



**BUILDING CODE COMPLIANCE OFFICE**  
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**PRODUCT CONTROL DIVISION**  
(305) 375-2902 FAX (305) 372-6339

**PRODUCT CONTROL NOTICE OF ACCEPTANCE**

**Flex Membrane International**  
**Bethlehem Drive P.O. Box 271**  
**Morganton ,PA 19543**

Your application for Notice of Acceptance (NOA) of:

**Flex Membrane International/Single Ply Roofing Systems-Recovery Deck**

under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This NOA shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at any time from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined by BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

**ACCEPTANCE NO.: 00-1012.03**  
**EXPIRES: 02/12/2004**

Raul Rodriguez  
Chief Product Control Division

**THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL**  
**CONDITIONS**  
**BUILDING CODE & PRODUCT REVIEW COMMITTEE**

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Miami-Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.  
Director  
Miami-Dade County  
Building Code Compliance Office

**APPROVED: 11/30/2000**

**ROOFING SYSTEM APPROVAL**

Category: Roofing  
Sub-Category: 07530 Single Ply

Approval Date: **November 30, 2000**  
 Expiration Date: **February 12, 2004**

Material: PVC  
Deck Type: Recover  
Maximum Design Pressure -45 psf  
Fire Classification: See General Limitation #1

**TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT**

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Flex Tri-Polymer MF/R		ASTM D 4434 PA 114 PA 110	Polyester reinforced PVC membrane for mechanical attachment or adhered application.
Flex Tri-Polymer FB		ASTM D 4434	Polyester felt-backed PVC membrane for application in hot asphalt or adhesive.
Flex MF		ASTM D 4434	PVC membrane for mechanical attachment.
Flex Substrate Adhesive	5 gallon	proprietary	Adhesive used to bond Flex FB membrane to concrete or cellular concrete.
Flex Membrane 2" Plates	2" round	PA 114, Appendix E	2" round galvalume disc with barbs.
Flex Bonding Adhesive		proprietary	Adhesive used to bond Flex MF/R membrane to substrate.



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**TRADE NAMES OF PRODUCTS MANUFACTURED BY OTHERS**

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u>
Hy Therm	Various	PA 110	Polyisocyanurate foam insulation	Apache Products Co. (with current PCA)
Pyrox	Various	PA 110	Polyisocyanurate foam insulation	Apache Products Co. (with current PCA)
Celcore		PA 110	Cellular insulating concrete system	Celcore, Inc. (with current PCA)
High Density Fiber Board	Various	PA 100	Wood fiber insulation	Celotex Corp. (with current PCA)
Hy-Tec	Various	PA 110	Polyisocyanurate foam insulation	Celotex Corp. (with current PCA)
Hy-Tec Composite	Various	PA 110	Polyisocyanurate foam/wood fiber insulation	Celotex Corp. (with current PCA)
Hy-Therm AP	Various	PA 110	Polyisocyanurate foam insulation	Celotex Corp. (with current PCA)
Hy-Therm Stable R	Various	PA 110	Polyisocyanurate foam insulation	Celotex Corp. (with current PCA)
Top R II	Various	PA 110	Polyisocyanurate foam insulation	Celotex Corp. (with current PCA)
Dekfast Fasteners #14		PA 114	Insulation fastener for steel and concrete decks	Construction Fasteners (with current PCA)
Dekfast Hex Plate	2 7/8" x 3 1/4"	PA 114	Galvalume hex stress plate.	Construction Fasteners (with current PCA)
Dekfast Lock Plate	3" x 3 1/4"	PA 114	Polypropylene locking plate.	Construction Fasteners (with current PCA)



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<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u>
Dekfast Fasteners #15		PA 114	Insulation fasteners for concrete decks	Construction Fasteners (with current PCA)
Dekfast Fasteners #12		PA 114	Insulation fastener for steel and wood decks.	Construction Fasteners (with current PCA)
TPR		PA 114	Aluminum fastener for lightweight, gypsum and tectum decks	Creative Construction Components (with current PCA)
Asphalt		ASTM D 312	Type III or IV Hot asphalt bitumin adhesive	generic
Asphalt Primer		ASTM D 41	Asphalt Primer	generic
High Density Wood Fiberboard	various	PA 110	Wood fiber insulation board	generic
Type X Gypsum	various		Fire resistant rated gypsum	generic
Dens-Deck	4' x 8'	PA 110	Gypsum board	Georgia-Pacific (with current PCA)
#12 Roofgrip		PA 114	Insulation fastener for steel or wood decks	ITW Buildex (with current PCA)
#14 Roofgrip		PA 114	Insulation fastener steel, wood or concrete decks	ITW Buildex (with current PCA)
Roofgrip Fastener		PA 114	Insulation fastener	ITW Buildex (with current PCA)
Standard Plastic Plate	3" round	PA 114	Polyolefin plastic plate	ITW Buildex (with current PCA)
E'NERG'Y PSI-25	various	PA 110	Polyisocyanurate foam insulation	NRG Barriers, Inc. (with current PCA)
E'NRG'Y-1	various	PA 110	Polyisocyanurate foam insulation	NRG Barriers, Inc. (with current PCA)
E'NRG'Y-2	various	PA 110	Polyisocyanurate foam insulation	NRG Barriers, Inc. (with current PCA)



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<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u>
Fesco Foam	various	PA 110	Polyisocyanurate foam / fescoboard insulation	Schuller International (with current PCA)
UltraGard	various	PA 110	Polyisocyanurate foam insulation	Schuller International (with current PCA)
N.T.B. Magnum	Various	PA 114	Glass reinforced nylon fastener for use in gypsum and cementitious wood fiber decks.	Olympic Manufacturing Group (with current PCA)
N.T.B. Spin Weld Plate	2" round	PA 114	2" round amorphous nylon licking plate for use with N.T.B. fasteners with 1" head	Olympic Manufacturing Group (with current PCA)
N.T.B. Plate		PA 114	3" round galvalume AZ55 plate for use with N.T.B. fasteners	Olympic Manufacturing Group (with current PCA)
NTB Plastic Plate	3" round	PA 114	3"round polypropylene stress plate for use with N.T.B. fasteners	Olympic Manufacturing Group (with current PCA)
N.T.B. Plate		PA 114	3" round galvalume AZ55 plate for use with N.T.B. fasteners	Olympic Manufacturing Group (with current PCA)
Olympic Fastener #14		PA 114	Insulation fastener	Olympic Manufacturing Group (with current PCA)
Olympic 2" Plate	2" round	PA 114	2" galvalume disc with barbs.	Olympic Manufacturing Group (with current PCA)
Olympic Polypropylene	3.25" round	PA 114	Polypropylene plastic plate	Olympic Manufacturing Group (with current PCA)
HD Insul-Fixx Fastener		PA 114	Insulation fastener for use in steel and concrete decks	SFS/Stadler (with current PCA)
Insul-Fixx Fastener		PA 114	Insulation fastener for steel and wood decks	SFS/Stadler (with current PCA)



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<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u>
Insul-Fixx S	3" square	PA 114	3" square galvalume AZ55 stress plate	SFS/Stadler (with current PCA)
Insul-Fixx P	3" round	PA 114	3" round polyethylene stress plate	SFS/Stadler (with current PCA)
Isofast Plate	various	PA 114	Square or oblong galvalume steel plates for use with Isofast fasteners	SFS/Stadler (with current PCA)
Isofast Fasteners		PA 114	Insulation fastener for steel and wood decks	SFS/Stadler (with current PCA)

**EVIDENCE SUBMITTED:**

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
Factory Mutual Research Corporation	Wind Resistance	J.I. 0R8A5.AM (FMRC 4470 - PA 114)	04/03/90
Factory Mutual Research Corporation	Wind Resistance	J.I. 1T3A2.AM (FMRC 4470 - PA 114)	02/01/91
Factory Mutual Research Corporation	Wind Resistance	J.I. 0V2A5.AM (FMRC 4470 - PA 114)	10/05/92
Factory Mutual Research Corporation	Wind Resistance	J.I. 2W5A3.AM (FMRC 4470 - PA 114)	12/22/93
Factory Mutual Research Corporation	Wind Resistance	J.I. 2X4A1.AM (FMRC 4470 - PA 114)	06/29/94
Factory Mutual Research Corporation	Current insulation and fastening requirements.	1996 FMRC Approval Guide	01/01/94
Report by Trinity Engineering, Inc. to Dade County Building Code Compliance	Wind Resistance	91.08.08 (PA 114)	08/08/91
Underwriters Laboratories, Inc.	Fire Classification	R9228 (UL 790 - PA 114)	01/01/96



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<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
Trinity Engineering, Inc.	Wind Resistance	#3901.12.95-1	12/31/95
Exterior Research & Design, LLC. - Trinity Engineering	Wind Resistance	#3901.02.96-1	01/30/96



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**Membrane Type:** SINGLE PLY MEMBRANE

**Deck Type 7I:** Recover

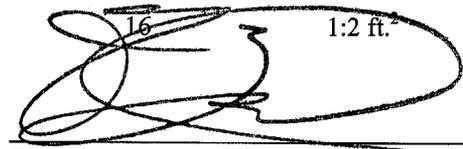
**Deck Description:** Concrete/lightweight concrete/cementitious wood fiber/wood/steel

**System Type C:** All layers of insulation simultaneously attached; membrane fully adhered.

**All General and System Limitations apply.**

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u> (see PA 117)	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
one or more layers of any of the following insulations under those listed as Top Layer:				
Approved Type(s): <b>E'NRG'Y-1, E'NRG'Y-2, PSI-25</b>				
Minimum: 1.4" X 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): <b>Hy-Tec</b>				
Minimum: 1.2" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): <b>Hy-Therm AP</b>				
Minimum: 1.3" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): <b>Isotherm R</b>				
Minimum: 1.3" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): <b>Pyrox</b>				
Minimum: 1.2" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): <b>Top R II</b>				
Minimum: 1.2" x 4' x 8'	N/A	N/A	N/A	N/A
Approved Type(s): <b>UltraGard</b>				
Minimum: 1.3" x 4' x 4'	N/A	N/A	N/A	N/A
<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u> (see PA 117)	<u>Fasteners Per Board</u>	<u>Fastener Density</u>

one or more layers of any of the following insulations				
Approved Type(s): <b>E'NRG'Y-1, E'NRG'Y-2, PSI-25</b>				
Minimum: 1.4" x 4' x 4'	Approved Fastener for Deck Type	[3]	8	1:2 ft. <sup>2</sup>
Approved Type(s): <b>Hy-Tec</b>				
Minimum: 1.2" x 4' x 4'	Approved Fastener for Deck Type	[3]	8	1:2 ft. <sup>2</sup>
Approved Type(s): <b>Hy-Therm AP</b>				
Minimum: 1.3" x 4' x 4'	Approved Fastener for Deck Type	[3]	8	1:2 ft. <sup>2</sup>
Approved Type(s): <b>Isotherm R</b>				
Minimum: 1.3" x 4' x 4'	Approved Fastener for Deck Type	[3]	8	1:2 ft. <sup>2</sup>
Approved Type(s): <b>Pyrox</b>				
Minimum: 1.2" x 4' x 4'	Approved Fastener for Deck Type	[3]	8	1:2 ft. <sup>2</sup>
Approved Type(s): <b>Top R II</b>				
Minimum: 1.2" x 4' x 8'	Approved Fastener for Deck Type	[4]	16	1:2 ft. <sup>2</sup>



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Approved Type(s): <b>UltraGard</b>			
Minimum: 1.3" x 4' x 4'	Approved Fastener for Deck Type	[3]	8 1:2 ft. <sup>2</sup>
Approved Type(s): <b>E'NRG'Y-2 Composite, Fesco Foam</b>			
Minimum: 1.25" x 4' x 4'	Approved Fastener for Deck Type	[3]	8 1:2 ft. <sup>2</sup>

**Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The 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. (See Miami Dade County Roofing Application Standard PA 117 for fastening details.)**

Vapor Retarder: Any UL or FMRC approved vapor retarder may be installed on the deck or over the base layer of insulation.

Barrier: None.

Membrane: Flex Tripolymer MF/R or Flex Tripolymer FB membrane adhered to the insulation substrate with Flex Substrate Adhesive at a rate of 1.66 gal./sq. applied to the insulation, or the Flex Tripolymer FB membrane may be set in type III hot asphalt adhesive applied at the rate of 25 lb./sq. ± 15%.

**Note: Substrate Adhesive shall not be used on composite board insulation with the perlite face up.**

Maximum Design

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

Maximum Fire

Classification: See General Limitation # 1.

Maximum Slope: See General Limitation # 1.



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**Membrane Type:** SINGLE PLY MEMBRANE

**Deck Type 7I:** Recover

**Deck Description:** Concrete/lightweight concrete/cementitious wood fiber/wood/steel

**System Type D:** Membrane mechanically attached over preliminary fastened insulation.

**All General and System Limitations apply.**

<u>Insulation Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
One or more layers of the following.				
Approved Type(s): <b>E'NRG'Y-1, E'NRG'Y-2, PSI-25</b>				
Minimum: 1.4" X 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): <b>Hy-Tec</b>				
Minimum: 1.2" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): <b>Hy-Therm AP</b>				
Minimum: 1.3" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): <b>Isotherm R</b>				
Minimum: 1.3" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): <b>Multi Max</b>				
Minimum: 1.3" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): <b>Pyrox</b>				
Minimum: 1.2" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): <b>Top R II</b>				
Minimum: 1.2" x 4' x 8'	N/A	N/A	N/A	N/A
Approved Type(s): <b>UltraGard</b>				
Minimum: 1.3" x 4' x 4'	N/A	N/A	N/A	N/A



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**Note:** Top insulation layer shall have preliminary attachment at a density of two Miami Dade County Approved insulation fasteners per board for insulation boards having any one dimension no greater than 4 ft. and a minimum of four Miami Dade County Approved insulation fasteners per board for insulation boards having any one dimension greater than 4 ft. Composite insulation panels shall be placed with the polyisocyanurate side down.

- Vapor Retarder: Any UL or FMRC approved vapor retarder may be installed on the deck or over the base layer of insulation.
- Barrier: None.
- Membrane: Flex Tripolymer MF/R or Flex MF attached through preliminary attached insulation to the deck as described below.
- Fastening: Flex Membrane or Olympic 2" plates and approved fasteners placed 6" o.c. in the membrane lap seams not more than 55" o.c.. (See General Limitation #7)
- Flex Membrane or Olympic 2" plates and approved fasteners placed 18" o.c. through the membrane or the laps in rows not more than 54" o.c., and covered with a welded membrane cover strip. (See General Limitation #9)
- Maximum Design Pressure: -45 psf.
- Maximum Fire Classification: See General Limitation # 1.
- Maximum Slope: See General Limitation # 1.



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**Membrane Type:** SINGLE PLY MEMBRANE

**Deck Type 7:** Recover, Noninsulated.

**Deck Description:** Concrete/lightweight concrete/cementitious wood fiber/wood/steel

**System Type E:** Membrane mechanically attached to deck.

**All General and System Limitations apply.**

**Barrier:** None.

**Membrane:** Flex Tripolymer MF/R or Flex MF attached to the deck as described below.

**Fastening:** Flex Membrane or Olympic 2" plates and approved fasteners placed 6" o.c. in the membrane lap seams not more than 55" o.c.. (See General Limitation #7)

Flex Membrane or Olympic 2" plates and approved fasteners placed 18" o.c. through the membrane or the laps in rows not more than 54" o.c., and covered with a welded membrane cover strip. (See General Limitation #9)

**Maximum Design Pressure:**

-45 psf.

**Maximum Fire Classification:**

See General Limitation # 1.

**Maximum Slope:**

See General Limitation # 1.

**RECOVER SYSTEM LIMITATIONS**

1. All System Limitations and General Limitations shall apply. See specific deck type Notice of Acceptance for deck type System Limitations.



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**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 sidelap 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 Professional Engineer, Registered 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. 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 with 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.)**



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**NOTICE OF ACCEPTANCE STANDARD CONDITIONS**

- 1 Renewal of this Acceptance (approval) shall be considered after a renewal application has been filed and the original submitted documentation, including test supporting data, engineering documents, are no older than eight (8) years.
- 2 Any and all approved products shall be permanently labeled with the manufacturer's name, city, state, and the following statement: "Miami-Dade County Product Control Approved", or as specifically stated in the specific conditions of this Acceptance.
- 3 Renewals of Acceptance will not be considered if:
  - a) There has been a change in the South Florida Building Code affecting the evaluation of this product and the product is not in compliance with the code changes;
  - b) The product is no longer the same product (identical) as the one originally approved;
  - c) If the Acceptance holder has not complied with all the requirements of this acceptance, including the correct installation of the product;
  - d) The engineer who originally prepared, signed and sealed the required documentation initially submitted, is no longer practicing the engineering profession.
- 4 Any revision or change in the materials, use, and/or manufacture of the product or process shall automatically be cause for termination of this Acceptance, unless prior written approval has been requested (through the filing of a revision application with appropriate fee) and granted by this office.
- 5 Any of the following shall also be grounds for removal of this Acceptance:
  - a) Unsatisfactory performance of this product or process;
  - b) Misuse of this Acceptance as an endorsement of any product, for sales, advertising or any other purposes.
- 6 The Notice of Acceptance 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 Notice of Acceptance is displayed, then it shall be done in its entirety.
- 7 A copy of this Acceptance as well as approved drawings and other documents, where it applies, shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at all times. The copies need not be resealed by the engineer.
- 8 Failure to comply with any section of this Acceptance shall be cause for termination and removal of Acceptance.
- 9 This Acceptance contains pages 1 through 14.

**END OF THIS ACCEPTANCE**

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