

# ICC-ES Evaluation Report


ESR-2871

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<p><b>DIVISION: 07 00 00— THERMAL AND MOISTURE PROTECTION</b></p> <p><b>Section: 07 56 00— Fluid-Applied Roofing</b></p>	<p><b>REPORT HOLDER: WESTERN COLLOID NC, INC.</b></p>	<p><b>EVALUATION SUBJECT: ELASTAHYDE 790 AFC FLUID-APPLIED ROOF COATING SYSTEM</b></p>	
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## 1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2009 [International Building Code® \(IBC\)](#)
- 2006 [International Residential Code® \(IRC\)](#)
- 2013 [Abu Dhabi International Building Code \(ADIBC\)](#)<sup>†</sup>

<sup>†</sup>The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:

- Physical properties
- Weather resistance
- Fire classification
- Impact resistance

## 2.0 USES

The ElastaHyde 790 AFC fluid-applied roof coating system is used to recover existing code-complying built-up roof coverings attached to combustible decks.

## 3.0 DESCRIPTION

### 3.1 General:

The ElastaHyde 790 AFC roof coating system consists of an ElastaHyde 790 AFC base coat, a polyester fabric reinforcing and a finish surfacing with two additional coatings of ElastaHyde 790 AFC. When installed over existing code-complying built-up roof coverings as described in this report, the composite systems have fire classifications as noted in [Table 1](#).

### 3.2 Materials:

**3.2.1 Western Colloid Polyester Fabric:** The fabric reinforcement is a 3-ounce-per-square-yard (101.7 g/m<sup>2</sup>) stitch-bonded polyester.

**3.2.2 Western Colloid Elastic Cement #800:** A water-based, acrylic resinous plastic emulsion with inert mineral pigments and fillers. The cement is available in 3<sup>1</sup>/<sub>2</sub>-gallon (13.2 L) containers and has a shelf life of one year when stored in unopened containers at temperatures between 50°F and 80°F (10°C and 27°C).

**3.2.3 ElastaHyde 790 AFC:** ElastaHyde 790 AFC is a 100 percent acrylic elastomeric coating complying with ASTM D6083. The coating must be applied by roller, brush or spray and has a coverage rate as specified in [Table 1](#). The coatings are available in 5- and 55-gallon (18.9 and 208.2 L) containers, and have a shelf life of one year when stored in unopened containers at temperatures between 50°F and 80°F (10°C and 27°C).

### 3.3 Impact Resistance:

The ElastaHyde 790 AFC roof coating system complies with requirements for impact resistance in accordance with Section 5.5 of FM 4470.

## 4.0 DESIGN AND INSTALLATION

### 4.1 Preparation of Substrate:

The existing code-complying built-up roof system must be repaired and made sound and watertight prior to application of the ElastaHyde 790 AFC coating system. All loose gravel, dirt, dust and foreign debris is removed by vacuum, sweeping or power blower. The entire existing roof surface must be washed to ensure a positive attachment of the coating system, paying special attention to valleys and ponding areas. After the roof surface has completely dried, Western Colloid Elastic Cement #800 is applied in accordance with the manufacturer's three-course method, around existing roof penetrations and at exposed metal joints and at terminations, using a brush or a trowel.

### 4.2 Roof Deck:

**4.2.1 Combustible:** Plywood sheathing must be minimum <sup>15</sup>/<sub>32</sub>-inch-thick (11.9 mm), code-complying, exterior-grade or Exposure 1 plywood.

**4.2.2 Noncombustible:** Steel deck must be minimum No. 22 gage galvanized steel [0.030 inch (0.76 mm)]. Concrete must have a minimum compressive strength ( $f_c$ ) of 2500 psi [minimum of 24 MPa is required under ADIBC Appendix L, Section 5.1.1].

### 4.3 Application of Coating System:

The ElastaHyde 790 AFC roof coating system must not be applied during inclement weather. The ambient temperature during application must be a minimum of 50°F (10°C) and a maximum of 100°F (38°C). The coating must not be applied if freezing weather, rain or fog is expected within the 48-hour period after application.

Over the prepared existing roof surface, a base coat of ElastaHyde 790 AFC is applied at a rate of 3 gallons/100 ft<sup>2</sup> (1.2 L/m<sup>2</sup>). Immediately following and starting at the low edge of the roof, a full-width ply of Western Colloid polyester fabric is embedded, with full-width plies of the fabric continuing up the roof. Each ply of polyester fabric is lightly broomed to achieve full saturation with no wrinkles or voids. The polyester ply must terminate 2 inches (51 mm) above the roof cant. The base coat and embedded fabric must be allowed to cure for one hour.

After the base coat has thoroughly cured, the finish coating of ElastaHyde 790 AFC is applied in two coats, each at a rate of 1.5 gallons/100 ft<sup>2</sup> (0.6 L/m<sup>2</sup>). The two coats must be applied in a cross-hatch manner (the second coat at a right angle to the first).

### 4.4 Fire Classification:

When installed on existing roof coverings as set forth in this report, the roof covering systems have fire classifications as noted in [Table 1](#).

## 5.0 CONDITIONS OF USE:

The ElastaHyde 790 AFC described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 Installation must comply with the applicable code, the manufacturer's published installation instructions, and this report. If there are any conflicts between the manufacturer's installation instructions and this report, this report governs.
- 5.2 The roof coating system is limited to application over existing code-complying built-up roof systems.
- 5.3 Installation must be by applicators approved by Western Colloid NC, Inc.
- 5.4 Where moderate to heavy foot traffic occurs, such as for maintenance of equipment, the roof coating must be adequately protected to prevent damage to the surface.

- 5.5 The deck and supporting structure to which the roof covering is applied must be designed to withstand the applicable wind pressures determined in accordance with ASCE 7.
- 5.6 ElastaHyde 790 AFC is manufactured at the Western Colloid NC, Inc., facilities in Los Angeles, California, and Oakland, California, under a quality control program with inspections by ICC-ES.

**6.0 EVIDENCE SUBMITTED**

- 6.1 Manufacturer’s descriptive literature and published installation instructions.
- 6.2 Report of testing in accordance with ASTM D6083.
- 6.3 Report of “Resistance to Foot Traffic Test” in accordance with Section 5.5 of FM 4470.
- 6.4 Report of fire classification testing in accordance with ASTM E108.

**7.0 IDENTIFICATION**

- 7.1 Containers of the coating, fabric and cement are labeled with the product name, the manufacturer’s name (Western Colloid NC, Inc.) and address, the date of manufacture and the shelf life, and the evaluation report number (ESR-2871).
- 7.2 The report holder’s contact information is the following:

**WESTERN COLLOID NC, INC.**  
**700 71<sup>ST</sup> AVENUE**  
**OAKLAND, CALIFORNIA 94621**  
**(510) 430-0270**  
[www.westerncolloid.com](http://www.westerncolloid.com)

**TABLE 1—FIRE CLASSIFICATION—COATED EXISTING ROOFING SYSTEM**

SYSTEM NO.	ROOF CLASS <sup>1</sup>	ROOF DECK <sup>2</sup>	MAX. ROOF SLOPE	EXISTING ROOF SYSTEM <sup>1,3</sup>	COATING		
					Base Coating	Reinforcement <sup>4</sup>	Top Coating
1	A, B or C	Combustible or noncombustible	<sup>1</sup> / <sub>2</sub> :12	Class A, B or C 3-ply built-up roofing over <sup>1</sup> / <sub>2</sub> -inch wood fiberboard	One coat of ElastaHyde 790 AFC roller-applied over BUR at a rate of 3 gallons per 100 square feet	Elastahyde polyester fabric laid into wet coating and allowed to cure	Two coatings of ElastaHyde 790 AFC roller-applied over sheeting at a rate of 1.5 gallons per 100 square feet per coat

For **SI**: 1 inch = 25.4 mm; 1 gal = 3.785 L; 1 square = 9.29 m<sup>2</sup>.

<sup>1</sup>Classification remains the same as that of the existing FM-approved code-complying built-up roof covering system.

<sup>2</sup>See Section 4.2 for combustible and noncombustible roof deck materials.

<sup>3</sup>Wood fiberboard must comply with ASTM C208.

<sup>4</sup>See Section 3.2.1 for Western Colloid Polyester Fabric reinforcement.