MIAMI-DADE

BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-2908

NOTICE OF ACCEPTANCE (NOA)

Cooley Roofing Systems, Inc.
50 Esten Avenue
Pawtucket, RI 02860

SCOPE:
This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by the BCCO and accepted by the Building Code and Product Review Committee to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code and the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Cooley C3, C3FB and C3Plus PVC Single Ply Roof Systems over Steel Decks.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA revises NOA No. 07-1218.03 and consists of pages 1 through 24.
The submitted documentation was reviewed by Jorge L. Acebo.

MIAMI-DADE COUNTY APPROVED

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Single Ply
Material:	PVC
Deck Type:	Steel
Maximum Design Pressure	-75 psf

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
Cooley C-3 40-100 Mil Membrane	78" x 108" 702 sf. roll	ASTMD 4434	40-100 mil thermoplastic alloy membrane field membrane.
Cooley C-3 40-100 Mil Perimeter Sheet	39" x 108' 351 sf. roll	ASTM D 4434	40-100 mil thermoplastic alloy membrane perimeter sheet.
Cooley C-3 40-Roofing Membrane	52" x 108'	ASTM D 4434	40-100 mil thermoplastic alloy membrane field membrane.
Cooley C-3 Plus 40-100 Mil Membrane	78" x 100' 650 ft.² roll	ASTMD 4434	40-100 mil thermoplastic alloy membrane field membrane
Cooley C-3 Plus 40-100 Mil Perimeter Sheet	39" x 100' 325 ft.² roll	ASTMD 4434	40-100 mil thermoplastic alloy membrane perimeter sheet
Cooley C-3 Plus 40-Roofing Membrane	52" x 100'	ASTMD 4434	40-100 mil thermoplastic alloy membrane field membrane.
Cooley C-3 Reinforced Flashing Membrane	6", 8", 12", 18" & 24" variable length rolls	ASTM D 4434	40-100 mil thermoplastic flashing membrane.
Cooley C-3 Unreinforced 55 - 75 Mil Membrane Back RAM	24" x 36' LF 72 ft.² roll	ASTM D 4434	55 mil unreinforced flashing membrane
Cooley C-3 Coated Metal	4' x 8' 4' x 10' sheets	US Commercial Standard CS-245-62	C-3 membrane laminated 24 Ga. galvanized steel.
Cooley C-3 Fleece Back RAM Universal Corners	14" x 14"	ASTM D 4434	Thermoplastic fleece back membrane. Adhered applications.
Cooley C-3 Fleece Back RAM	76" x 100' 39" x 100' 325 ft.² roll	ASTM D 4434	Thermoplastic fleece back membrane. Adhered applications.
Cooley C-3 Fleece Back RAM Flashing	12" x 100' 100 ft.² roll 24" x 100' 200 ft.² roll	ASTM D 4434	Thermoplastic fleece back membrane flashing material.
Cooley C3 Bonding Adhesive	5 gallon pails	proprietary	Solvent based adhesive for fully adhered RAM systems and C3PLUS roofing membrane.

Product	Dimensions	Test Specification	Product Description
Cooley PVC Adhesive	N/A	proprietary	Solvent based adhesive for fully adhered C3PLUS Roofing Membrane
Cooley WB Bonding Adhesive	N/A	proprietary	Water Based adhesive for fully adhered C3PLUS Roofing Membrane
Cooley Low VOC PVC Adhesive	N/A	proprietary	Low VOC solvent based adhesive for fully adhered C3PLUS Roofing Membrane
Cooley Aluminum Termination Bar	1/8" x 1" x 10	TAS 114	Flat termination bar.
Cooley Coolgrip Walkway	0.072" x 36" x 60'	proprietary	Walkway pad (roll configuration)
Cooley Coolgrip Heavy Duty Walkway	0.150" x 36" x 60'	proprietary	Walkway pad (roll configuration)
C3 Bonding Adhesive	N/A	proprietary	Contact adhesive for membrane flashing.
Cooley PVC Adhesive	N/A	proprietary	Adhesive for membrane flashing
Cooley WB Bonding Adhesive	N/A	proprietary	Adhesive for membrane flashing
Cooley Low VOC PVC Adhesive	N/A	proprietary	Adhesive for membrane flashing

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
Pyrox, White Line	Isocyanurate Insulation	Apache Products Co.
ACFoam II, III	Isocyanurate Insulation	Atlas Roofing Corp.
Conperl	Perlite insulation board.	Conglas
Hytherm, Hytherm AP	Isocyanurate Insulation	Dow Chemical
Styrofoam	Extruded Polystyrene.	Dow Chemical
ISO 95+, ISO 95+ GL	Polyisocyanurate foam insulation	Firestone
EnergyGuard High Density Fiberboard	High density wood fiberboard insulation.	GAF Materials Corp.
EnergyGuard Perlite	Perlite insulation board.	GAF Materials Corp.
Armor Board High Density	Wood fiber insulation board.	Honeywell International
Dens Deck, Dens Deck Prime	Silicon treated gypsum	G-P Products
Sturdi-Top, Roof Insulation Board	Wood fiber insulation board.	G-P Products
High Density Wood Fiberboard	High Density Wood Fiber insulation board.	Generic

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
Perlite Insulation Board	Perlite Insulation	Generic
Type X Gypsum, Gypsum	Gypsum Wallboard	Generic
EPS or XPS Insulation	Expanded or Extruded Polystyrene.	Generic
Ultra/M-II	Isocyanurate Insulation	Homasote Co.
H-Shield	Isocyanurate Insulation	Hunter Panels
ENRGY 2, ENERGY 3, PSI-25 UltraGuard	Isocyanurate Insulation	Johns Manville
Fesco Foam, DuraFoam	Isocyanurate Insulation with perlite facer	Johns Manville
Fesco Board	Rigid perlite roof insulation board.	Johns Manville
Strataguard	Gypsum Wallboard	Owens Corning
Multi-Max, Multi-Max FA, Thermaroof Plus	Polyisocyanurate foam insulation	Rmax, Inc.
Fiberbase HD1, HD6	Asphalt coated wood fiber insulation	Temple Inland Forest Products Corp.
Structodeck	High Density Wood Fiber insulation board.	Wood Fiber Industries

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Olympic Fasteners #12, #14	Insulation and membrane fastener	Various	Olympic Mfg. Group
2.	Olympic Standard	Galvalume AZ55 stress plate	3" round	Olympic Mfg. Group
3.	Olympic XHD Fastening System	Insulation and membrane fastener consisting of a steel seam plate and screw.	2-⅜" plate & #15 Screw	Olympic Mfg. Group
4.	Olympic Plastic	Plastic plates for fasteners.	3" round	Olympic Mfg. Group
5.	Dekfast Fasteners #14, #15	Insulation and membrane fastener	Various	SFS Intec, Inc.
6.	Omega	Stainless steel insulation / membrane fasteners.	Various	SFS Intec, Inc.
7.	Dekfast Hex Plate	Galvalume AZ50 stress plate	2-$^{7}/_{8}$" x 3-¼"	SFS Intec, Inc.
8.	Dekfast HS Membrane Plate	Galvalume stress plate	2-½"	SFS Intec, Inc
9.	Dekfast HS Fasteners	Insulation and membrane fastener	Various	SFS Intec, Inc

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
10.	Dekfast Lock Plate	Polypropylene stress plate.	3" x 3-¼"	SFS Intec, Inc.
11.	Insul-Fixx Fastener	Insulation fastener	Various	SFS Intec, Inc.
12.	Isofast Plate	Square or oblong Galvalume steel plates for use with Isofast fasteners	Various	SFS Intec, Inc.
13.	Isofast Fasteners	Insulation fastener for steel and wood decks	Various	SFS Intec, Inc
14.	Insul-Fixx S	Galvalume AZ55 stress plate	3" round	SFS Intec, Inc.
15.	Insul-Fixx P	Polyethylene stress plate	3" round	SFS Intec, Inc.
16.	Roof Grip Fastener	Insulation and membrane fastener	#I5	ITW Buildex
17.	Round Barbed Seam Plate	Galvalume stress plate	2-⅜"	ITW Buildex
18.	EHD Fasteners	Insulation and membrane fastener	Various	Tru-Fast.
19.	Barbed Seam Plate	Galvalume stress plate	2.4"	Tru-Fast
20.	MaxLoad Fasteners	Insulation and membrane fastener	Various	ITW Buildex
21.	Eye Hook Seam Plate	Galvalume stress plate	2.75"	ITW Buildex
22.	Super XHD Fasteners	Insulation and membrane fastener	Various	Olympic Mfg. Group
23.	Super Barbed Stress Plate	Galvalume stress plate	2.75"	Olympic Mfg. Group
24.	Piranha HP-Xtra Fastener	Insulation and membrane fastener	Various	Carlisle Inc.
25.	Piranha-Xtra Plates	Galvalume stress plate	2⅜"	Carlisle Inc
26.	All purpose Heavy Duty Fastener	Insulation and membrane fastener	Various	Firestone Building Products
27.	All purpose Fastener	Insulation and membrane fastener	Various	Firestone Building Products
28.	Insulation Fastening Plate	Galvalume stress plate	Various	Firestone Building Products
29.	Rawl #12 or #14	Insulation and membrane fastener	Various	Powers Fastening Inc
30.	Rawl Speed-Lock Toggle Bolt	Insulation and membrane fastener	Various	Powers Fastening Inc
31.	Rawl Insulation Plate	Galvalume stress plate	3"	Powers Fastening Inc
32.	Olympic #10 Fastener	Insulation and membrane fastener	Various	Olympic Mfg. Group
33.	Olympic Stainless #12 Fastener	Insulation and membrane fastener	Various	Olympic Mfg. Group
34.	Iron-Lok or Strap Toggle Fastener	Insulation and membrane fastener	Various	Olympic Mfg. Group
35.	Olympic Heavy Duty Fastener	Insulation and membrane fastener	Various	Olympic Mfg. Group
36.	Accutrac or Hextra with Recessed, Accutrac or Gearlock Plate	Insulation and membrane fastener and plate	Various	ITW Buildex

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
37.	#12 ¼ in,#14 Roofgrip Drill Point, #14-10 or #15 Roofgrip with Recessed, Accutrac Flat Bottom, Gearlock Plate	Insulation and membrane fastener and plate	Various	ITW Buildex
38.	Hextra Plus Pre-assembled System,	Insulation and membrane system	Various	ITW Buildex
39.	Roofgrip Plus Pre-assembled System	Insulation and membrane system	Various	ITW Buildex
40.	OMG Hex Head #12 Fastener	Insulation and membrane fastener	Various	Olympic Mfg. Group
41.	OMG Hex Head #14 Fastener	Insulation and membrane fastener	Various	Olympic Mfg. Group
42.	OMG G-2 Stress Plate	Insulation and membrane Plate	Various	Olympic Mfg. Group
43.	OMG LGP Stress Plate	Insulation and membrane Plate	Various	Olympic Mfg. Group
44.	OMG SIP Fastener	Insulation and membrane fastener	Various	Olympic Mfg. Group
45.	Dekfast #12	Insulation and membrane fastener	Various	SFS Intec Fastening System Inc
46.	Dekfast #12 Hex	Insulation and membrane fastener	Various	SFS Intec Fastening System Inc
47.	Dekfast #14 SS	Insulation and membrane fastener	Various	SFS Intec Fastening System Inc
48.	Dekfast #15 HS	Insulation and membrane fastener	Various	SFS Intec Fastening System Inc
49.	Dekfast 3" Round Plastic Lock Plate	Insulation and membrane Plate	3"	SFS Intec Fastening System Inc
50.	Dekfast Galvalume Steel Round Plate	Insulation and membrane Plate	3"	SFS Intec Fastening System Inc
51.	Dekfast Galvalume Steel Hex	Insulation and membrane fastener	Various	SFS Intec Fastening System Inc
52.	Dekfast Isofast IFC/PH-70x70 Insulation Plate	Insulation Plate	Various	SFS Intec Fastening System Inc
53.	Dekfast K-Fast	Insulation and membrane fastener	Various	SFS Intec Fastening System Inc
54.	Dekfast Recessed Galvalume Steel Hex	Stress Plate	Various	SFS Intec Fastening System Inc
55.	Dekfast System ES #12 Plastic	Pre-assembled	Various	SFS Intec Fastening System Inc
56.	Dekfast System ES #12 Steel	Pre-assembled	Various	SFS Intec Fastening System Inc
57.	Dekfast System ES #14 Steel	Pre-assembled	Various	SFS Intec Fastening System Inc

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
58.	Tru-Fast PA System	Pre-assembled	Various	Tru-Fast Corp.
59.	Tru-Fast DL	Insulation and membrane fastener	Various	Tru-Fast Corp.
60.	Tru-Fast DP	Insulation and membrane fastener	Various	Tru-Fast Corp.
61.	Tru-Fast DP-H	Insulation and membrane fastener	Various	Tru-Fast Corp.
62.	Tru-Fast HD	Insulation and membrane fastener	Various	Tru-Fast Corp.
63.	Tru-Fast MP-3	Stress Plate	3"	Tru-Fast Corp.
64.	Tru-Fast MP-3 --SS	Stress Plate	3"	Tru-Fast Corp.
65.	Tru-Fast MPH-3	Stress Plate	3"	Tru-Fast Corp.
66.	Tru-Fast MPH-3-SS	Stress Plate	3"	Tru-Fast Corp.
67.	Tru-Fast Plastic	Stress Plate	3"	Tru-Fast Corp.
68.	Tru-Fast TP	Insulation and membrane fastener	Various	Tru-Fast Corp.
69.	Tru-Fast Ultra SS	Insulation and membrane fastener	Various	Tru-Fast Corp.

EVIDENCE SUBMITTED:

Test Agency/Identifier	Report	Name	Date
Factory Mutual Corp.	3025170	4470	02/07/06
	3021133	4470	02/07/06
	3017177	4470	01/09/04
	J.I. 0X2A9.AM	4470	06/26/93
	J.I. 3W1A1.AM	4470	03/29/93
	J.I. 1V1A8.AM	4470	04/21/92
	J.I. 1W1A9.AM	4470	09/11/93
	J.I. 1X3A6.AM	4470	10/03/93
	J.I. 1W9A2.AM	4470	06/15/93
	J.I. 1W2A0.AM	4470	08/24/93
	J.I. 3W3A4.AM	4470	03/26/93
	J.I. 0X8A9.AM	4470	06/25/93
	J.I. 1X6A5.AM	4470	10/12/93
	J.I. 2W5A6.AM	4470	06/01/93
Underwriters Laboratories, Inc.	File R9834 (N)	UL 790	04/06/93

APPROVED ASSEMBLIES

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. Steel

System Type C(1): All layers of insulation simultaneously attached; C3 Plus membrane fully adhered.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ACFoam-II, ACFoam-III Minimum 2" thick	**1, 2, 4, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69**	**1: 4 ft^2**
ENRGY 3, PSI 25, ValuTherm Minimum 2" thick	**26, 27, 28, 36, 37, 38, 39, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57**	**1: 4 ft^2**
ISO 95+ GL Minimum 2" thick	**26, 27, 28, 36, 37, 38, 39, 1, 2, 32, 33, 34, 35, 40, 41, 42, 43, 44 Steel Plate only for OMG**	**1: 4 ft^2**
ACFoam II, ACFoam III Minimum 1.5" thick	**1, 2, 4, 26, 27, 28, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69**	**1: 2 ft^2**
Hy-Therm AP, Kop R Minimum 1.5" thick	**1, 2, 4, 26, 27, 28, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57**	**1: 5.4 ft^2**
Fiber Top E Minimum 0.75" thick	**1, 2, 4, 26, 27, 28, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69**	**1: 2.6 ft^2**
Fiber Top C, E Minimum 1" thick	**1, 2, 4, 26, 27, 28, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44**	**1: 2 ft^2**
High Density Fiberboard, Armor Board Regular and High Density, Esgard and Esgard High Strength, EnergyGuard High Density Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber, GAFTEMP Fiberboard, Knight-Celotex Fiberboard Premium and High Density, High Density Roof Board, Fiber Top C Minimum 1" thick	**1, 2, 4, 26, 27, 28, 32, 33, 34, 35, 40, 41, 42, 43, 44**	**1: 2 ft^2**

Note: All layers shall be simultaneously fastened. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Vapor Retarder:	(Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.
Barrier:	(Optional) Minimum 1/4" Dens Deck secured to the deck with the insulation.
Membrane:	C3 Plus Membrane fully adhered to the insulation with Cooley Bonding Adhesive (C-1006) applied at the rate of 0.83 gal./sq. on both the membrane and the substrate for a total of 1.67 gal./sq., and a heat welded seam minimum 1½" wide at the laps, or Cooley PVC Bonding Adhesive applied at the rate of 1 gal/sq on both the membrane and the substrate for a total of 2 gal/sq, or Cooley WB Bonding Adhesive applied at the rate of 0.67 gal/sq to the substrate, or Cooley Low VOC Adhesive applied at the rate of 0.83 gal/sq on both the membrane and the substrate for a total of 1.67 gal/sq
Maximum Design Pressure:	-45 psf; (See General Limitation #9.)

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. Steel

System Type C(2): Multilayer Insulation System, all layers of insulation simultaneously attached; C3 Plus membrane fully adhered.

All General and System Limitations apply.

One or more layers of the Base Layer insulation covered by one layer of the insulation listed as Top Layer.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
¾" minimum thickness: Perlite ISO 95+ Composite, ACFOAM Composite/PB, Hy-Therm Composite, Hy-Therm(a) Composite Roof Insulation, Thermoroof Composite, Fesco Foam, Duraboard, or Foamglass Board followed by a ½" to 1" Wood Fiberboard Thermaroof Composite		

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ACFoam-II, ACFoam-III Minimum 2" thick	**1, 2, 4, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69**	**1: 4 ft^2**
ENRGY 3, PSI 25, ValuTherm Minimum 2" thick	**26, 27, 28, 36, 37, 38, 39, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57**	**1: 4 ft^2**
ISO 95+ GL Minimum 2" thick	**26, 27, 28, 36, 37, 38, 39, 1, 2, 32, 33, 34, 35, 40, 41, 42, 43, 44 Steel Plate only for OMG**	**1: 4 ft^2**
ACFoam II, ACFoam III Minimum 1.5" thick	**1, 2, 4, 26, 27, 28, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69**	**1: 2 ft^2**
Hy-Therm AP, Kop R Minimum 1.5" thick	**1, 2, 4, 26, 27, 28, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57**	**1: 5.4 ft^2**
Fiber Top E Minimum 0.75" thick	**1, 2, 4, 26, 27, 28, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69**	**1: 2.6 ft^2**

Fiber Top C, E		
Minimum 1" thick	**1, 2, 4, 26, 27, 28, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44**	**1: 2 ft²**

High Density Fiberboard, Armor Board Regular and High Density, Esgard and Esgard High Strength, EnergyGuard High Density Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber, GAFTEMP Fiberboard, Knight-Celotex Fiberboard Premium and High Density, High Density Roof Board, Fiber Top C

Minimum 1" thick	**1, 2, 4, 26, 27, 28, 32, 33, 34, 35, 40, 41, 42, 43, 44**	**1: 2 ft²**

Vapor Retarder:	(Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.
Barrier:	(Optional) Minimum 1/4" Dens Deck secured to the deck with the insulation.
Membrane:	C3 Plus Membrane fully adhered to the insulation with Cooley Bonding Adhesive (C-1006) applied at the rate of 0.83 gal./sq. on both the membrane and the substrate for a total of 1.67 gal./sq., and a heat welded seam minimum 1½" wide at the laps, or Cooley PVC Bonding Adhesive applied at the rate of 1 gal/sq on both the membrane and the substrate for a total of 2 gal/sq, or Cooley WB Bonding Adhesive applied at the rate of 0.67 gal/sq to the substrate, or Cooley Low VOC Adhesive applied at the rate of 0.83 gal/sq on both the membrane and the substrate for a total of 1.67 gal/sq
Maximum Design Pressure:	-45 psf; (See General Limitation #9.)

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type C(3): All layers of insulation simultaneously attached; membrane fully adhered.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ACFoam II, Multi-Max FA, ENRGY-2, ENRGY-3, PSI-25, ISO-95+, ISO + GL, Hy-Therm AP, Pyrox		
Minimum 1.4" thick	**N/A**	**N/A**

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ISO 95 +, ISO 95 + GL, ENRGY-2, ENRGY-3, PSI-25, Hy-Therm AP, Pyrox		
Minimum 1.4" thick	**1, 4, 8 or 9**	**1:2 ft^2**
ACFoam II, Multi-Max FA		
Minimum 1.5" thick	**1, 4, 8 or 9**	**1:2 ft^2**
High Density Fiberboard, FM-90 High Density, Armor Board Regular, Esgard, EnergyGuard Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber		
Minimum ½" thick	**1, 4, 8 or 9**	**1:2 ft^2**

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.

Barrier: (Optional) Minimum 1/4" Dens Deck secured to the deck with the insulation.

Membrane: C3 Fleece Back Roof Cover fully adhered to the insulation with Cooley Bonding Adhesive (C-1006) applied at the rate of 1 gal./sq., or approved mopping asphalt applied at the rate of 25 lbs./sq. Optional mechanical attachment of membrane using fasteners and plates noted in System Type D spaced 36" o.c. is permitted.

Maximum Design Pressure: -45 psf; (See General Limitation #9.)

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(1): Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Conperl, EnergyGuard Perlite, FescoBoard, Armor Board High Density, BP High Strength, FM-90 Traffic Top/High Density, ERS Redi-Deck, Riber Top C, E, S, EnergyGuard High Density, Roof Insulation Board, High Density Fiberboard, Fiber Base HD1, HD6, Structodek, Pyrox, Hy-Therm AP, Whiteline, ENRGY-2, ENRGY-3, PSI-25, Mutli-Max, Thermaroof Plus, ACFoam II, Ultra/M-11ISO/glas, ISO 95+, ISO 95+GL, Ultragard, Fesco Foam		
Minimum 1" thick	**N/A**	**N/A**
High Density Fiberboard, FM-90 High Density, Armor Board Regular, Esgard, EnergyGuard Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber		
Minimum ½" thick	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See membrane below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.

Barrier: (Optional) Minimum ¼" Dens Deck secured to the deck with the insulation.

Membrane: C3 Plus Membrane attached through the preliminary attached insulation as specified below.

Fastening #1: Membrane is mechanically attached using Olympic XHD Fastening System; Tru-Fast 2.4" Barbed Seam Plate and Tru-Fast EHD fasteners; ITW Buildex 2-3/8" Round Barbed Seam Plates and #15 Roofgrip fasteners; Dekfast 2-1/2" HS Membrane Plates and Dekfast #15 HS fasteners spaced 6" o.c. through 5" wide laps spaced in rows 73"apart. The 5" wide laps are then sealed with a min. 1-1/2" wide heat seal.

Fastening #2: Membrane is mechanically attached using ITW Buildex 2-3/8" Round Barbed Seam Plates and #15 Roofgrip fasteners; Olympic XHD Fastening System spaced 6" o.c. through 4½" wide laps spaced in rows 114"apart. The 4½" wide laps are then sealed with a min. 2" wide heat seal.

Maximum Design Pressure: -60 psf; (See General Limitation #7.)

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(2): Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Conperl, EnergyGuard Perlite, FescoBoard, Armor Board High Density, BP High Strength, FM-90 Traffic Top/High Density, ERS Redi-Deck, Riber Top C, E, S, EnergyGuard High Density, Roof Insulation Board, High Density Fiberboard, Fiber Base HD1, HD6, Structodek, Pyrox, Hy-Therm AP, Whiteline, ENRGY-2, ENRGY-3, PSI-25, Mutli-Max, Thermaroof Plus, ACFoam II, Ultra/M-11ISO/glas, ISO 95+, ISO 95+GL, Ultragard, Fesco Foam		
Minimum 1" thick	**N/A**	**N/A**
High Density Fiberboard, FM-90 High Density, Armor Board Regular, Esgard, EnergyGuard Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber		
Minimum ½" thick	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See membrane below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.

Barrier: (Optional) Minimum ¼" Dens Deck secured to the deck with the insulation.

Membrane: C3 Plus Membrane attached through the preliminary attached insulation as specified below.

Fastening #1: Membrane is mechanically attached using Olympic XHD Fastening System; Tru-Fast 2.4" Barbed Seam Plate with Tru-Fast EHD fasteners; ITW Buildex 2-3/8" Round Barbed Seam Plates with #15 Roofgrip fasteners; Dekfast 2-1/2" HS Membrane Plates with Dekfast #15 HS fasteners spaced 12" o.c. through 5" wide laps spaced in rows 73"apart. The 5" wide laps are then sealed with a min. 1-1/2" wide heat seal.

Fastening #2: Membrane is mechanically attached using ITW Buildex 2-3/4" Eye Hook Seam Plates with MaxLoad fasteners; Olympic Super XHD Fasteners with Olympic 2-3/4" Barbed Stress Plates spaced 12" o.c. through 5½" wide laps spaced in rows 114"apart. The 5½" wide laps are then sealed with a min. 2" wide heat seal.

Fastening #3: Membrane is mechanically attached using Olympic Stainless Steel Plate with Olympic Standard or Heavy Duty Stainless Steel Fasteners or Dekfast #14 or #15 Heavy Stainless Steel Fasteners and Plates spaced 18" o.c. through 4½" wide laps spaced in rows 48"apart. The 4½" wide laps are then sealed with a min. 1½" wide heat seal.

Fastening #4:	Membrane is mechanically attached using Olympic ASAP Plate with Olympic Standard or Heavy Duty Fasteners or Dekfast #14 Stainless Steel Fasteners or Dekfast #14 or #15 HS Fasteners and Plates spaced 6" o.c. through 6" wide laps spaced in rows 72"apart. The 6" wide laps are then sealed with a min. 1½" wide heat seal.
Fastening #5:	Membrane is applied over insulation and its 2" laps are sealed. Membrane is then mechanically attached to deck using Olympic ASAP Plate with Olympic Standard or Heavy Duty Fasteners or Dekfast #14 or #15 Heavy Duty Fasteners and Plates spaced 6" o.c. in rows 8' apart. A 6" wide strip of membrane is then heat welded over the fastener rows or a 6" dia. membrane cap may be heat welded over each fastener and plate.
Fastening #6:	Membrane is mechanically attached using Dekfast Isofast IF 2⅜" Stress Plates with Dekfast #15 HS or Dekfast #15 Belted Fasteners spaced 6" o.c. through 6" wide laps spaced in rows 66"apart. The 6" wide laps are then sealed with a min. 1½" wide heat seal.
Maximum Design Pressure:	-45 psf; (See General Limitation #7.)

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(3): Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Conperl, EnergyGuard Perlite, FescoBoard, Armor Board High Density, BP High Strength, FM-90 Traffic Top/High Density, ERS Redi-Deck, Riber Top C, E, S, EnergyGuard High Density, Roof Insulation Board, High Density Fiberboard, Fiber Base HD1, HD6, Structodek, Pyrox, Hy-Therm AP, Whiteline, ENRGY-2, ENRGY-3, PSI-25, Mutli-Max, Thermaroof Plus, ACFoam II, Ultra/M-11ISO/glas, ISO 95+, ISO 95+GL, Ultragard, Fesco Foam		
Minimum 1" thick	**N/A**	**N/A**
High Density Fiberboard, FM-90 High Density, Armor Board Regular, Esgard, EnergyGuard Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber		
Minimum ½" thick	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See membrane below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.

Barrier: (Optional) Minimum ¼" Dens Deck secured to the deck with the insulation.

Membrane: C3 Plus Membrane (**Minimum 60 Mils thick**) attached through the preliminary attached insulation as specified. Membrane is mechanically attached using Olympic XHD Fastening System or ITW Buildex 2-3/8" Round Barbed Seam Plates and #15 Roofgrip fasteners spaced 12" o.c. through 5" wide laps spaced in rows 73"apart. The 5" wide laps are then sealed with a min. 1-1/2" wide heat seal.

Maximum Design Pressure: -52.5 psf; (See General Limitation #7.)

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(4): Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Conperl, EnergyGuard Perlite, FescoBoard, Armor Board High Density, BP High Strength, FM-90 Traffic Top/High Density, ERS Redi-Deck, Riber Top C, E, S, EnergyGuard High Density, Roof Insulation Board, High Density Fiberboard, Fiber Base HD1, HD6, Structodek, Pyrox, Hy-Therm AP, Whiteline, ENRGY-2, ENRGY-3, PSI-25, Mutli-Max, Thermaroof Plus, ACFoam II, Ultra/M-11ISO/glas, ISO 95+, ISO 95+GL, Ultragard, Fesco Foam		
Minimum 1" thick	**N/A**	**N/A**
High Density Fiberboard, FM-90 High Density, Armor Board Regular, Esgard, EnergyGuard Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber		
Minimum ½" thick	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See membrane below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.

Barrier: (Optional) Minimum ¼" Dens Deck secured to the deck with the insulation.

Membrane: C3 Plus Membrane (**Minimum 60 Mils thick**) attached through the preliminary attached insulation as specified. Membrane is mechanically attached using ITW Buildex 2-3/4" Eye Hook Seam Plates and MaxLoad fasteners; Olympic Super XHD Fasteners and Olympic 2-3/4" Barbed Stress Plates or Carlisle Piranha-Xtra Plates and HP-Xtra Fasteners spaced 18" o.c. through 6" wide laps spaced in rows 72"apart. The 6" wide laps are then sealed with a min. 2" wide heat seal.

Maximum Design Pressure: -45 psf; (See General Limitation #7.)

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(5): Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Conperl, EnergyGuard Perlite, FescoBoard, Armor Board High Density, BP High Strength, FM-90 Traffic Top/High Density, ERS Redi-Deck, Riber Top C, E, S, EnergyGuard High Density, Roof Insulation Board, High Density Fiberboard, Fiber Base HD1, HD6, Structodek, Pyrox, Hy-Therm AP, Whiteline, ENRGY-2, ENRGY-3, PSI-25, Mutli-Max, Thermaroof Plus, ACFoam II, Ultra/M-11ISO/glas, ISO 95+, ISO 95+GL, Ultragard, Fesco Foam		
Minimum 1" thick	**N/A**	**N/A**
High Density Fiberboard, FM-90 High Density, Armor Board Regular, Esgard, EnergyGuard Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber		
Minimum ½" thick	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See membrane below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.

Barrier: (Optional) Minimum ¼" Dens Deck secured to the deck with the insulation.

Membrane: C3 Plus Membrane (**Minimum 60 Mils thick**) attached through the preliminary attached insulation as specified. Membrane is mechanically attached using Olympic XHD Fastening System or ITW Buildex 2-3/8" Round Barbed Seam Plates and #15 Roofgrip fasteners spaced 6" o.c. through 6" wide laps spaced in rows 72"apart. The 6" wide laps are then sealed with a min. 2" wide heat seal.

Maximum Design Pressure: -75 psf; (See General Limitation #7.)

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(6): Multilayer Insulation System, Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
One or more layers of the Base Layer insulation covered by one layer of the insulation listed as Top Layer.		
Hy-Therm AP, ENRGY-3, PSI-25, Mutli-Max, Thermaroof Plus, ACFoam II, ACFOAM III, ISO 95+GL, Fesco Foam or DuraBoard		
Minimum 1" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
High Density Fiberboard, Fiber Top C, E or S, Armor Board Regular, Esgard, Knight-Celotex Premium Fiberboard, GAFTEMP Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber		
Minimum ½" thick	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See membrane below for fasteners and density. Refer to Roofing Application Staudard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.

Membrane: C3 Plus Membrane attached through the preliminary attached insulation as specified below.

Fastening #1: Membrane is mechanically attached using Olympic Stainless Steel Plate with Olympic Standard or Heavy Duty Stainless Steel Fasteners or Dekfast #14 or #15 Heavy Stainless Steel Fasteners and Plates spaced 18" o.c. through 4½" wide laps spaced in rows 48"apart. The 4½" wide laps are then sealed with a min. 1½" wide heat seal.

Fastening #2: Membrane is mechanically attached using Olympic ASAP Plate with Olympic Standard or Heavy Duty Fasteners or Dekfast #14 Stainless Steel Fasteners or Dekfast #14 or #15 HS Fasteners and Plates spaced 6" o.c. through 6" wide laps spaced in rows 72"apart. The 6" wide laps are then sealed with a min. 1½" wide heat seal.

Fastening #3: Membrane is applied over insulation and its 2" laps are sealed. Membrane is then mechanically attached to deck using Olympic ASAP Plate with Olympic Standard or Heavy Duty Fasteners or Dekfast #14 or #15 Heavy Duty Fasteners and Plates spaced 6" o.c. in rows 8' apart. A 6" wide strip of membrane is then heat welded over the fastener rows or a 6" dia. membrane cap may be heat welded over each fastener and plate.

Maximum Design Pressure: -45 psf; (See General Limitation #7.)

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(7): Multilayer Insulation System, Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of the Base Layer insulation covered by one layer of the insulation listed as Top Layer.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
EPS over gypsum barrier. Minimum 1" thick	**N/A**	**N/A**

Base or Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Dow Styrofoam, Owens-Corning's Foamular 250, 150, AFM Perform 2, Perform Plus extruded polystyrene, Nova Chemicals Inc expanded polystyrene, ISO 95+, ISO 95+GL		
Minimum 1" thick	**N/A**	**N/A**
Fireshield, High Density Fiberboard, Fiber Top C, E or S, Armor Board Regular, Esgard, Knight-Celotex Premium Fiberboard, GAFTEMP Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber		
Minimum ½" thick	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See membrane below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarder:	(Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.
Barrier:	Minimum ¼" Dens Deck secured to the deck with the insulation.
Membrane:	C3 Plus Membrane attached through the preliminary attached insulation as specified below.
Fastening #1:	Membrane is mechanically attached using Olympic Stainless Steel Plate with Olympic Standard or Heavy Duty Stainless Steel Fasteners or Dekfast #14 or #15 Heavy Stainless Steel Fasteners and Plates spaced 18" o.c. through 4½" wide laps spaced in rows 48"apart. The 4½" wide laps are then sealed with a min. 1½" wide heat seal.
Fastening #2:	Membrane is mechanically attached using Olympic ASAP Plate with Olympic Standard or Heavy Duty Fasteners or Dekfast #14 Stainless Steel Fasteners or Dekfast #14 or #15 HS Fasteners and Plates spaced 6" o.c. through 6" wide laps spaced in rows 72"apart. The 6" wide laps are then sealed with a min. 1½" wide heat seal.
Fastening #3:	Membrane is applied over insulation and its 2" laps are sealed. Membrane is then mechanically attached to deck using Olympic ASAP Plate with Olympic Standard or Heavy Duty Fasteners or Dekfast #14 or #15 Heavy Duty Fasteners and Plates spaced 6" o.c. in rows 8' apart. A 6" wide strip of membrane is then heat welded over the fastener rows or a 6" dia. membrane cap may be heat welded over each fastener and plate.
Maximum Design Pressure:	-45 psf; (See General Limitation #7.)

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(8): Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Conperl, EnergyGuard Perlite, FescoBoard, Armor Board High Density, BP High Strength, FM-90 Traffic Top/High Density, ERS Redi-Deck, Riber Top C, E, S, EnergyGuard High Density, Roof Insulation Board, High Density Fiberboard, Fiber Base HD1, HD6, Structodek, Pyrox, Hy-Therm AP, Whiteline, ENRGY-2, ENRGY-3, PSI-25, Mutli-Max, Thermaroof Plus, ACFoam II, Ultra/M-11ISO/glas, ISO 95+, ISO 95+GL, Ultragard, Fesco Foam		
Minimum 1" thick	**N/A**	**N/A**
High Density Fiberboard, FM-90 High Density, Armor Board Regular, Esgard, EnergyGuard Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber		
Minimum ½" thick	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See membrane below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.

Barrier: (Optional) Minimum 1/4" Dens Deck secured to the deck with the insulation.

Membrane: C3 Plus Membrane attached through the preliminary attached insulation as specified. Membrane is mechanically attached using Olympic 2⅜" XHD barbed stress plate with #15 XHD fasteners spaced 6" o.c. through 5" wide laps spaced in rows 59"apart. The 6" wide laps are then sealed with a min. 2" wide heat seal.

Maximum Design Pressure: -75 psf; (See General Limitation #7.)

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(9): Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply.

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
One or more layers of the Base Layer insulation covered by one layer of the insulation listed as Top Layer.		
EPS over gypsum barrier.		
Minimum 1" thick	**N/A**	**N/A**

Base or Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Conperl, EnergyGuard Perlite, FescoBoard, Armor Board High Density, BP High Strength, FM-90 Traffic Top/High Density, ERS Redi-Deck, Riber Top C, E, S, EnergyGuard High Density, Roof Insulation Board, High Density Fiberboard, Fiber Base HD1, HD6, Structodek, Pyrox, Hy-Therm AP, Whiteline, ENRGY-2, ENRGY-3, PSI-25, Mutli-Max, Thermaroof Plus, ACFoam II, Ultra/M-11ISO/glas, ISO 95+, ISO 95+GL, Ultragard, Fesco Foam		
Minimum 1" thick	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See membrane below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.

Barrier: (Optional) Minimum ¼" Dens Deck secured to the deck with the insulation.

Membrane: C3 Membrane or C3 Fleece Backed Membrane attached through the prelimiary attached insulation as specified below.

Fastening #1: Roof cover is rolled over the insulation and its 2" laps are sealed. Membrane is mechanically attached using SFS Isofast IF/IG-82x40 plates and IF or IG screws, Olympic ASAP plates and Olympic Standard or Heavy Duty Screws or Dekfast #14 or #15 screws and plates spaced 6" o.c. in rows 8 ft. apart or 12" o.c. in rows 4 ft. apart. Fastener rows are stripped in with 6" wide strips of membrane or 6" diameter membrane caps, heat or solvent welded.

Fastening #2: Membrane is mechanically attached using Olympic ASAP plates and Olympic Standard or Heavy Duty Screws or Dekfast #14 or #15 screws and plates spaced 18" o.c. through 3" wide laps spaced 48"apart.

Fastening #3:	Roof cover is rolled over the insulation and its 2" laps are sealed. Cooley Plate Adhesive is liberally applied to the bottom of the Solweld plates. Membrane is mechanically attached using the adhesive coated Solweld plates and Olympic Standard or Heavy Duty Screws or Dekfast #14 or #15 screws spaced 18" o.c. in rows spaced 48"apart. 6" diameter membrane caps is coated with Cooley Plate Adhesive and placed over the fastener/plate head.
Fastening #4:	78" wide membrane is mechanically attached using Olympic ASAP plates and Olympic Standard or Heavy Duty Screws, Dekfast Omega, #14 or #15 screws and plates or HD Insulfixx S spaced 18" o.c. through 6" wide laps spaced 72"apart.
Maximum Design Pressure:	-45 psf; (See General Limitation #7.)

STEEL DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117 and/or RAS 137, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance; refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq.
   Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117 and/or RAS 137. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9B-72 of the Florida Administrative Code.

END OF THIS ACCEPTANCE