when it is heat welded to the deck sheet.

6. AVAILABILITY AND COST
The Duro-Last Roofing System is available throughout the United States and Canada through the Duro-Last dealer/contractor network and area representatives. For pricing information, contact Duro-Last Roofing, Inc. for the nearest Duro-Last sales representative.

7. COMMERCIAL WARRANTIES
Upon the successful completion of a final inspection by a Duro-Last quality assurance specialist, Duro-Last Roofing, Inc. will furnish to the Duro-Last contractor either a 15-year or 20-year warranty.

The 15-year warranty covers material and labor for repair or replacement for the full 15 years.

The 20-year warranty covers both material and labor for repair or replacement for the first 10 years. The second 10 years is prorated and covers material only.

8. MAINTENANCE

Keep the finished roof free of debris. Do not use roof area for storage. No other maintenance is required.

1. PRODUCT NAME

Duro-Last® Specially Formulated Roofing Membrane

2. MANUFACTURER

Duro-Last Roofing, Inc.
525 Morley Drive
Saginaw, MI 48601
Phone: (989) 753-6486
(800) 248-0280
Fax: (800) 432-9331

Branch Offices

Grants Pass, OR
Phone: (800) 356-6646
Fax: (800) 566-2698
Jackson, MS
Phone: (800) 434-3876
Fax: (800) 566-4478
Sigourney, IA
Phone: (888) 500-3574
Fax: (888) 501-3574

3. PRODUCT DESCRIPTION

Basic Use: The Duro-Last Single-Ply Roofing System is a prefabricated waterproofing system used in the following applications:

- Re-cover over existing systems
- New construction
- Both combustible and noncombustible decks

Limitations: Duro-Last membrane must not be installed over assemblies with saturated underlying insulation or directly over existing incompatible roofs without proper separation.

Composition and Materials:

Duro-Last membrane is a proprietary thermoplastic formulation consisting of resins, plasticizers, stabilizers, fungicides, flame-retardants, and U.V. absorbers, which is laminated to a weft-inserted polyester fabric. It is available in white, tan, and gray.

Sizes: For ease of handling and reduced field seams and faster installation time, Duro-Last Roofing, Inc. factory welds material in large sheets up to 2,500 square feet (232 square meters) as specified by architects, contractors, or installers. The system weighs .25 lbs. per square foot.

Accessory Components: Duro-Last Roofing, Inc. produces a complete line of standard and custom-fabricated accessories.

These accessories are made from the same material as the deck membrane and are made in a Duro-Last factory, not on the roof.

Standard Accessories: Round pipe flashings from 1" (2.5 cm) to 15" (38 cm) in diameter, inside and outside corners, two-way roof vents, roof drain liners, gravel/water stop with factory welded Duro-Last skirts,

termination bar, and fascia with cover and joint clips.

Custom-Made Accessories:

Round pipe flashings greater than 15" (38 cm), parapet wall flashings, scuppers and curbs for all types of roof penetrations. (For example: HVAC units, skylights, chimneys, etc.) If there is a need for a custom flashing that has not been mentioned, provide a drawing and Duro-Last will manufacture it.

Applicable Standards:

Underwriters Laboratories, Inc., Class A, B, and C (R-10128); Factory Mutual Research Class 1-60, 1-90, 1-105, 1-150, 1-210; Miami-Dade County, FL; City of Los Angeles, CA; City of Denver, CO; HUD Material Release 1223; City of New York, NY 421-90-M and 422-90-M; IBC: ICC Legacy Reports (NER-227) -ICBO (ER-5694).

4. TECHNICAL DATA

Please refer to page 2 for physical properties and test results.

5. INSTALLATION

Duro-Last Roofing, Inc. provides detailed application instructions and training for roofing contractors and consulting services to architects, engineers, and specifiers. The following are general instructions for installing the Duro-Last Roofing System.

Deck Surface Preparation: The substrate on which Duro-Last membrane is to be applied must be clean, smooth, free of sharp edges, loose debris, and standing water. Gravel should be leveled. All surface preparations must be done in strict accordance with the Duro-Last application specifications.

Insulation: Insulation must be laid on the deck and cut neatly around all penetrations. It must then be mechanically attached with approved fasteners according to the Duro-Last specifications. Do not lay more insulation than can be covered in the same day. Stagger the insulation boards 50% from row to row. No gaps to exceed 1/4".

Placement: Using the roof layout diagram, select the proper marked and rolled premanufactured sheet of Duro-Last membrane. Orient the membrane so the fastening tabs are perpendicular to the ribs or corrugations of steel deck, or to the width of prestressed concrete "T" slabs. Secure the membrane to the roof deck through the fastening tab with approved fasteners and plates, in accordance with Duro-Last specifications. Unfold the sheet,

7 MEMBRANE ROOFING
Single-Ply Roofing Systems

Duro-Last Roofing, Inc.
September 2005
Supercedes November 2004)

**DURO-
LAST®**
Roofing, Inc.



9. TECHNICAL SERVICES

Duro-Last Roofing, Inc. provides a consulting and design service to architects, engineers, and licensed contractors for specifying and detailed installation of the Duro-Last Roofing System for various field

applications. Technical brochures, manuals, and specifications are available upon request.

Technical field service is also available through Duro-Last field quality assurance specialists.

10. FILING SYSTEM

- Sweets General Building File 07500/DUR – Buyline 2998

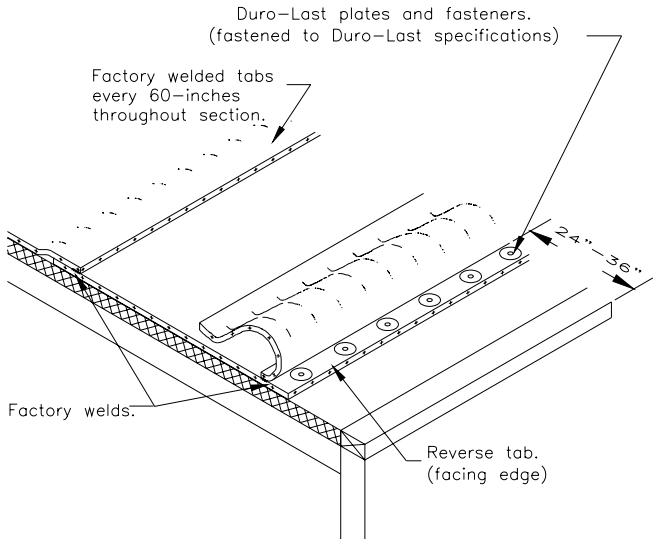
PHYSICAL PROPERTIES

Tests outlined by ASTM D-4434

Test Description	Test Method	Metric Results	U.S. Standard Results
Thickness-Nominal	ASTM D 751	1mm	40 mils - Type IV
Breaking Strength	ASTM D 751 - Grab Method	1912 x 1636 N	435 x 368 lbf.
Elongation at Break	ASTM D 751 - Grab Method	30%	
Heat Aging	ASTM 3045, 56 days @ 176° F	90% of Control - no cracking, chipping or crazing	
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	
Accelerated Weathering	ASTM G 154 (Formerly G53)	No cracking, checking, crazing or erosion at 5,000 hours of exposure	
Linear Dimensional Change	ASTM D1204 - 6 hrs @ 176° F	-0.2%	
Water Absorption	ASTM D 570 - 166 hrs. @ 158° F	1.40%	
Static Puncture	ASTM D 5602	25kg	56 lbs
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 lbs. per sq. ft.
Underwriters Laboratories	UL-790	Classes A, B & C approved	
Factory Mutual Research	ASTM E-108; FM 4450 & FM 4470	Rated 1-60, 1-90, 1-105, 1-150 & 1-210	



Note1: To help reduce wind up-lift effects on all perimeter terminations, parallel with tab direction, including parapet walls under 24-inches in height, a tab fastened 24-36 inches from edge is required.

Note2: Align the edge of the polyplate with the outside edge of the fastening tab.