UL Solutions Evaluation Report

UL ER10128-01

Issued: 2016-01-22

Revised: 2025-11-14

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UL Category Code: ULFB – Membrane Roofing

CSI MasterFormat®

DIVISION: 07 00 00 - THERMAL AND MOISTURE PROTECTION
Sub-level 2: 07 50 00 - Membrane Roofing
Sub-level 3: 07 54 00 - Thermoplastic Membrane Roofing
Sub-level 4: 07 54 19 - Polyvinyl-Chloride Roofing

Company:

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1. Subject

DURO-LAST, DURO-LAST EV, DURO-LAST X, DURO-TUFF, DURO-FLEECE, and DURO-FLEECE PLUS ROOFING MEMBRANES

2. Scope of evaluation

- 2024, 2021, 2018, 2015, and 2012 *International Building Code*® (IBC)
- 2024, 2021, 2018, 2015, and 2012 *International Residential Code*® (IRC)

The products were evaluated for the following properties:

- Roofing Systems for Exterior Fire Exposure (UL790, ASTM E108)
- Impact Resistance (UL 2218, ASTM D3746, FM 4470)
- Roofing Systems, Wind Uplift Resistance (UL 1897, FM 4474)
- Physical Properties (ASTM D4434, ASTM G155)
- Foot Traffic Resistance (FM 4470)

3. Referenced documents

- UL790, Standard Test Methods for Fire Tests of Roof Coverings
- UL 1897, Standard for Uplift Tests for Roof Covering Systems
- ASTM D4434, Standard Specification for Poly (Vinyl Chloride) Sheet Roofing
- ASTM D3746, Standard Test Method for Impact Resistance of Bituminous Roofing Systems
- ASTM G155, Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials
- FM 4470, Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Assemblies for use in Class 1 and Noncombustible Roof Deck Construction
- FM 4474, Evaluating the Simulated Wind Uplift Resistance of Roof Assemblies Using Static Positive and/or Negative Differential Pressures
- ICC ES Acceptance Criteria for Membrane Roof-Covering Systems (AC75)
- ICC ES Acceptance Criteria for Quality Documentation (AC10)

4. Uses

Duro-Last, Duro-Last EV, Duro-Last X, Duro-Tuff, Duro-Fleece, and Duro-Fleece Plus single-ply PVC roof membranes are used as roof coverings in mechanically fastened or fully adhered Class A, B or C roof assemblies installed on combustible or non-combustible roof decks.

5. Product description

5.1 General

Duro-Last, Duro-Last EV, Duro-Last X, Duro-Tuff, Duro-Fleece, and Duro-Fleece Plus are reinforced single ply polyvinyl chloride (PVC) membranes designed to be used in adhered roofing systems or mechanically fastened roofing systems as described in this report. The membranes are provided in rolls of various lengths and widths.

These roofing systems consist of the single-ply PVC roofing membrane, insulation where used, barrier board or slip sheet where used, flashing, mechanical fasteners, and adhesives that are installed on a combustible or non-combustible roof deck.

These roofing assemblies comply with the following properties when installed as described in this report.

5.2 Fire Classification

Roofing assemblies covered under this report have been tested for fire classification Class A, B or C in accordance with UL790 (or ASTM E108), as required by Section 1505.1 of the IBC and Section R902.1 of the IRC.

5.3 Wind Uplift Resistance

Roofing assemblies covered under this report have been tested for wind uplift resistance in accordance with FM 4474, and therefore qualify for use under single-ply roofing systems in Section 1504.4.1 of the 2024 and 2021 IBC and Section 1504.3.1 of the 2018, 2015, 2012, and 2009 IBC. Metal edge securement for all systems shall be designed in accordance with ANSI/SPRI ES-1, complying with Section 1504.6 of the 2024 and 2021 IBC and Section 1504.5 of the 2018, 2015, 2012, and 2009 IBC. For certifications of metal edge securement systems in accordance with ANSI/SPRI ES-1, see UL Online Certifications Directory Roof-edge Systems, Metal, for Use with Low-slope Roofing Systems (TGJZ).

The roofing assemblies shall be designed to resist the design wind load pressures for components and claddings in accordance with Section 1609 of the IBC and Section R905.1 of the IRC.

5.4 Physical Properties

The roofing membranes covered under this Report have been tested for physical properties in accordance with ASTM D4434 and ASTM G155, and therefore qualify for use under Section 1504.7 of the IBC, Sections 1507.12.2 of the 2024 and 2021 IBC and 1507.13.2 of the 2018, 2015, 2012, and 2009 IBC, and Section R905.13.2 of the IRC.

5.5 Impact Test

The single-ply roofing membranes covered under this Report have been tested for impact resistance in accordance with “Resistance to Foot Traffic Test” in Section 5.5 of FM 4470 and therefore qualify for use under Section 1504.8 of the 2021 IBC and Section 1504.7 of the 2024, 2018, 2015, 2012, and 2009 IBC. In addition, each of the membranes covered under this report have been tested in accordance with ASTM D3746 for impact resistance as it relates to puncture.

5.5.1 Membranes:

Duro-Last PVC (40 – 60 mils), Duro-Last EV (50 – 60 mils), Duro-Last X (50 – 80 mils), and Duro-Tuff (50 – 80 mils) are membranes having a proprietary thermoplastic formulation consisting of PVC resins, plasticizers, stabilizers, biocides, flame retardants and U.V. absorbents which incorporate a weft-insertion knitted scrim that is laminated between two layers of PVC film giving the membrane strength and durability.

Duro-Fleece (50 – 80 mils) and Duro-Fleece Plus (50 – 60 mils) are Duo-Last PVC membranes combining its proprietary thermoplastic formulation. These membranes are manufactured with a fleece bound to the underneath side of the membrane for enhanced adhesion characteristics. Duro-Fleece and Duro-Fleece Plus are bound with 3.8 ounce and 5.5-ounce fleece, respectively.

5.5.2 Insulation:

Foam plastic insulation when used shall have a flame spread index of not more than 75 when tested at the maximum thickness intended for the use in accordance with UL 723 or ASTM E 84 to qualify for use under Section 2603.3 and Exception 3 of the IBC. To qualify for use under Section 2603.4.1.5 of the IBC, a thermal barrier is not required for foam plastic insulation that is part of a

Class A, B or C roof-covering assembly, provided the assembly with foam plastic insulation complies with FM 4450 or UL 1256.

5.5.3 Fasteners:

Fasteners used to mechanically fasten insulation and membranes to the roof deck shall be corrosion resistant. Refer to the assemblies in Tables 1-18 for the specific fasteners to be used.

5.5.4 Adhesive:

The adhesive used for adhering Duro-Last PVC membranes to the insulation or roofing substrate shall be as noted in the Appendix of this Report.

5.5.5 Tab Sealer:

Hybrid lap seams utilize solvent-based contact bonding agent to adhere adjacent sections of Duro-Last PVC membranes.

5.5.6 Asphalt:

Hot roofing asphalt, when specified in the roofing assemblies shall conform to ASTM D312, Type III or Type IV.

6. Installation

6.1 General:

Duro-Last single ply PVC membranes shall be installed in accordance with the applicable code, this report and the manufacturer's published installation instructions. The membranes shall be installed in accordance with Section 1507.12 of the 2024 and 2021 IBC, Section 1507.13 of the 2018, 2015, 2012, and 2009 IBC or Section R905.13 of the IRC as applicable, except as noted in this report.

The manufacturer's published installation instructions shall be available at all times on the jobsite during installation.

The slope of the roof on which the membranes are installed shall be a minimum of ¼:12 (2% slope) and shall not be more than the maximum slope indicated in Tables 1-16 of this Report.

Penetrations and terminations of the roof covering shall be flashed and made watertight in accordance with the requirements of the membrane manufacturer, Section 1503.2 of the IBC or Section R903.2 of the IRC and applicable code.

6.2 Fire Classification:

6.2.1 New Construction:

Roof assemblies utilizing Duro-Last (40 – 60 mil), Duro-Last EV (50 – 60 mils), Duro-Tuff (50 – 80 mil), Duro-Fleece (50 – 80 mil), and Duro-Fleece Plus (50 – 60 mil) single ply PVC roof coverings are described in UL Certification Category for Roofing Systems, (TGFU), under File R10128 and in Tables 1-14.

6.2.2 Reroofing:

The existing roof shall be inspected in accordance with the provisions and limitations of Section 1512 of the 2024 and 2021 IBC, Section 1511 of the 2018, 2015, 2012, and 2009 IBC, Section R908 of the 2024 and 2021 IRC, or Section R907 of the 2018, 2015, 2012, and 2009 IRC, as applicable.

The existing deck shall be inspected to verify that the structure to be reroofed is structurally sound and adequate to support and secure the roofing membrane. Prior to installation of new roof coverings, inspection by and approval from the code official having jurisdiction is required.

Duro-Last PVC membranes may be installed over existing Classified Class A, B or C roofing systems as described in the UL Certification Category for Roofing Systems (TGFU), File R10128 under the heading Class A, B and C for Maintenance and Repair for applicable coverage and details of the roof assemblies and in Tables 1-18.

Class A, B or C roof coverings may be installed over existing classified roof assemblies under the following conditions without additional roof classification tests, provided the resulting classification is the lower of the new and existing roof classifications under the following conditions:

- New uninsulated roof coverings installed only over existing uninsulated assemblies.
- New insulated roof coverings installed over existing uninsulated assemblies only.

6.3 Wind Resistance:

6.3.1 New Construction:

The allowable wind uplift pressures for the roof assemblies are noted in the Tables 1-14. Metal edge securement for all systems shall be designed in accordance with ANSI/SPRI ES-1, complying with Section 1504.6 of the 2024 and 2021 IBC and Section 1504.5 of the2018, 2015, 2012, and 2009 IBC. For certifications of metal edge securement systems in accordance with ANSI/SPRI ES-1, See UL Online Certifications Directory Roof-edge Systems, Metal for Use with Low-slope Roofing Systems (TGJZ).

6.3.2 Reroofing:

The allowable wind uplift pressures for the roof assemblies are noted in the Tables 1-14. Metal edge securement for all systems shall be designed in accordance with ANSI/SPRI ES-1, complying with Section 1504.6 of the 2024 and 2021 IBC and Section 1504.5 of the2018, 2015, 2012, and 2009 IBC. For certifications of metal edge securement systems in accordance with ANSI/SPRI ES-1, See UL Online Certifications Directory Roof-edge Systems, Metal for Use with Low-slope Roofing Systems (TGJZ).

7. Conditions of use

7.1 General:

The Duro-Last single ply PVC roofing membranes described in this Report comply with, or are suitable alternatives to, what is specified in those codes listed in Section 2 of this Report, subject to the following conditions:

7.2 Materials and methods of installation shall comply with this Report and the manufacturer's published installation instructions. In the event of a conflict between the installation instructions and this Report, this Report governs.

7.3 Duro-Last single ply PVC roofing membranes shall be installed by professional roofing contractors trained and approved by the manufacturer.

7.4 Above-deck thermal insulation board shall comply with the applicable standards listed in Table 1508.2 in Section 1508.2 of the IBC.

7.5 Wind uplift pressures on any roof area, including edges and corner zones shall not exceed the allowable wind pressure for the roof covering installed in that particular area. Refer to the Tables 1-14 in this Report.

7.6 The allowable wind uplift pressures listed in the Tables in the Appendix of this Report are for the roof systems only. The deck and framing to which the roofing system is attached shall be designed for the applicable components and cladding, wind loads in accordance with the applicable codes.

7.7 When application is over an existing roof, documentation of the wind uplift resistance of the composite roof construction shall be submitted to the code official.

7.8 The metal edge securement shall be designed and installed for wind loads in accordance with Chapter 16 of IBC and test for resistance in accordance with Test Methods RE-1, RE-2 and RE-3 of ANSI/SPRI ES-1, except V_{ult} wind speed shall be determined from Figure 1609.3(1), 1609.3(2), or 1609.3(3) of 2024, 2021, and 2018 IBC or Figure 1609A, 1609B, or 1609C of 2015, 2012, and 2009 IBC as applicable.

7.9 For a listing of applicable UL Solutions Certifications for Elevate roofing membranes, see UL Solution's Product iQ® for the following categories:

- Class A, B or C roof-covering assemblies UL Classified in accordance with UL 790 (TGFU).

7.10 Duro-Last roofing membranes and ply sheets are manufactured at the following locations under the UL Solutions Certification and Follow-Up Service Program, which includes audits in accordance with the quality elements of ICC-ES Acceptance Criteria for Quality Documentation, AC10.

Manufacturer Name	City, State	Factory Identification
Duro-Last ,Inc.	Saginaw, MI	S
Duro-Last ,Inc.	Jackson, MS	J
Duro-Last ,Inc.	Grants Pass, OR	G
Duro-Last ,Inc.	Sigourney, IA	I
Duro-Last ,Inc.	Carlton, TX	T
Duro-Last ,Inc.	Ludlow, MA	MA
Plastatech Engineering, LTD	Saginaw, MI	None

8. Supporting evidence

8.1 Data in accordance with ICC-ES Acceptance Criteria for Membrane Roof-Covering Systems, AC75.

8.2 Manufacturer's descriptive product literature, including installation instructions.

8.3 UL Classification Reports in accordance with UL 790, UL 1897, and UL 2218. See UL Solutions Product iQ under File R10128 for Roofing Systems (TGFU), Roofing Systems, Uplift Resistance (TGIK), and Roof-covering Materials, Impact Resistance (TGAM), respectively.

8.4 Data in accordance with FM 4474.

8.5 Data in accordance with FM 4470.

8.6 Data in accordance with ASTM D4434 and ASTM G155.

8.7 Documentation of quality system elements in accordance with ICC-ES Acceptance Criteria for Quality Documentation, AC10.

9. Identification

The Duro-Last, Duro-Last EV, Duro-Last X, Duro-Tuff, Duro-Fleece, and Duro-Fleece Plus roofing membranes as described in this evaluation report are identified by a marking bearing the report holder's name (Holcim Solutions and Products US, LLC), the plant identification, the product designation, the UL Solutions Classification Mark, and the evaluation report number "UL ER1306-02." The validity of the evaluation report is contingent upon this identification appearing on the product or on the smallest unit container in which the product is packaged.

10. Use of UL Solutions Evaluation Report

10.1 The approval of building products, materials or systems is under the responsibility of the applicable authorities having jurisdiction.

10.2 UL Solutions Evaluation Reports shall not be used in any manner that implies an endorsement of the product, material or system by UL.

10.3 The current status of this report, as well as a complete directory of UL Solutions Evaluation Reports may be found at UL.com via our UL Product iQ®:

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[1]Wood framing members spaced 24 inches on center unless otherwise noted.

The following notes apply to the systems outlined herein:

1. Roof decks shall be in accordance with IBC or IRC requirements to the satisfaction of the AHJ. Wind load resistance of the roof deck shall be documented through proper codified and/or FBC Approval documentation. Wind load resistance of the roof deck shall be documented through proper codified Approval documentation.

2. Unless otherwise noted, fasteners and stress plates for insulation attachment shall be as follows. Fasteners shall be of sufficient length for the following engagements:

   Steel Deck: Duro-Last#14HD Fastener, TruFast #15 EHD Fastener, and Duro-Last #15 Extra Heavy Duty Drill Point Fastener must penetrate steel decking a minimum ¾-inch into the top flute of the steel deck.

   Concrete Deck: Duro-Last #14 Concrete Screw or Fluted Concrete Nail Minimum 1-inch embedment. Fasteners installed with a pilot hole in accordance with the fastener manufacturer's published installation instructions.

3. Preliminary insulation attachment for System Type A-1 Minimum four fasteners per 4 x 8 ft board or minimum two fasteners per 4 x 4 ft board.

4. Unless otherwise noted, insulation adhesive application rates are as follows. Ribbon or bead width is at the time of application; the ribbons/beads shall expand as noted in the manufacturer's published instructions:

   Hot asphalt [HA]: Full coverage at 20-25 lbs/sq.
   Duro-Fleece Membrane Adhesive: Continuous 3/4 inch wide

   Note: When multiple layers(s) of insulation and/or coverboard are installed in ribbon-applied adhesive, adhesive ribbons shall be staggered a distance of half the ribbon spacing of the previous layer.

   Note: The maximum edge distance from the adhesive ribbon to the edge of the insulation board shall be not less than one-half the specified ribbons spacing

5. Unless otherwise noted, all insulations are flat-stock or tapered board of the minimum thickness noted. Tapered polyisocyanurate at the following thickness limitations may be substituted with the following Maximum Design Pressure (MDP) limitations.

6. Bonded polyisocyanurate insulation boards shall be maximum 4 x 4 ft.

7. For System Types A-1, A-4, and A-5, steel deck applications, the roof membrane shall be run with its length perpendicular to the steel deck flutes.

8. For recover applications using System Type A-1, the insulation is optional. Alternatively, min. 0.25-inch Invinsa, DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber RoofBoard may be used as a separator board, preliminarily attached prior to roof cover installation. For all recover applications, the existing roof system shall be suitable for a recover application.

9. For adhered membrane systems, side laps shall be minimum 3 inches wide sealed with min. 1.5-inch heat weld, unless otherwise noted. Adhesive application rates are as follows:

Membrane	Adhesive	Method	Rate
Duro-Last, Duro-Tuff, Duro-Fleece, Duro-Fleece Plus	Duro-Last Tab Sealer	Contact (both sides)	30 square feet per gallon
Duro-Last	SB I, SBIV, WB II	Contact/Wet Lay	60 square feet per gallon/100 square feet per gallon
Duro-Tuff	SBIV, WB II	Contact/Wet Lay	60 square feet per gallon/100 square feet per gallon
Duro-Fleece	CR-20, WB II	Wet Lay	Spatter/100 square feet per gallon
Duro-Fleece Plus	CR-20, WB II	Wet Lay	Spatter/100 square feet per gallon

10. "MDP" Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads. Refer to FBC 1609.1.5 for determination of design wind loads.

TABLE 1: WOOD DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-1: MECHANICALLY ATTACHED INSULATION[1] and ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	DECKING	INSULATION	MEMBRANE TYPE	LAP TYPE	FASTENER	SPACING (inches)			FIRE RATING UL790/ASTM E108	
							Tab Width	Tab Spacing (inches)	Fastener Spacing	Class	Maximum Incline
1	-45	Minimum $^{19}/_{32}$-inch plywood or minimum 2-inch wood plank	One or more layers, foam plastic insulation	Duro-Last, Duro-Last X	Hybrid[2]	Duro-Last #14 HD Fastener and Duro-Last Poly-plates	3	60	6	A A	1:12[3] ½:12[4]
2	-52		None[7]	Duro-Last, Duro-Last X	Standard	Duro-Last #15 Extra Heavy Duty Drill Point Fastener and Duro-Last 2.4 inch Barbed Seam Plates	6	57	6[5]	A	2:12
3	-52			Duro-Last, Duro-Last X	Hybrid[2]	Duro-Last #14 HD Fastener and 3-inch Metal Plates	6	57	6	A	2:12
4	-52.5[6]			Duro-Last, Duro-Last X	Standard[7]	Duro-Last #14 HD Fastener and Duro-Last Poly-plates	6	120	6	A	2:12
5	-82.5[6]			Duro-Last, Duro-Last X	Hybrid[2]	Duro-Last #14 HD Fastener and 2⅜ inch Duro-Last Cleat Plates	6	120	6	A	2:12
6	-52.5[8]			Duro-Last, Duro-Last X	Standard	Duro-Last #14 HD Fastener and Duro-Last Poly-plates	6[9]	60	3	A	2:12
7	-52.5[8]		½ inch minimum Duro-Last Duro-Guard EPS[7]	Duro-Last, Duro-Last X	Standard	Duro-Last #15 Extra Heavy Duty Drill Point Fastener and Duro-Last Poly-plates, 2⅜ inch Duro-Last Cleat Plates, or Duro-Last Oval Cleat Plates	3	60	6	B	1:12
8	-60[6]			Duro-Last, Duro-Last X	Standard[5]	Duro-Last #15 Extra Heavy Duty Drill Point Fastener and Duro-Last Poly-plates, 2⅜ inch Duro-Last Cleat Plates, or Duro-Last Oval Cleat Plates	6	120	6	B	1:12
9	-98	Nom. 1 x 6-inch T&G board decking	One or more layers, approved foam plastic insulation	Duro-Last, Duro-Last X	Hybrid[2]	Duro-Last #15 Extra Heavy Duty Drill Point Fasteners with OMG 2⅜ inch Eyehook Plates or 2⅜ inch Duro-Last Cleat Plates	6	25	6	A	1:12[3] ½:12[4]

[1]Unless noted, follow installation instructions for preliminary attachment of insulation
[2]Fastener placed at midline of the 6 inch lap treated with Tab Sealer 4725
[3]At least one insulation layer must be Duro-Guard ISO IV-A
[4]At least one insulation layer must be Duro-Gard ISO IV-H
[5]Fastener line located 2-$^{3}/_{4}$ inches from the tab edge
[6]Wood framing members spaced 120 inches on center
[7]Requires two layers GAF Elk VersaShield beneath roof cover to achieve fire rating
[8]Wood framing members spaced 60 inches on center
[9]Fastener placed at midline of the 6 inch lap

TABLE 1: WOOD DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-1: MECHANICALLY ATTACHED INSULATION[1] and ROOF COVER (CONTINUED)

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	DECKING	INSULATION	MEMBRANE TYPE	LAP TYPE	FASTENER	SPACING (inches)			FIRE RATING UL790	
							Tab Width	Tab Spacing (inches)	Fastener Spacing	Class	Maximum Incline
10	-67.5	Minimum 19/32-inch plywood	Top insulation layer ¼-inch DensDeck Roofing Board, SECUROCK Gypsum-Fiber Roof Board, or DEXcell FA Glass Mat Roof Board[3]	50 mil Duro-Last or Duro-Tuff	Standard	Duro-Last #15 Extra Heavy Duty Drill Point Fasteners with Poly-Plates	6	54	6	A A	3:12 2:12
11	-52.5[2]			50 mil Duro-Last or Duro-Tuff	Standard		6	114	12	A A	3:12 2:12
12	-45[2]				Standard		6	114	6	A A	3:12 2:12

[1]Preliminary fastening of insulation may be required prior to application of roof covering material
[2]Wood framing members spaced maximum 32 inches on center
[3]May be substituted with ⅜-inch thick Duro-Fold Underlayment or ½-inch thick Duro-Guard EPS, Duro-Guard ISO II-H, Duro-Guard ISO II-G, Insulfoam R-Tech Fan Fold, Duro-Guard ISO HD-A, Duro-Guard ISO HD-G, 7/16-inch thick DEXcell Cement Roof Board, 1-inch thick Duro-Guard ISO II-A or Duro-Guard EPS FGF

TABLE 2: WOOD DECKS - REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-2: ADHERED ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	DECKING	MEMBRANE TYPE	ADHESIVE	FIRE RATING UL790/ASTM E108	
					Class	Maximum Incline
13	-150	Existing 19/32-inch plywood	Duro-Fleece Plus	CR-20 (spatter)	Maintain Existing Class A, B, or C rating	

TABLE 3: WOOD DECKS – NEW, REROOF (Tear-Off), or RECOVER
SYSTEM TYPE A-3: MECHANICALLY ATTACHED INSULATION[1] with ADHERED ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	DECKING	INSULAITON - ATTACHMENT	MEMBRANE TYPE	ADHESIVE	FIRE RATING UL790	
						Class	Maximum Incline
14	-150	Existing 19/32-inch plywood	None - N/A	Duro-Fleece Plus	CR-20 (spatter)	Maintain Existing Class A, B, or C rating	
15	-52.5	Minimum 19/32-inch plywood	¼ inch thick DEXcell FA Roof Board secured with (16) Duro-Last #15 Extra Heavy Duty Drill Point Fastener and 3-inch Metal Plates per 4x8 ft board[2]	50 mil Duro-Tuff or Duro-Last EV	WB II	A A	Unlimited Unlimited
16	-60			50 mil Duro-Fleece or Duro-Fleece Plus	CR-20 (spatter)[3]	A A	3:12 2:12
17	-75		¼ inch thick DEXcell FA Roof Board secured with (18) Duro-Last #15 Extra Heavy Duty Drill Point Fastener and 3-inch Metal Plates per 4x8 ft board[2]	50 mil Duro-Fleece or Duro-Fleece Plus	CR-20 (spatter)[4]	A A	3:12 2:12
18	-67.5			50 mil Duro-Tuff or Duro-Last EV	WB II	A A	Unlimited Unlimited

[1]Unless noted, follow installation instructions for preliminary attachment of insulation
[2]Base layer insulations optional with DEXcell FA as top insulation board
[3]5 lbs-100 ft²
[4]3.5 lbs-100 ft²

TABLE 4: WOOD DECKS - REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-4: ADHERED INSULATION with ADHERED ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft^2)	DECKING	INSULAITON/ ATTACHMENT	MEMBRANE TYPE	ADHESIVE	FIRE RATING UL790	
						Class	Maximum Incline
19	-75	Minimum $^{15}/_{32}$-inch plywood[1]	¼ inch thick DEXcell FA Roof Board adhered in CR-20 (spatter) [1]	Duro-Fleece Plus	WB II	A	Unlimited
20	-97.5	Minimum $^{19}/_{32}$-inch plywood[1]	¼ inch thick DEXcell FA Roof Board adhered in CR-20 (spatter) [1]	50 mil Duro-Tuff	WB II	A	Unlimited
				50 mil Duro-Tuff	SB IV	A	Unlimited
				Duro-Fleece Plus	WB II	A	Unlimited
				Duro-Fleece Plus	WB II	A	Unlimited

[1]Minimum 6.8 lbs-100 ft^2

TABLE 5: STEEL DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-1: MECHANICALLY ATTACHED INSULATION[1] and ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	DECKING	INSULATION	MEMBRANE TYPE	LAP TYPE	FASTENER	SPACING (inches)			FIRE RATING UL790/ASTM E108	
							Tab Width	Tab Spacing	Fastener Spacing	Class	Maximum Incline
21	-30	Min. 22 ga. Grade 33 steel	One or more layers, foam plastic insulation[2]	Duro-Last, Duro-Last X	Standard	Duro-Last #14 HD Fastener and Duro-Last Poly-plates	3	57	18	A	2:12
22	-30			Duro-Last, Duro-Last X		Duro-Last #14 HD Fastener and Duro-Last 2 inch Poly-plates	3	60	12	A	1½:12
23	-45			Duro-Last, Duro-Last X		Duro-Last #14 HD Fastener and Duro-Last 2 inch Poly-plates	3	57	12	A	1½:12
24	-30	Min. 22 ga. Grade 80 stee		Duro-Last, Duro-Last X		Duro-Last #14 HD Fastener and Duro-Last Poly-plates	3	60	18	A	3:12
25	-38		1½ inch minimum to 4 inch maximum thickness Duro-Last Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last, Duro-Last X		TruFast #15 EHD Fasteners or Duro-Last #15 Extra Heavy Duty Drill Point Fasteners and Duro-Last Cleat Plates	6	120	12[3]	A	3:12
26	-45			Duro-Last, Duro-Last X			6	120	6	A	3:12
27	-45		One or more layers, foam plastic insulation[2]	Duro-Last, Duro-Last X		Duro-Last #14HD Fastener and Duro-Last Poly-plates	3	60	12	A	1:12[4]
28	-45			Duro-Last, Duro-Last X			3	84	6	A	1½:12
29	-45		1½-inch minimum to 4 inch maximum thickness, ENRGY 3, DURO-GUARD® ISO II-E[2], Multi-max FA-3, Duro-Last Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last, Duro-Last X	Hybrid[5]	TruFast #15 EHD Fasteners or Duro-Last #15 Extra Heavy Duty Drill Point Fasteners and 2.4 inch Duro-Last Cleat Plates	6	120	12	A	1½:12
30	-52		One or more layers, foam plastic insulation[2]	Duro-Last, Duro-Last X	Standard	Duro-Last #14 HD Fastener and Duro-Last Poly-plates	3	120	6	A	1:12[4]
31	-52			Duro-Last, Duro-Last X	Standard	Duro-Last #14 HD Fastener and Duro-Last Poly-plates	3	28	18	A	1½:12
32	-52			Duro-Last, Duro-Last X	Hybrid[5]	Duro-Last #15 Extra Heavy Duty Drill Point Fastener and Duro-Last 3" Metal Plates	6	57	6	A	1½:12
33	-52			Duro-Last, Duro-Last X	Hybrid[5]	Duro-Last #15 Extra Heavy Duty Drill Point Fastener and Duro-Last 3" Metal Plates	6	84	6	A	1½:12
34	-52	Min. 22 ga. Grade 80 steel	1½ inch minimum to 4 inch maximum thickness, ENRGY 3, DURO-GUARD® ISO II-E[2], Multi-max FA-3, Duro-Last Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last, Duro-Last X	Hybrid[5]	TruFast #15 EHD Fasteners or Duro-Last #15 Extra Heavy Duty Drill Point Fasteners and Duro-Last Cleat Plates	6	84	12	A	1½:12

[1]Unless noted, follow installation instructions for preliminary attachment of insulation
[2]At least one insulation layer must be Duro-Guard ISO II-A
[3]Fastener line located 1¾ inches from the tab edge
[4]Max incline 2:12 with 1½ inch thick base layer EPS
[5]Fastener placed at midline of the 6 inch lap, which is treated with Tab Sealer 4725

TABLE 5: STEEL DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-1: MECHANICALLY ATTACHED INSULATION[1] and ROOF COVER (CONTINUED)

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	DECKING	INSULATION	MEMBRANE TYPE	LAP TYPE	FASTENER	SPACING (inches)			FIRE RATING UL790/ASTM E108	
							Tab Width	Tab Spacing	Fastener Spacing	Class	Maximum Incline
35	-52	Min. 22 ga. Grade 80 steel	1½-inch minimum to 4 inch maximum thickness, ENRGY 3, DURO-GUARD® ISO II-E[2], Multi-max FA-3, Duro-Last Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last, Duro-Last X	Hybrid[2]	TruFast #15 EHD Fasteners or Duro-Last #15 Extra Heavy Duty Drill Point Fasteners and Duro-Last Cleat Plates	6	84	12	A	1½:12
36	-60	Min. 22 ga. Grade 80 steel	One or more layers, foam plastic insulation[3]	Duro-Last, Duro-Last X	Standard	Duro-Last #15 Extra Heavy Duty Drill Point Fastener and Duro-Last 2.4-inch Barbed Metal Seam Plates	3	84	6	A	3:12
37	-68	Min. 22 ga. Grade 80 steel	1½-inch minimum to 4 inch maximum thickness, ENRGY 3, DURO-GUARD® ISO II-E[2], Multi-max FA-3, Duro-Last Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last, Duro-Last X	Hybrid[2]	TruFast #15 EHD Fasteners or Duro-Last #15 Extra Heavy Duty Drill Point Fasteners and Duro-Last Cleat Plates	6	57	12	A	1½:12
38	-75	Min. 22 ga. Grade 80 steel	One or more layers, foam plastic insulation	Duro-Last, Duro-Last X	Standard	Duro-Last #14 HD Fastener and Duro-Last 2 inch Poly-plates	3	28	12	A C	1½:12 3:12
39	-82	Min. 22 ga. Grade 80 steel		Duro-Last, Duro-Last X	Hybrid[2]	Duro-Last #15 Extra Heavy Duty Drill Point Fastener and Duro-Last 3-inch Metal Plates	6	120	6	A A C	½:12[4] 1½:12[5] 3:12[6]
40	-98	Min. 22 ga. Grade 80 steel	1½-inch minimum to 4 inch maximum thickness, DURO-GUARD® ISO II-E[2], Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last, Duro-Last X		Trufast #15 EHD fasteners and 2.4 in. Duro-Last Cleat Plates	6	84	6	A A A	1:12[7] 3:12[8] 3:12[9]
41	-105	Min. 22 ga. Grade 80 steel	One or more layers, foam plastic insulation[3]	Duro-Last, Duro-Last X		Duro-Last #15 Extra Heavy Duty Drill Point Fastener and Duro-Last 3" Metal Plates	6	57	6	A	3:12

[1]Unless noted, follow installation instructions for preliminary attachment of insulation
[2]Fastener placed at midline of the 6 inch lap, which is treated with Tab Sealer 4725
[3]Top insulation layer must be Duro-Guard ISO II-A
[4]Wood fiber board and Smooth Surface BUR recover ½:12 slope Class A
[5]Foil faced insulation1½:12 slope Class A
[6]Hytec 1.2 roof insulation 3:12 slope Class C
[7]DURO-GUARD® ISO II-E[2] 1:12 slope Class A
[8]Duro-Guard ISO II-A 3:12 slope Class A
[9]Duro-Guard ISO III-A 3:12 slope Class A

TABLE 5: STEEL DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-1: MECHANICALLY ATTACHED INSULATION[1] and ROOF COVER (CONTINUED)

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	DECKING	INSULATION	MEMBRANE TYPE	LAP TYPE	FASTENER	SPACING (inches)			FIRE RATING UL790/ASTM E108	
							Tab Width	Tab Spacing	Fastener Spacing	Class	Maximum Incline
42	-135	Minimum 22 gage Grade 80 steel	1½ inch minimum to 4 inch maximum thickness, DURO-GUARD® ISO II-E[2], Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last, Duro-Last X	Hybrid[2]	Duro-Last #15 Extra Heavy Duty Drill Point Fastener and Duro-Last 2.4 inch Barbed Metal Seam Plates	6	57	6	A A A	1:12[3] 3:12[4] 3:12[5]
43	-142		1½ inch minimum to 4 inch maximum thickness, DURO-GUARD® ISO II-E[2], Duro-Guard ISO II-A or Duro-Guard ISO III-A			Duro-Last #15 Extra Heavy Duty Drill Point Fasteners with OMG 2 3/8-inch Eyehook Plates	6	25	6	A	1:12[3] 3:12[4] 3:12[5]
44	-45	Minimum 24 gage R-panel[6]	1" EPS Flute fill 1.5# w/ 1/2" EPS Fan Fold	Duro-Last, Duro-Last X	Standard	Duro-Last #15 HD Fastener and Duro-Last Poly-plates	3	60	6	A A	Unlimited[7] 2:12[8]
45	-52.5			Duro-Last, Duro-Last X	Standard	Duro-Last #15 HD Fastener and Duro-Last Poly-plates	3	28	12	A A	Unlimited[7] 2:12[8]
46	-82.5			Duro-Last, Duro-Last X	Standard	Duro-Last #15 HD Fastener and Duro-Last Poly-plates	6	28	12	A A	Unlimited[7] 2:12[8]
47	-45	Minimum 22 gage Grade 33 steel[9]	Minimum 1 inch Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last, Duro-Last X	Standard	Duro-Last #15 HD Fastener and Duro-Last Poly-plates	6	120	6	A	3:12
48	-52.5		Existing roof system with single-ply cover	Duro-Last, Duro-Last X	Standard	Duro-Last #15 HD Fastener and Duro-Last Poly-plates	3	60	6	Maintain Existing Class A, B, or C rating	
49	-45		Minimum 1 inch Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last, Duro-Last X	Standard	Duro-Last #15 HD Fastener and Duro-Last Poly-plates	3	120	6	A	3:12
50	-45		Minimum 1½ inch Duro-Guard ISO II-A	Duro-Tuff, Duro-Last X	Standard	Trufast #15 EHD fasteners and 2.4 inch Duro-Last Cleat Plates	4	116	12	A	3:12
51	-75	Minimum 22 gage Grade 33 steel	Minimum 1 inch Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last, Duro-Last X	Standard	Duro-Last #14 HD Fastener and Duro-Last 2 inch Poly-plates	4	27	12	A	3:12
52	-45		Minimum 1 inch Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last, Duro-Last X	Standard	Duro-Last #14 HD Fastener and Duro-Last 2 inch Poly-plates	4	57	12	A	3:12
53	-30		Minimum 1 inch Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last, Duro-Last X	Standard	Duro-Last #14 HD Fastener and Duro-Last 2 inch Poly-plates	4	57	18	A	3:12
54	-52.5	Minimum 26 gage R-Panel[10]	Any approved flute fill. Added layers optional	Duro-Tuff	Standard	Duro-Last #15 Extra Heavy Duty Drill Point Fasteners and Poly-plates	6	24	12	C	1½:12

[1]Unless noted, follow installation instructions for preliminary attachment of insulation

[2]Fastener placed at midline of the 6 inch lap, which is treated with Tab Sealer 4725

[3]DURO-GUARD® ISO II-E[2] 1:12 slope Class A
[4]Duro-Guard ISO II-A 3:12 slope Class A
[5]Duro-Guard ISO III-A 3:12 slope Class A
[6]60 inch maximum span
[7]Requires one layer Atlas FR 10 slip sheet underneath roof cover
[8]Requires two layers GAF Elk VersaShield slip sheet underneath roof cover
[9]72 inch maximum span
[10]Grade 80, at 60 inch maximum span. R-Panel secured 6-inches oc to structure with #12 x 1-¼ inch HWH fasteners and 20-inches oc with #14 x ⅞ inch HWH fasteners at the laps.

TABLE 5: STEEL DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-1: MECHANICALLY ATTACHED INSULATION[1] and ROOF COVER (CONTINUED)

SYSTEM O.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	DECKING	INSULATION	MEMBRANE TYPE	LAP TYPE	FASTENER	SPACING (inches)			FIRE RATING UL790	
							Tab Width	Tab Spacing	Fastener Spacing	Class	Maximum Incline
55	-45	Minimum 26 gage R-Panel	Any approved flute fill. Added layers optional.	Duro-Tuff	Standard	Duro-Last #15 Extra Heavy Duty Drill Point Fasteners and Poly-plates	6	54	6	C	Unlimited
56	-30	Minimum 22 gage Grade 50 steel[1]	One or more layers any combination of approved insulation, minimum 1-inch	Minimum 50 mil Duro-Last EV			6	54	18	C	Unlimited
57	-45						6	54	12	C	Unlimited
58	-45						6	114	6	C	Unlimited
59	-75					Duro-Last #15 Extra Heavy Duty Drill Point Fasteners and Duro-Last Cleat Plate	6	54	6	C	Unlimited

[1]Supports spaced 72 inches oc

TABLE 6: STEEL DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-4: MECHANICALLY ATTACHED INSULATION with ADHERED ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	DECKING	INSULATION			COVERBOARD			MEMBRANE TYPE	ADHESIVE	FIRE RATING UL790/ASTM E108	
			Type	Fastener	Rate	Type	Attachment	Rate			Class	Maximum Incline
60	-45	Minimum 22 gage Grade 33 steel	Minimum 1½ inch thick Duro-Guard ISO II-A, Duro-Guard ISO III-A, ENRGY-3, ISO 95+ GL H-Shield, Duro-Guard ISO II-H	Duro-Last #15 Extra Heavy Duty Drill Point Fastener and Duro-Last 3" Metal Plates	2 ft² per fastener	(Optional) Minimum 1½ inch thick Duro-Guard ISO II-A, ISO 95+ GL or Minimum ½ inch thick DensDeck	Duro-Fleece Membrane Adhesive	¾ inch wide ribbons spaced 6 inches o.c.	Duro-Fleece Plus	WB II	A	2:12
61	-45		Minimum 2-inch-thick Duro-Guard ISO IV-A						Duro-Fleece Plus	WB II	A	2:12
62	-45								Duro-Last	SB IV	A	1½:12
63	-45		Min. ½-inch SECUROCK Gypsum-Fiber Roof Board or DensDeck			None	N/A	N/A	Duro-Fleece Plus	WB II	A	Unlimited
64	-45		(Optional) One or more layers, foam plastic insulation	Loose Laid	N/A	Min. ¼-inch SECUROCK Gypsum-Fiber Roof Board or DensDeck	Duro-Last #15 Extra Heavy Duty Drill Point Fastener and Duro-Last 3" Metal Plates	2 ft² per fastener	Duro-Fleece Plus	WB II	A	Unlimited
65	-67.5		Minimum 1½ inch thick Duro-Guard ISO II-A, Duro-Guard ISO III-A, ENRGY-3, ISO 95+ GL H-Shield, Duro-Guard ISO II-H	Loose Laid	N/A	Minimum ¼-inch SECUROCK Gypsum-Fiber Roof Board or DensDeck	Duro-Last #14 HD Fastener and Duro-Last 3" Metal Plates	1.33 ft² per fastener	Duro-Last	WB II	A	Unlimited
66	-67.5		Minimum 2-inch-thick Duro-Guard ISO IV-A						Duro-Last	WB II	A	Unlimited

TABLE 6: STEEL DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-4: MECHANICALLY ATTACHED INSULATION with ADHERED ROOF COVER (CONTINUED)

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	DECKING	INSULATION			COVERBOARD			MEMBRANE TYPE	ADHESIVE	FIRE RATING UL790/ASTM E108	
			Type	Fastener	Rate	Type	Attachment	Rate			Class	Maximum Incline
67	-45	Min. 22 gage Grade 33 steel	Minimum 1½ inch thick Duro-Guard ISO II-A	Duro-Last #14 HD Fastener and Duro-Last 3" Metal Plates	2 ft² per fastener	None	N/A	N/A	Duro-Last	SB IV	A	Unlimited
68	-45	Min. 22 gage Grade 33 steel	Min. 1½-inch-thick Duro-Guard ISO II-A, Duro-Guard ISO III-A, Duro-Guard ISO IV-A, ENRGY-3, ISO 95+ GL, Multi-Max FA-3	Loose Laid	N/A	Min. ¼-inch-thick Invinsa Roof Board	Duro-Last #14 HD Fastener and Duro-Last 3" Metal Plates	2 ft² per fastener	Duro-Last	SB IV	A	Unlimited
69	-67.5	Min. 22 gage Grade 33 steel	Minimum 1½ inch thick Duro-Guard ISO II-A, Duro-Guard ISO III-A, ENRGY-3, ISO 95+ GL, Multi-Max FA-3	Loose Laid	N/A	Minimum 1/4-inch SECUROCK Gypsum-Fiber Roof Board or DensDeck	Duro-Last #14 HD Fastener and Duro-Last 3" Metal Plates	2 ft² per fastener	Duro-Last	SB IV	A	Unlimited
70	-67.5	Min. 22 gage Grade 33 steel	Minimum 1½ inch thick Duro-Guard ISO II-A, Duro-Guard ISO III-A, Duro-Guard ISO IV-A, ENRGY-3, ISO 95+ GL, Multi-Max FA-3	Loose Laid	N/A	Min. 1/4-inch DensDeck Prime	Duro-Last #15 Extra Heavy Duty Drill Point Fastener and Duro-Last 3" Metal Plates	1.6 ft² per fastener	Duro-Last	SB IV	A	1½:12
71	-90	Min. 22 gage Grade 33 steel	Minimum 2 inch thick Duro-Guard ISO IV-A	Duro-Last #15 Extra Heavy Duty Drill Point Fastener and Duro-Last 3" Metal Plates	2 ft² per fastener	None	N/A	N/A	Duro-Last	SB IV	A	1½:12
72	-45	Minimum 22 gage	One or more layers of Invinsa Roof Board,	Duro-Last #14 HD Fastener and	2 ft² per fastener	None	N/A	N/A	Duro-Last	SB IV	A	1½:12

		Grade 33 steel	Maximum ½ inch thick	Duro-Last 3" Metal Plates								

TABLE 6: STEEL DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-4: MECHANICALLY ATTACHED INSULATION with ADHERED ROOF COVER (CONTINUED)

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	DECKING	INSULATION			COVERBOARD			MEMBRANE TYPE	ADHESIVE	FIRE RATING UL790/ASTM E108	
			Type	Fastener	Rate	Type	Attachment	Rate			Class	Maximum Incline
73	-67.5	Minimum 22 gage Grade 33 steel	One or more layers of DensDeck Prime, Maximum 1 inch thick	Duro-Last #14 HD Fastener and Duro-Last 3" Metal Plates	1.33 ft² per fastener	None	N/A	N/A	Duro-Last	WB II	A	2:12
74	-67.5	Minimum 22 gage Grade 33 steel	One or more layers of DensDeck Prime, Maximum 1 inch thick	Duro-Last #15 Extra Heavy Duty Drill Point Fasteners and Duro-Last 3" Metal Plates	1.6 ft² per fastener	None	N/A	N/A	Duro-Last	SB IV	A	2:12
75	-67.5	Minimum 22 gage Grade 33 steel	One or more layers of SECUROCK Gypsum-Fiber Roof Board, Maximum 1 inch thick	Duro-Last #14 HD Fasteners and Duro-Last 3" Metal Plates	1.33 ft² per fastener	None	N/A	N/A	Duro-Last	SB IV	A	1½:12
76	-82.5	Minimum 22 gage steel	Minimum 1½ inch thick XPS with minimum ½ inch Securock above and below	Duro-Last #12 Fasteners and Duro-Last 3" Metal Plates	1 ft² per fastener	None	N/A	N/A	Duro-Tuff	WB II	A	Unlimited
77	-60		Minimum 2 inch thick AC Foam II	Loose Laid	N/A	Minimum ¼ inch DensDeck Prime or Securock Roof Board	TruFast #15 EHD Fasteners and Duro-Last 2⅞" hex plate	1 ft² per fastener	Duro-Last	SB IV WB II	A	3:12
78	-110	Minimum 22 gage steel	Minimum 2 inch thick Duro-Guard ISO II-A	TruFast #15 EHD Fasteners and Duro-Last 2⅞" hex plate	2 ft² per fastener	N/A	N/A	N/A	Duro-Last	SB IV	A	2:12

TABLE 7: STRUCTURAL CONCRETE DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-1: MECHANICALLY ATTACHED INSULATION and ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	INSULATION	MEMBRANE TYPE	LAP TYPE	FASTENER	SPACING (inches)			FIRE RATING UL790/ASTM E108	
						Tab Width	Tab Spacing	Fastener Spacing	Class	Maximum Incline
79	-45	None	Duro-Last	Standard	Duro-Last #14 Concrete Screw or Fluted Concrete Nail and Duro-Last Poly-plates	3	84	6	A	3:12
80	-52		Duro-Last	Hybrid[1]	Duro-Last #14 Concrete Screw or Fluted Concrete Nail and Duro-Last Poly-plates	6	57	12	A	3:12
81	-52		Duro-Last	Hybrid[1]	Duro-Last #14 Concrete Screw or Fluted Concrete Nail and Duro-Last Poly-plates	6	84	6	A	3:12
82	-60		Duro-Last	Standard	Duro-Last #14 Concrete Screw or Fluted Concrete Nail and Duro-Last 2.4-inch Barbed Seam Plates	3	84	6	A	3:12
83	-82		Duro-Last	Hybrid[1]	Duro-Last #14 Concrete Screw or Fluted Concrete Nail and Duro-Last 3 inch Barbed Seam Plates	6	120	6	A	3:12
84	-105		Duro-Last	Hybrid[1]	Duro-Last #14 Concrete Screw or Fluted Concrete Nail and Duro-Last 3 inch Barbed Seam Plates	6	57	6	A	3:12
85	-142	Minimum 1 inch Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last	Hybrid[1]	Duro-Last #14 Concrete Screw or Fluted Concrete Nail and OMG 2-$^{3}/_{8}$-inch Eyehook Plates	6	25	6	A	3:12
86	-38	Min. 1½-inch-thick Duro-Guard ISO II-H	Duro-Last	Standard	Duro-Last #14 HD Fasteners with Duro-Last Cleat Plates	3	60	9	A	3:12
87	-38	Min. 1½-inch-thick Duro-Guard ISO II-H	Duro-Last	Hybrid[1]	Duro-Last #14 HD Fasteners with Duro-Last Cleat Plates	6	120	6	A	3:12

[1]Fastener placed at midline of the 6 inch lap, which is treated with Tab Sealer 4725

TABLE 8: STRUCTURAL CONCRETE DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-4: MECHANICALLY ATTACHED INSULATION with ADHERED ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	INSULATION			MEMBRANE TYPE	ADHESIVE	FIRE RATING UL790/ASTM E108	
		Type	Fastener	Rate			Class	Maximum Incline
88	-45	One or more layers min. 1½-inch-thick Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last #14 Concrete Screw or Fluted Concrete Nail and Duro-Last 3 inch Barbed Seam Plates	2 ft² per fastener	Duro-Last	SB I	A	2:12
89	-45	One or more layers min. 1½-inch-thick Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last #14 Concrete Screw or Fluted Concrete Nail and Duro-Last 3 inch Barbed Seam Plates	2 ft² per fastener	Duro-Last	SB IV	A	1½:12
90	-45	One or more layers of SECUROCK Gypsum-Fiber Roof Board, Maximum 1-inch thick	Duro-Last #14 HD Fastener and Duro-Last 3" Metal Plates	1.33 ft² per fastener	Duro-Last	SB IV	A	1½:12

TABLE 9: STRUCTURAL CONCRETE DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-2: ADHERED ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	MEMBRANE	ADHESIVE	FIRE RATING UL790/ASTM E108	
				Class	Maximum Incline
91	-502.5	Duro-Fleece	CR 20	A	Unlimited

TABLE 10: STRUCTURAL CONCRETE DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-3: ADHERED INSULATION with ADHERED ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	INSULATION			COVERBOARD			MEMBRANE TYPE	ADHESIVE	FIRE RATING UL790/ASTM E108	
		Type	Attachment	Rate	Type	Adhesive	Rate			Class	Maximum Incline
92	-262.5	2 inch-thick Duro-Guard ISO IV-A	CR 20	¾ inch wide ribbons 12 inches on center	None	N/A	N/A	Duro-Fleece	CR 20	A	1½:12
93	-457.5	Two layers minimum 1½-inch-thick Duro-Guard ISO II-A	Olybond Insulation Adhesive	¾ inch wide ribbons 12 inches on center	None	N/A	N/A	Duro-Tuff	WB II	A	3:12
94	-360	Two layers minimum 1 1/2 inch-thick Duro-Guard ISO IV-A	CR 20	3 inch wide ribbons 12 inch on center	¼ inch Securock	CR 20	3 inch wide ribbons 12 inch on center	Duro-Fleece	CR 20	A	1½:12

TABLE 11: STEEL DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-3: ADHERED INSULATION with ADHERED ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	INSULATION			MEMBRANE TYPE	ADHESIVE	FIRE RATING UL790/ASTM E108	
		Type	Attachment	Rate			Class	Maximum Incline
95	-45	One or more layers of SECUROCK Gypsum-Fiber Roof Board or DensDeck,	Duro-Fleece Membrane Adhesive	3/4-inch ribbons spaced 6 inches o.c.	Duro-Fleece Plus	WB II	A	2:12

		Max. 1-inch-thick						

TABLE 12: STEEL DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-6: MECHANICALLY ATTACHED INSULATION with SPOT ATTACHED ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	INSULATION			MEMBRANE TYPE	ATTACHMENT	FIRE RATING UL790/ASTM E108	
		Type	Fastener	Rate			Class	Maximum Incline
96	-45	Maximum 1 inch thick Duro-Guard ISO IV-A, Duro-Guard ISO II-A, ENRGY-3, ISO 95+ GL, SECUROCK Gypsum-Fiber Roof Board or DensDeck	Duro-Last #15 Extra Heavy Duty Drill Point Fastener with Duro-Bond 1302 Plates	6 ft² / fastener	Duro-Last	Spot weld to Duro-Bond Plates	A	2:12
97	-45	Minimum 1½ inch thick Duro-Guard ISO II-H	Duro-Last #14 HD Fasteners with Duro-Bond 1302 or 1306 Plates	6 inch o.c. rows spaced 60 inches o.c.	Duro-Last	Spot weld to Duro-Bond Plates	A	2:12
98	-53	Minimum 1½ inch thick Duro-Guard ISO II-H	Duro-Last #14 HD Fasteners with Duro-Bond 1302 or 1306 Plates	6 inch o.c. in rows spaced 48 inches o.c	Duro-Last	Spot weld to Duro-Bond Plates	A	2:12
99[1]	-90	Minimum 1½ inch thick Duro-Guard ISO II-H	Duro-Last #15 EHD Fasteners	6 inch o.c. in rows spaced 48 inches o.c	60 mil Duro-Last	Spot weld to Duro-Bond 1302, 1306, or RhinoBond Induction Plates	A	2:12
100[1]	-52.5	Minimum 1½ inch thick Duro-Guard ISO II-H	Duro-Last #15 EHD Fasteners	6 inch o.c. in rows spaced 48 inches o.c	Duro-Last	Spot weld to Duro-Bond 1302, 1306, or RhinoBond Induction Plates	A	2:12

101[1]	-52.5	Minimum 1½ inch thick Duro-Guard ISO II-H	Duro-Last #15 EHD Fasteners	6 inch o.c. in rows spaced 96 inches o.c	60 mil Duro-Last	Spot weld to Duro-Bond 1302, 1306, or RhinoBond Induction Plates	A	2:12

[1]Minimum 18 gage 33 ksi B Deck

TABLE 12: STEEL DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-6: MECHANICALLY ATTACHED INSULATION with SPOT ATTACHED ROOF COVER (CONTINUED)

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	INSULATION			MEMBRANE TYPE	ATTACHMENT	FIRE RATING UL790/ASTM E108	
		Type	Fastener	Rate			Class	Maximum Incline
102[1]	-82.5	Minimum 1½ inch thick Duro-Guard ISO II-H	Duro-Last #15 EHD Fasteners	6 inch o.c. in rows spaced 60 inches o.c	60 mil Duro-Last	Spot weld to Duro-Bond 1302, 1306, or RhinoBond Induction Plates	A	2:12
103[1]	-82.5	Minimum 1½ inch thick Duro-Guard ISO II-H	Duro-Last #15 EHD Fasteners	6 inch o.c. in rows spaced 48 inches o.c	Duro-Last	Spot weld to Duro-Bond 1302, 1306, or RhinoBond Induction Plates	A	2:12
104[1]	-45	Minimum 1½ inch thick Duro-Guard ISO II-H	Duro-Last #15 EHD Fasteners	6 inch o.c. in rows spaced 48 inches o.c	60 mil Duro-Last	Spot weld to Duro-Bond 1302, 1306, or RhinoBond Induction Plates	A	2:12
105[1]	-45	Minimum 1½ inch thick Duro-Guard ISO II-H	Duro-Last #15 EHD Fasteners	12 inch o.c. in rows spaced 120 inches o.c	60 mil Duro-Last	Spot weld to Duro-Bond 1302, 1306, or RhinoBond Induction Plates	A	2:12
106	-53	Minimum 1½ inch thick Duro-Guard ISO II-H	Duro-Last #14 HD Fasteners with Duro-Bond 1302 or 1306 Plates	2.67 ft² / fastener	Duro-Last	Spot weld to Duro-Bond Plates	A	2:12
107	-38	Minimum 1½ inch thick Duro-Guard ISO II-H	Duro-Last #14 HD Fasteners	12 inch o.c. rows spaced 48 or 60 inches o.c	60 mil Duro-Last	Spot weld to Duro-Bond Plates	A	2:12

			with Duro-Bond 1302 or 1306 Plates					
108	-53	Minimum 1½ inch thick Duro-Guard ISO II-H	Duro-Last #14 HD Fasteners with Duro-Bond 1302 or 1306 Plates	2 ft² / fastener	60 mil Duro-Last	Spot weld to Duro-Bond Plates	A	2:12

[1]Minimum 18 gage 33 ksi B Deck

TABLE 12: STEEL DECKS[1] - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-6: MECHANICALLY ATTACHED INSULATION with SPOT ATTACHED ROOF COVER (CONTINUED)

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	INSULATION			MEMBRANE TYPE	ATTACHMENT	EXTERIOR FIRE RATING - UL790	
		Type	Fastener	Rate			Class	Maximum Incline
109[2]	-52.5	Duro-Guard ISO II-A[3]	OMG XHD Fasteners	4 ft² / fastener	40 mil Duro-Last or 50 mil Duro-Tuff or Duro-Last EV	Spot weld to RhinoBond Induction Plates	A	1:12[4]
		Duro-Guard ISO II-G[3]			40 mil Duro-Last or 50 mil Duro-Tuff or Duro-Last EV		A	1:12[4]
		Duro-Guard ISO II-H[3]			40 mil Duro-Last or 50 mil Duro-Tuff or Duro-Last EV		A	1:12[4]
		Duro-Guard ISO III-A[3]			40 mil Duro-Last or 50 mil Duro-Tuff or Duro-Last EV		A	1:12[4]
		Duro-Guard ISO III-H[3]			40 mil Duro-Last or 50 mil Duro-Tuff or Duro-Last EV		A	1:12[4]
110	-45	Duro-Guard ISO II-A[3]	Duro-Last #15 EHD Fasteners	6 ft² / fastener (24 x 36 inch grid)	40 mil Duro-Last or 50 mil Duro-Tuff or Duro-Last EV	Spot weld to RhinoBond Induction Plates	A	1:12[4]
		Duro-Guard ISO II-G[3]			40 mil Duro-Last or 50 mil Duro-Tuff or Duro-Last EV		A	1:12[4]
		Duro-Guard ISO II-H[3]			40 mil Duro-Last or 50 mil Duro-Tuff or Duro-Last EV		A	1:12[4]
		Duro-Guard ISO III-A[3]			40 mil Duro-Last or 50 mil Duro-Tuff or Duro-Last EV		A	1:12[4]
		Duro-Guard ISO III-H[3]					A	1:12[4]

					40 mil Duro-Last or 50 mil Duro-Tuff or Duro-Last EV		A	1:12[4]
111[5]	-90	One or more layers Classified insulation, any combination, minimum 1½-inches	SFS Intec Dekfast DF-#15	6 inch o.c. rows spaced 60 inches o.c.	40 mil Duro-Last	Spot weld to Isoweld Plates	A	1:12[4]
112[6]	-90		SFS Intec Dekfast DF-#12 or Dekfast DF-#15				A	1:12[4]
113[6]	-45			12 inch o.c. rows spaced 60 inches o.c.			A	1:12[4]

[1]Minimum 22 gage 33 ksi B Deck unless otherwise noted
[2]Minimum 20 gage 40 ksi N Deck
[3]One or more layers, top layer minimum 1-inch thick
[4]3:12 slope when top layer is minimum 1½-inches thick
[5]Minimum 22 gage 40 ksi B Deck
[6]Minimum 22 gage 80 ksi B Deck

TABLE 13: STRUCTURAL CONCRETE DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-6: MECHANICALLY ATTACHED INSULATION with SPOT ATTACHED ROOF COVER (CONTINUED)

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	INSULATION			MEMBRANE	ADHESIVE	EXTERIOR FIRE RATING UL790/ASTM E108	
		Type	Fastener	Rate			Class	Maximum Incline
114	-45	Minimum 1½ inch thick Duro-Guard ISO II-H	Duro-Last #14 HD Fasteners with Duro-Bond 1302 or 1306 Plates	6 inches on center in 2 inch tab rows	Duro-Last	Spot weld to Duro-Bond Plates	A	2:12
115	-52.5	Minimum 1½ inch thick Duro-Guard ISO II-H	Duro-Last #14 HD Fasteners with Duro-Bond 1302 or 1306 Plates	6 inches on center in 2 inch tab rows	Duro-Last	Spot weld to Duro-Bond Plates	A	2:12
116	-52.5	Minimum 1½ inch thick Duro-Guard ISO II-H	Duro-Last #14 HD Fasteners with Duro-Bond 1302 or 1306 Plates	4 ft² / fastener	Duro-Last	Spot weld to Duro-Bond Plates	A	2:12

TABLE 14: LIGHTWEIGHT INSULATING CONCRETE DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-2: ADHERED ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	MEMBRANE	ADHESIVE	EXTERIOR FIRE RATING UL790/ASTM E108	
				Class	Maximum Incline
117[1,2]	-60	Duro-Fleece Plus	WB II	A	Unlimited
118[1,2]	-82.5	Duro-Fleece Plus	WB II	A	Unlimited
119[3]	-45	Duro-Fleece[4]	CR 20	A	Unlimited

120[5]	-90	Duro-Fleece[4]	SB IV	A	Unlimited
121[5]	-75	Duro-Fleece[4]	WB II	A	Unlimited
122	-52.5	Duro-Fleece Plus	CR 20	A	2:12

[1]Celcore MF over minimum 22 gauge vented steel liner deck, Type B
[2]Maximum 60 inch purlin spacing
[3]Minimum 300 psi Celcore with HS Rheology Modifying Admixture and PVA Curing Compound
[4]Minimum 2 inch wide laps
[5]Minimum 300 psi Elastizell with Zell-Crete Fibers

TABLE 15: EXISTING LIGHTWEIGHT INSULATING CONCRETE DECKS - REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-7: MECHANICALLY ATTACHED ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	MEMBRANE TYPE	LAP TYPE	FASTENER	SPACING (inches)			EXTERIOR FIRE RATING UL790/ASTM E108	
					Tab Width	Tab Spacing	Fastener Spacing	Class	Maximum Incline
125	-45	Duro-Last	Standard	OMG Polymer GypTec Fastener	6	57	6	A	3:12
126	-60	Duro-Last	Hybrid[1]	OMG Polymer GypTec Fastener	6	57	6	A	3:12
127	-45	Duro-Last	Standard	Duro-Last #15 Extra Heavy Duty Fastener and Duro-Last Poly-plates	3	60	6	A	3:12

TABLE 16: TECTUM DECKS - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-1: MECHANICALLY ATTACHED INSULATION and ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	INSULATION	MEMBRANE TYPE	LAP TYPE	FASTENER	SPACING (inches)			EXTERIOR FIRE RATING UL790/ASTM E108	
						Tab Width	Tab Spacing	Fastener Spacing	Class	Maximum Incline
128	-45	None	Duro-Last, Duro-Last X	Standard	Liquid Auger Fastener	6	57	6	A	1½:12 3:12
129	-60	None	Duro-Last, Duro-Last X	Hybrid[1]	Liquid Auger Fastener	6	57	6	A	1½:12 3:12
130	-38	1½ inch minimum to 4 inch maximum thickness, DURO-GUARD® ISO II-E[2], Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last, Duro-Last X	Hybrid[1]	Liquid Auger Fastener with Ashland Pliogrip 7779L/220 Structural Adhesive	6	57	12	A C	1½:12 3:12
131	-68		Duro-Last, Duro-Last X	Hybrid[1]		6	57	6	A C	1½:12 3:12
132	-45[2]	Minimum 1½ inch Duro-Guard ISO II-A or Duro-Guard ISO III-A	Duro-Last, Duro-Last X	Standard[3]	Duro-Auger with 2½ inch Duro-Last Plate	6	57	6	A C	1½:12 3:12

133	-52.5[2]		Duro-Last, Duro-Last X	Hybrid[1]		6	57	6	A C	1½:12 3:12

[1]Fastener placed at midline of the 6 inch lap, which is treated with Tab Sealer 4725
[2]Minimum 3 inch thick Tectum Cementitious Wood Fiber
[3]Fastener placed at midline of the 6 inch lap

TABLE 17: GYPSUM DECKS[1] - NEW CONSTRUCTION or RECOVER
SYSTEM TYPE A-7: MECHANICALLY ATTACHED ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	MEMBRANE TYPE	LAP TYPE	FASTENER	SPACING (inches)			EXTERIOR FIRE RATING - UL790	
					Tab Width	Tab Spacing (inches)	Fastener Spacing	Class	Maximum Incline
134	-45	50 mil Duro-Last, Duro-Last X or Duro-Tuff	10-inch wide Cover strip	2.5-inch Duro-Last Duro-Auger and Auger Plates or TruFast Twin Loc Coiled Batten Bar and 1.8-inch Twin-Loc Nail Batten Fastener	2	48	6	A A	3:12 2:12
135	-60	50 mil Duro-Last, Duro-Last X or Duro-Tuff		1.8-inch Twin-Loc Nail Assembled Fastener	2	48	6	A A	3:12 2:12
136	-82.5	50 mil Duro-Last, Duro-Last X or Duro-Tuff		TruFast Twin Loc Coiled Batten Bar and 1.8-inch Twin-Loc Nail Batten Fastener	2	48	3	A A	3:12 2:12

[1]Support Tees spaced maximum 24 inches oc

TABLE 18: GYPSUM DECKS[1] - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-3: ADHERED INSULATION with ADHERED ROOF COVER

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	BASE INSULATION			TOP INSULATION			MEMBRANE TYPE	ADHESIVE	EXTERIOR FIRE RATING UL790	
		Type	Attachment	Adhesive / Rate	Type	Attachment	Rate			Class	Maximum Incline
137	-180	Optional EPS, Duro-Guard ISO II-A, G, or H	Ribbon Adhered	Duro-Grip[2] 12 inches oc	DEXcell Cement Board	Ribbon Adhered	Duro-Grip[2,3,4] 12 inches oc	Duro-Tuff, or Duro-Fleece Plus	WB II	A A	Unlimited Unlimited
138	-180	Optional EPS, Duro-Guard ISO II-A, G, or H	Ribbon Adhered	Duro-Grip[2] 12 inches oc	DEXcell FA Glass Mat Roof Board	Ribbon Adhered	Duro-Grip[2,4] 12 inches oc	Duro-Last	Duro-Last SB IV	A B	Unlimited 2:12
	-180	Optional EPS, Duro-Guard ISO II-A, G, or H	Ribbon Adhered	Duro-Grip[2] 12 inches oc	DEXcell FA Glass Mat Roof Board	Ribbon Adhered	Duro-Grip[2,4] 12 inches oc	Duro-Tuff	Duro-Last SB IV	A B[5]	Unlimited 3:12
139	-127.5	Minimum 1-inch Duro-Guard ISO II-H	Ribbon Adhered	Duro-Grip[3] spaced 12 inches oc	Optional DensDeck Prime or DEXcell Cement Board	Ribbon Adhered	Duro-Grip[4] spaced 12 inches oc	Duro-Last	Duro-Last SB IV	A[6]	Unlimited
								Duro-Tuff	WB II	A[6] B[6]	Unlimited 3:12
								Duro-Tuff	Duro-LastSB IV	A[6]	Unlimited 2:12
								Duro-Fleece Plus	WB II	A[6]	Unlimited
140	-165	Optional Minimum 1-inch EPS	Ribbon Adhered	Duro-Grip[3] spaced 12 inches oc	DensDeck Prime	Ribbon Adhered	Duro-Grip[4] 12 inches oc	Duro-Last	WB II	A B	¼:12 2:12
									Duro-LastSB IV	A[6]	Unlimited
								Duro-Tuff	WB II	A[6] B[6]	Unlimited 3:12
									Duro-LastSB IV	A[6] A[5]	Unlimited 2:12
								Duro-Fleece Plus	WB II	A[6]	Unlimited
	-180	None	None	N/A				Duro-Last	WB II	A	¼:12

141					DEXcell Cement Board	Ribbon Adhered	Duro-Grip[4] 12 inches oc			B	2:12
									Duro-LastSB IV	A[6]	Unlimited
								Duro-Tuff	WB II	A[6] B[6]	Unlimited 3:12
									Duro-LastSB IV	A[6]	Unlimited 2:12
								Duro-Fleece Plus	WB II	A[6]	Unlimited

[1]Support Tees spaced 24 inches oc
[2]OlyBond
[3]TruFast
[4]Insta-Stick
[5]Minimum 80 mil thick membrane
[6]Fire rating shown is for assemblies utilizing DensDeck Prime or DEXcell Cement Board above the insulation.

TABLE 18: GYPSUM DECKS[1] - NEW CONSTRUCTION or REROOF (Tear-Off) or RECOVER
SYSTEM TYPE A-3: ADHERED INSULATION with ADHERED ROOF COVER (CONTINUED)

SYSTEM NO.	ALLOWABLE UPLIFT CAPACITY (lbs/ft²)	BASE INSULATION			TOP INSULATION			MEMBRANE TYPE	ADHESIVE	EXTERIOR FIRE RATING UL790	
		Type	Attachment	Adhesive / Rate	Type	Attachment	Rate			Class	Maximum Incline
142	-217.5	Optional Duro-Guard ISO II-A	Ribbon Adhered	Duro-Grip[2] 12 inches oc	DEXcell Cement Board	Ribbon Adhered	Duro-Grip[2,3,4] 12 inches oc	Duro-Tuff, Duro-Fleece Plus	WB II	A A	Unlimited Unlimited
143	-217.5	Optional Duro-Guard ISO II-A	Ribbon Adhered	Duro-Grip[2] 12 inches oc	DEXcell Cement Board	Ribbon Adhered	Duro-Grip[2,3,4] 12 inches oc	Duro-Last	SB IV	A[5]	Unlimited

[1]Support Tees spaced 24 inches oc
[2]OlyBond
[3]TruFast
[4]Insta-Stick
[5]Fire rating shown is for assemblies utilizing DensDeck Prime or DEXcell Cement Board above the insulation.

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