

OBION COUNTY BOARD of EDUCATION

SINGLE PLY ROOF REPLACEMENT

OBION COUNTY SCHOOLS

Black Oak Elementary

Obion County, Tennessee

The Obion County Board of Education is now accepting bids for all work necessary to replace the existing single ply roof at Black Oak Elementary School (Gym). Complete specifications are as follows.

Any questions or clarifications may be addressed to; or to schedule a site visit:

Phil Graham
Maintenance Supervisor
Office phone 731.536.4226
grahamp@ocboe.com
jjowers@ocboe.com

DEFINITIONS

1. A bid is a complete and properly signed proposal to do the work or designed portion thereof for the sum stipulated therein supported by data called for by the bidding documents.
2. Base bid is the sum stated in the bid for which the bidder offers to perform the work described as the base, to which work may be added or deducted for the sums stated in the alternate bids.
3. An alternate bid is an amount stated in the bid to be added to or deducted from the amount of the base bid if the corresponding change in project scope, materials, or methods of construction described in the bidding documents is accepted.
4. A price is an amount stated in the bid as a price per unit of measurements for materials or services as described in the contract documents.

PROTECTION OF PERSONS AND PROPERTY

The successful contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work. The contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury, or loss to:

1. All employees on the work
2. All the work, all materials, and equipment to be incorporated therein.
3. All other employees, students, and guest at the job site.
4. Other property at the site or adjacent thereto.

INSURANCE

The successful bidder shall purchase and maintain insurance for the protection from claims which may arise out of or the result from the contractors operation as part of this project, whether such operations be by the contractor or by any subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

1. Claims under workers or workmen's compensation, disability benefit or other similar employee benefit act.
2. Claims for damages because of bodily injury, occupational sickness or disease, or death of the contractors employees
3. Claims for damages because of bodily injury, sickness or disease or death of any person other than the contractors employees
4. Claims for damages insured by usual personal injury liability coverage which are sustained by any person as a result of an offense directly or indirectly related to the employment of such persons by the contractor or by any other person
5. Claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom.
6. Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

The insurance required above shall be written for not less than any limits of liability required by law.

Certificates of insurance shall be submitted to the owner prior to commencement of the work. These Certificates shall contain a provision that coverages afforded under the policies will not be canceled until at least thirty days prior written notice has been given to the owner.

BIDDER REPRESENTATION

Each bidder by submitting their bid represents that:

1. They have read and understand the project documents and their bid is based in accordance thereof.
2. A representative of the bidder has visited the site and familiarized themselves with the local conditions under which the work is to be performed.
3. Their bid is based upon the materials, systems and equipment described in the project documents without exception.

PROCEDURES

1. Bids are to be submitted in **duplicate**.
2. Bidder may list any voluntary alternatives on a separate bid form.
3. All copies of the bid shall be enclosed in a sealed envelope. The envelope shall be addressed to the owner, and identified with the words **“BID ENCLOSED SINGLE PLY ROOF REPLACEMENT OBION COUNTY SCHOOLS”** plainly written on the face thereof.
4. Bids are to be filled in by typewriter or manually in ink.
5. Bids are to be submitted to:
OBION COUNTY BOARD of EDUCATION
1700 N. Fifth Street
UNION CITY, TN 38261
6. Bids are to be received by **June 1, 2017 at 11am**.
7. Bids will be opened immediately thereafter, at the above location.
8. The owner retains the right to reject any or all bids, especially those that appear irregular or inconsistent in content.
9. It is the intent of the owner to award this project to the lowest reasonable bidder, provided the bid has been submitted in accordance with the requirements of this document, is judged to be reasonable, and does not exceed the funds available for this project.
10. Bids are to be signed by person legally authorized to bind the bidder to a contract.

GENERAL CONDITIONS

OWNER: The owner is the person or entity identified as such in the owner-contractor agreement and is referred to throughout as if singular in number and masculine in gender. The term owner means the owner or his authorized representative.

The owner shall furnish information, or services under the owners control with reasonable promptness to avoid delay in the orderly progress of the work.

If the contractor fails to correct defective work or persistently fails to carry out the work in accordance with the contract documents, the owner, by written order signed personally or by

an agent of owner, may order the contractor to stop work, or any portion thereof, until cause of such order has been eliminated.

If the contractor defaults, or neglects to carry out the work in accordance with the contract documents and fails within seven days after receipt of written notice from the owner to commence and continue such corrections, the owner may make good such differences. In such case an appropriate change order shall be issued deducting from payments then and thereafter due the contractor the cost of correcting such deficiencies.

The contractor is the person or entity identified as such in the owner-contractor agreement and is referred to throughout the contract documents as if singular in number and masculine in gender. The term contractor means the contractor or his authorized representative.

Unless otherwise provided in the contract documents, the contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation, and other facilities and services necessary for the proper execution and completion of work.

The contractor shall at all times enforce strict discipline and good order among his employees, in particular while children are present.

The contractor warrants to the owner that all materials and equipment furnished under this contract will be new unless otherwise specified, and that all work will be of good quality. The warranty period shall be for one year from the acceptance of the completed work. All extended warranties offered by the manufacturer shall be effective until such limits expressed by the manufacturer have expired.

The contractor shall pay all sales, consumer, use, and other similar taxes for the work or portions thereof.

The contractor, upon being awarded the contract, shall submit for the owners' information an estimated progress schedule for the work.

The contractor, upon acceptance of his proposal, will honor this project completion date of ____-____-_____. If the contractor is unable to comply with this completion date, without proper documented justification to the owners' satisfaction, he will forfeit payments not to exceed 1% (one percent) of the total proposal per day.

The contractor shall be responsible for all cutting, fitting, or patching that may be required to complete the work or to make its several parts fit together properly.

CLEANUP

Refuse and debris accumulating from work required as part of this project be regularly removed from the job site by the contractor and before final acceptance of this project by the owner.

If the contractor fails to clean up at the completion of the work, the owner may do so and the cost thereof deducted from payment to the contractor.

QUALIFICATIONS:

“Contractor shall comply with Public Chapter 587 of 2007, as codified in Tennessee Code Annotated Section 49-5-413, which requires all contractors to facilitate a criminal history records check conducted by the Tennessee Bureau of Investigation and the Federal Bureau of Investigation for each employee prior to permitting the employee to have contact with students or enter school grounds when students are present.

CHANGES IN WORK

1. A change order is a written order from the contractor, signed by the owner authorizing a change in the work or an adjustment in the contract sum. The contract sum may be changed only by a change order. A change order signed by the contractor and the owner indicates their agreement therewith, including the adjustment in the contract price.
2. The owner, without invalidating the contract, may order changes in the work within the general scope of the contract consisting of additions, deletions, or other revisions, the contract sum being adjusted accordingly. All such changes shall be authorized by a change order, and shall be performed under the applicable conditions of the contract documents.
3. The owner will have the authority to order minor changes in the work not involving an adjustment in the contract sum. Such changes shall be effected by written order and shall be binding to the owner and contractor

LICENSE

Bidders are required to be licensed as required by law of the **State of Tennessee**, where the project is located.

UTILITIES

The successful bidder shall be responsible for the location of all underground utilities. Any utilities that have to be re-located or repaired as a result of this contract will be the responsibility of the contractor. The Board of Education shall be held harmless of liability in case of any damages.

Special care shall be taken on the placement of deck screws to avoid damage to electrical circuits and other building utilities attached or in close proximity to gymnasium decking.

GENERAL

The owner shall supply necessary water and electricity for installation. The owner shall permit the use of toilet and wash-up facilities.

QUALITY STANDARDS OF INSTALLATION

Upon completion of project, representatives of the Owner, Contractor, and Manufacturer prior to acceptance by the owner shall inspect the installation

The use of “Brand names, Trademarks, and Professional Services” is to establish a minimum standard of quality.

SPECIAL REQUIREMENTS

The operations performed under this contract shall be closely scheduled, coordinated and conducted in such manor and sequence to cause the least interference with normal flow of traffic. Work is not to inhibit the regular operations of school bus traffic unless coordinated with the owner and is to maintain proper access for any emergency and utility personnel.

PAYMENT OF CONTRACT

Upon delivery of materials to the job site and commencement of work, provided the manner of completion and work is satisfactory to the owner and materials meet specifications, the owner will make a progress payment to the successful bidder totaling fifty percent (50%) of the contract sum. A payment totaling forty percent (40%) of the contract sum will be made to the successful bidder upon substantial completion of work, being verified by a walk-thru conducted by the owner and the contractor. The remaining ten percent (10%) of the contract sum will be paid when the owner receives all closing documents, manuals, and warranty extensions.

SUBMITTALS

Submit with bid:

1. Manufacturers data certifying compliance with these specifications

Submit upon notice of award

1. Certified list of existing installations, including owner representative and telephone number, attesting the compliance with quality assurance information.
2. A complete list of suppliers and sub-contractors, **especially if suppliers are different than those specified.**
3. Copies of insurance certificates

LOCAL CONDITIONS

It is required that any bidder submitting a bid for this project shall make an appointment, and observe all local conditions for consideration of their bid. Original building prints are available for review at the maintenance office.

ANY QUESTIONS OR CLARIFICATIONS REGARDING THIS PROJECT MAY BE ADDRESSED TO, OR TO SCHEDULE AN OBSERVATION OF LOCAL CONDITIONS, PLEASE CONTACT:

PHIL GRAHAM
MAINTENANCE SUPERVISOR
(731) 536-4226

REQUESTED ALTERNATE

The board will accept a requested alternate bid to replace the existing EPDM section of roof that covers the roof valley between the pitched roof of the dining room and kitchen.

ADDITIONAL BID (ENCLOSE FIBERGLASS PANELS)

An additional bid will be accepted for covering the existing fiberglass wall panel in place at the gym.

All materials and methods are to complement that in place on the south exposure of the gym. Color is to match that in existence.



DURO-TUFF® 50-MIL MEMBRANE

Advantages:

Duro-Last® Duro-Tuff® 50-Mil (DT50) membrane is an excellent choice for low-slope roof projects requiring a long lasting, energy efficient roofing membrane. A complete line of custom prefabricated accessories is available for the DT50 membrane.

Description:

Duro-Tuff membrane incorporates a weft-inserted, knitted scrim within PVC films to provide exceptional strength and waterproofing.

Duro-Tuff membranes must not be used with Duro-Last EV membranes.

PVC Film - Proprietary thermoplastic PVC formulation of resins, plasticizers, stabilizers, biocides, flame retardants, and U.V. absorbents.

- PVC film above weft-inserted scrim – 26 mil

Weft-Inserted Scrim - An 18 x 9 polyester fabric construction with weft insertion, composed of 840 x 1000 denier threads, provides superior tear and puncture resistance. The polyester thread is treated to prevent wicking.

Total Thickness – 50 mil, nominal.

Weight – 0.28 lb. per square foot.

Color – Top surface: white. Bottom surface: light gray.

R-Value – 0.1 ft²·°F·hr/Btu.

Packaging – DT50 is supplied in the roll sizes shown below. A full pallet contains ten rolls.

Roll Dimensions:

Dimensions	Estimated Coverage		Roll Weight
	6" Overlap ¹	4" Overlap ²	
120 in. x 100 ft.	550 sq. ft.	367 sq. ft.	280 lb.
80 in. x 100 ft.	450 sq. ft.	437 sq. ft.	140 lb.
80 in. x 100 ft.	200 sq. ft.	217 sq. ft.	70 lb.
10 in. x 100 ft.	Striping		24 lb.

¹ 6-inch overlap and use of Duro-Last Poly or Coat Plates

² 4-inch overlap and use of Duro-Last Oval Metal Plates

Overlap Line – A blue line, 6 inches from one edge of the sheet, is factory applied to the top of the sheet to assist in maintaining proper overlap between sheets.

Seam Plate and Fastener Placement Guides – "X"s are placed at 6-inch intervals along one edge of the sheet to assist in maintaining proper spacing between fasteners. Install fasteners so that the outside edge of the seam plate is flush with the edge of the sheet.



"T-Lap" Patches – A patch, with rounded corners, is required at all lap areas where 3 or more layers of membrane intersect ("T-Lap"). The minimum size of the patch is 4 x 4 inches or 4-inch diameter. Patches can be made of either DT or DL membrane of any thickness. Refer to Detail Drawing DT1066.

Energy Efficiency:

White DT50 membrane is an excellent product for complying with California Title 24 and other energy efficiency programs requiring the use of a highly reflective roof membrane.

Cool Roof Rating Council (CRRC)¹

	Solar Reflectance		Thermal Emittance		Solar Reflective Index (SRI)	
	Initial	3-yr	Initial	3-yr	Initial	3-yr
White	0.85	0.73	0.89	0.88	109	80

¹ Duro-Last's CRRC Product ID: 0610.

Warranty:

The following warranties are available for projects utilizing DT50 membrane. Contact Duro-Last for warranty details. **Consequential damage coverage is not available for Duro-Tuff installations.**

Available Warranties		
Supreme	Not applicable for this product	
Ultra	15-YR High Wind	20-YR High Wind
Basic	15-YR NDL	20-YR NDL
Residential	15-YR Material Only	20-YR Material Only

DURO-TUFF® 50-MIL MEMBRANE

Codes and Standards:

Underwriters Laboratories.

Storage:

Store rolls lengthwise on pallets. Use tarps to keep rolls dry.

Membrane Attachment:

Mechanically Fastened – DT50 membrane may be mechanically attached to a variety of roof deck and wall materials. An appropriate slip sheet or cover board may be required. Refer to the Roll Good Mechanically Fastened System Specification for system requirements.

Duro-Bond® System – The Duro-Bond system (induction weld) may be used to attach DT50 membrane. Refer to the Duro-Last Duro-Bond System Specification for system requirements.

Adhered – DT50 membrane may be adhered to a variety of properly prepared roof decks, walls, cover boards and insulations. Refer to the Duro-Last Adhered Systems Specification for system requirements.

Physical Properties:

DT50 membrane has been subjected to the tests required by ASTM 4434 "Standard Specification for Poly (Vinyl Chloride) Sheet Roofing" and has been classified as a Type III, internally reinforced sheet. The results of each test are listed below. ASTM's Overall Thickness requirements for the membrane are plus or minus 10% (nominal) of the listed Typical Value.

Physical Property	Test Method	ASTM D4434 Requirement for Type III Sheet	Typical Value
Overall Thickness	ASTM D751	≥ 0.045 and ≤ 0.055 in. (≥ 45 and ≤ 55 mil)	0.050 in. (50 mil), nominal
Thickness Over Scrim	ASTM D7635	≥ 0.016 in.	0.026 in. (26 mil)
Breaking Strength ¹	ASTM D751 Grab Method	≥ 200 lbf./in.	423 x 278 lbf./in.
Elongation ¹	ASTM D751 Grab Method	≥ 15%	31% x 30%
Seam Strength	ASTM D751 Grab Method	≥ 317 lbf. (75% of Breaking Strength.)	423 lbf.
Tear Strength ¹	ASTM D751 Procedure B	≥ 45 lbf.	90 x 143 lbf.
Low Temp. Bend	ASTM D2136	Must pass at -40° F.	PASS
Heat Aging	ASTM D3045	Conditioned for 56 days in oven maintained at 176° F.	PASS
Accelerated Weathering	ASTM G154 (Formerly G53)	5,000 hours total test time. Irradiance level of 0.68 W/m ² -nm. Cycle: 8 hours at 145° F, 4 hours condensation at 122° F.	PASS
Dimensional Stability ¹	ASTM D1204	Conditioned for 6 hours in oven maintained at 176° F. Allowable change: ≤ 0.5%	0.20% x 0.10%
Water Absorption	ASTM D570	Immersed in water at 158° F for 168 hours. Allowable weight change: ≤ 3%	2.60%
Static Puncture	ASTM D5602	≥ 33 lbf.	≥ 33 lbf.
Dynamic Puncture	ASTM D5635	≥ 14.7 ft-lbf. (20 J)	≥ 14.7 ft-lbf. (20 J)

¹ Typical values are shown for both machine and cross machine directions. The machine direction results are listed first.



DURO-LAST® DURO-BLUE SEPARATION SLIP SHEET

DESCRIPTION:

Duro-Last® Duro-Blue® is a separation slip sheet for use with the Duro-Last roofing system. It is made from a coextruded polyethylene film.

The Duro-Blue separation slip sheet is chemical-resistant and has excellent weatherability characteristics. It is highly resistant to mildew. Since it is made of inert organic materials it does not provide nutritive value to plants, animals, or microorganisms.

The Duro-Blue separation slip sheet may be used as a separation layer placed between the Duro-Last roof membrane and incompatible materials such as single-ply roof membranes, expanded polystyrene (EPS), extruded polystyrene (XPS), and styrene-based facers on insulation. Duro-Blue must not be used over any type of built-up roofing (BUR), modified bitumen or asphalt-based products. It may be used on smooth roof decks, walls, and curbs. Duro-Blue is intended to be used as a separation layer, not as a waterproofing material.

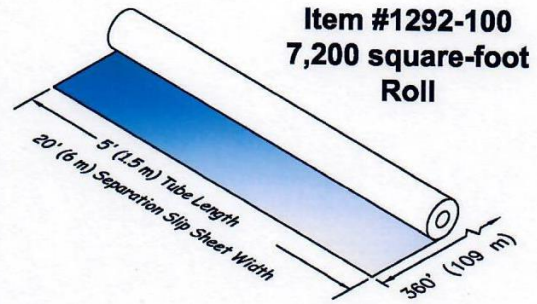
The Duro-Blue separation slip sheet has a minimum thickness of 4 mils (0.10 mm). It is delivered on a 5 ft. (1.5 m) long tube.

MATERIAL SAFETY DATA SHEET:

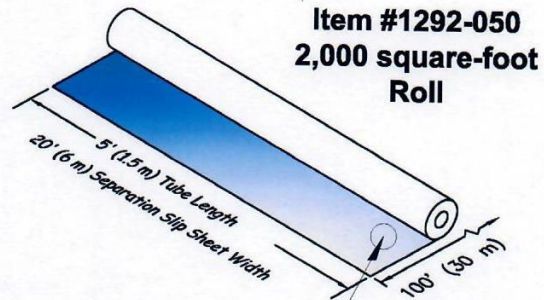
Product: Duro-Blue separation slip sheet

INSTALLATION:

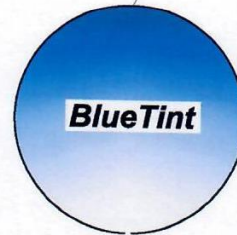
1. Attach the Duro-Blue separation slip sheet with as many fasteners as are necessary to hold it in place.
2. Only Duro-Last approved fasteners and plates may be used.
3. Overlap sections of Duro-Blue by 6 inches (15 cm) on all edges.



**Item #1292-100
7,200 square-foot
Roll**



**Item #1292-050
2,000 square-foot
Roll**

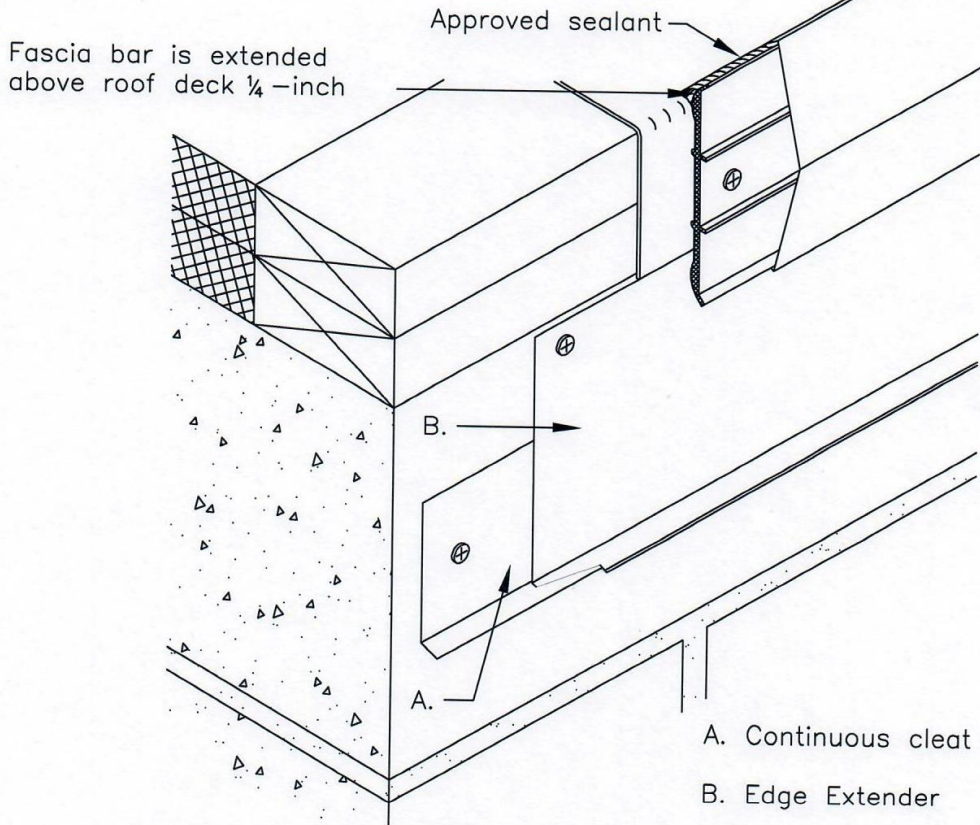


Item#	Width	Length	Total Size	Coverage w/6" overlap	Roll Weight	Thickness (minimum)	Water Vapor Transmission	Color
1292-100	20 ft. (6 m)	360 ft. (110 m)	7,200 sq.-ft. (669 sq.-m)	7,000 sq.-ft. (650 sq.-m)	139 lb. (63 kg)	4 mils (0.09 mm)	0.15 (g/100 in ² /day)	Blue Tint
1292-050	20 ft. (6 m)	100 ft. (30.5 m)	2,000 sq.-ft. (185 sq.-m)	1,950 sq.-ft. (181 sq.-m)	40 lb. (18 kg)	4 mils (0.09 mm)	0.15 (g/100 in ² /day)	Blue Tint



1-800-248-0280
831 Morley Drive
Saginaw, MI 48601

DETAIL E3540



Note 1: Do not use this detail for fully adhered applications unless the membrane is back sealed using caulk or strip mastic.

Note 2: If the Edge Extender is 4-inches or larger, a continuous cleat is required.

Note 3: The continuous cleat and Edge Extender must be fastened 6-inches on center (maximum).

Note 4: All joints and splices must be staggered a minimum of 12-inches.

DATE: JANUARY 2013

METAL EDGE DETAIL

DRAWN BY: ENG. DEPT.

METAL EDGE EXTENDER

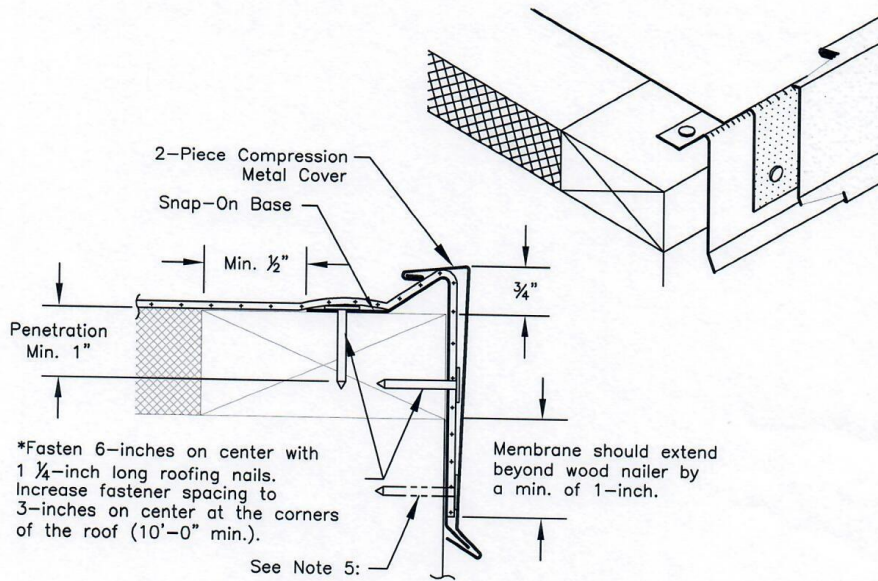
SCALE: NONE

NEW CONSTRUCTION OR RE-ROOF



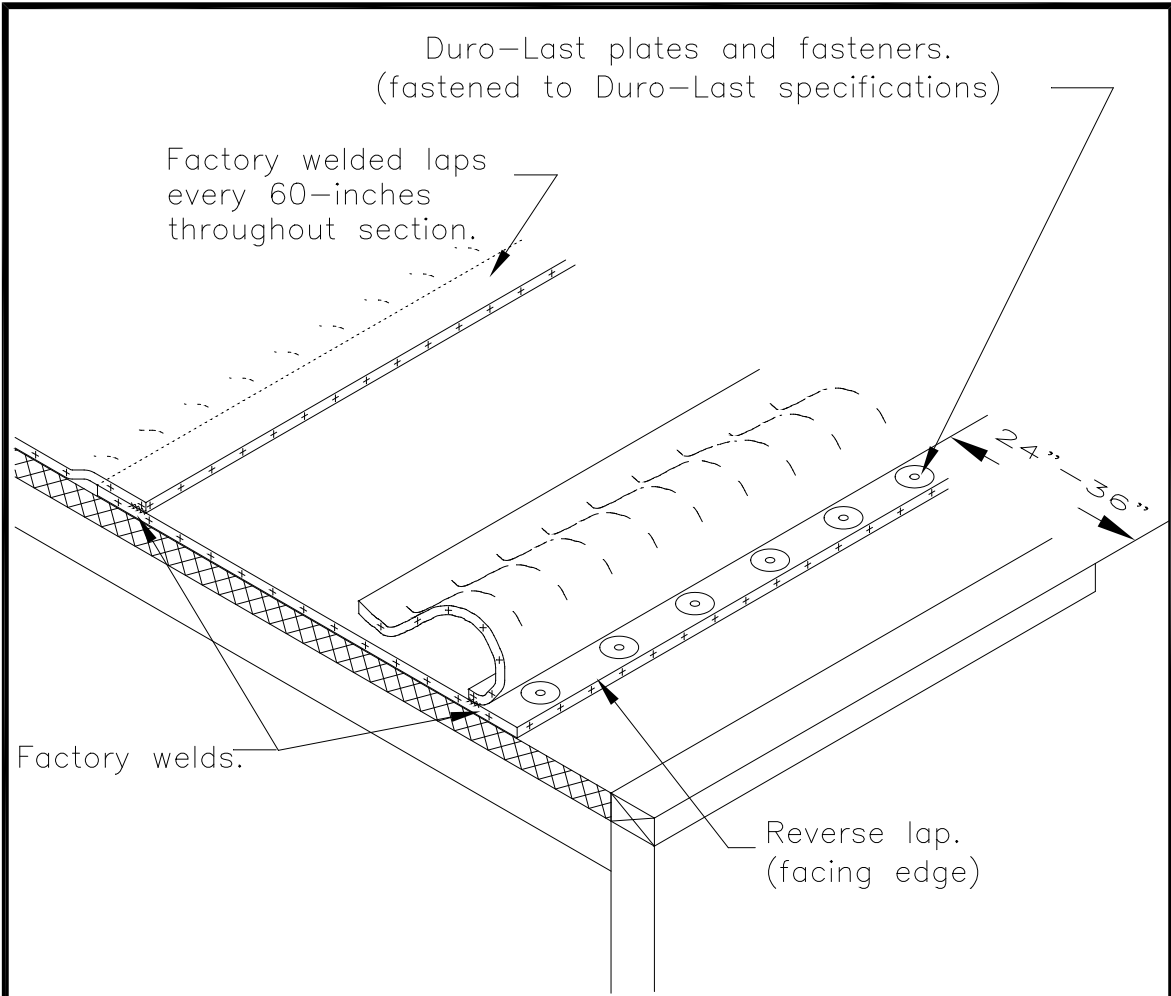
1-800-248-0280
831 Morley Drive
Saginaw, MI 48601

DETAIL E3110




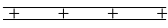

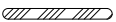





- Note 1: The use of this detail is not to exceed a 2-inch per 12-inch slope.
- Note 2: A wood nailer is required if one or more inches of insulation is used. Top of wood nailer is to be flush with top of insulation. Be sure that the wood nailer extends at least $\frac{1}{2}$ -inch beyond the horizontal edge of the snap-on base.
- Note 3: The fasteners used to attach the base to wood nailers, and the membrane to the face of the nailers, must be spaced no greater than 6-inches on center. The fastener spacing must be increased to 3-inches on center when attaching the base within 10-feet (min.) of the outside corners of the building.
- Note 4: Allow for $\frac{1}{8}$ -inch expansion gap between 10-foot lengths of snap-on base. Overlap the snap-on covers by 2-inches between 10-foot lengths.
- Note 5: When installing this detail with a 6-inch or greater vertical surface, additional mechanical attachment is required on the snap-on base.

DATE: JANUARY 2013	EDGE DETAIL
DRAWN BY: ENG. DEPT.	2-PIECE COMPRESSION EDGE
SCALE: NONE	NEW CONSTRUCTION OR RE-ROOF



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

© COPYRIGHT 1999

	INSULATION OR SLIP SHEET		DURO-LAST MEMBRANE
	DURO-LAST TERMINATION BAR AND FASTENER		DURO-LAST STRIP MASTIC OR SEALANT
	DURO-LAST PLATE AND FASTENER		DURO-LAST SEALANT
	WOOD NAILER		FACTORY WELD
			FIELD WELD

DRAWING NO.	DATE: 9/1/99	31" REVERSE TAB New Construction or Reroof	DURO-LAST, INC. 525 MORLEY DRIVE SAGINAW, MI 48601
1050	DRAWN BY: O.URIVEZ SCALE: NONE		

Bid Form

Date:

To: Obion County Board of Education
1700 N. Fifth Street
Union City, Tennessee 38261

From: (Name of Bidder)

(Address of Bidder)

(City, State, and Zip code)

For: Single Ply Roof Replacement
Obion County Board of Education
Obion County, Tennessee

The undersigned, as Bidder, hereby declares that the only person, or persons, interested in the Bid as principal or principals, is or are, named herein and that no other person than herein mentioned has any interest in this Bid or in the contract to be entered into; that this Bid is made without connection with any other person, company or parties, making a bid, and it is in all respects fair and in good faith without collusion or fraud.

The Bidder further declares that he has examined the site of the work and informed himself fully in regard to all conditions pertaining to the places where the work is to be done, that he has examined the drawings and the project manual for the work and the Contract Documents relative to the Work to be performed and that this bid is based upon thereon, without exception.

The Bidder proposes and agrees, if this Bid is accepted, to contract with the Owner in the form of contract AIA Document A101, Published by the American Institute of Architects for Contractor and Owner, furnishing thereby all services, labor, and materials to complete the construction of the project in full and complete accordance with the noted, described, and reasonably intended requirements of the Contract Documents.

The Bidder may list voluntary alternates on the second page of this form.

The bids shall be submitted in **duplicate**. All bids shall be enclosed in a sealed envelope. The envelope shall be addressed to the owner, and identified with the words “**BID ENCLOSED, SINGLE PLY ROOF REPLACEMENT OBION COUNTY SCHOOLS**” plainly written on the face thereof. Bids must be received by **June 1, 2017**.

Bids shall be filled in by typewriter or manually in ink.

The bidder agrees to perform all of the work described in the Construction Documents for a price of:

Black Oak Elementary (Gym)

_____ dollars.
(written amount)

\$ _____

(numerical amount)

Bidder further certifies that: (One must be checked)

____ All specifications are met as prescribed herein.

____ Alternate items and specs are attached and described as required herein.

REQUESTED ALTERNATE

Requested Alternate : Add \$ _____ Deduct \$ _____
(description of alternate)

ADDITIONAL BID (ENCLOSE FIBERGLASS PANELS)

_____ dollars.
(written amount)

\$ _____
(numerical amount)

Voluntary Alternate Add \$ _____ Deduct \$ _____
(description of alternate)

Voluntary Alternate Add \$ _____ Deduct \$ _____
(description of alternate)

Acknowledge receipt of the following Addenda to the Contract Documents

Addendum #1 ____ date _____

Addendum #2 ____ date _____

Addendum #3 ____ date _____

The Bidder acknowledges by his signature below that the Owner reserves the right to reject any and/or all bids, especially any bids that appear to be irregular in nature or inconsistent in content. The bidder further acknowledges that the Owner has the right to evaluate bids and to accept any bid or bids which, in his opinion, may be in His best interest.

After Notice to Proceed is received, the Bidder will immediately begin and complete our work within the specified contract time.

By: _____
(signature)

Title: _____

Date: _____

Firm Name:

State of Incorporation

Mailing address:

(P.O. Box and/or street address)

(City)

(State)

(Zip Code)

Telephone Number:

Fax Number:

Contractors License No.:

Expiration Date: