DIVISION: 09 00 00—FINISHES
Section: 09 24 00—Portland Cement Plastering

REPORT HOLDER:
SIKA CORPORATION

EVALUATION SUBJECT:
BMI 690 PLASTER

1.0 EVALUATION SCOPE
Compliance with the following codes:
- 2013 Abu Dhabi International Building Code (ADIBC)†

†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:
- Structural
- Durability
- Types I, II, III and IV (Noncombustible) Construction

2.0 USES
BMI 690 Plaster is a cementitious exterior wall covering installed over exterior walls of wood or steel framed, concrete or masonry construction. The coating materials are used as the first and second coat of three-coat exterior plaster applied under IBC Section 2512 or 2018 and 2015 IRC Section R703.7 or 2012, 2009 and 2006 IRC Section R703.6. When applied in a single coat, the coating materials are an alternative to the first and second coat of three-coat exterior plaster (scratch and brown coat). When installed in accordance with Section 4.3 of this report, the BMI 690 Plaster may be installed on walls required to be Type I, II, III, IV and V construction.

3.0 DESCRIPTION
3.1 General:
The BMI 690 Plasters are factory-prepared mixtures of portland cement, lime, sand and fibers, and are reinforced with wire fabric or metal lath. The products are supplied in 90-pound (40.82 kg) bags, 2500-pound (1134 kg) super bags or in portable bulk silos (mixers) containing 30 US tons (27,216 kg).

3.2 Materials:
3.2.1 BMI 690 Plaster: BMI 690 Plaster is a factory-prepared mix consisting of Type I or Type II portland cement complying with ASTM C150, Type S lime complying with ASTM C206 and limestone or siliceous sand meeting the gradation requirements of ASTM C897. The mixture complies with ASTM C926 as Plaster Mix C. The product is a noncombustible material.

3.2.2 BMI 690 Plaster with Fibers: BMI 690 Plaster with Fibers is identical to the BMI 690 Plaster except that polypropylene fibers complying with ASTM C1116 are added. The mixture complies with ASTM C926 as Plaster Mix C. The product is a noncombustible material.

3.2.3 Lath:
Wire Fabric Lath or Metal Lath: No. 17 gage, 1 1/2-inch (38 mm), woven wire lath complying with ASTM C1063 or metal lath complying with the ICC-ES Acceptance Criteria for Metal Plaster Bases (Lath) AC191 and recognized in a current ICC-ES evaluation report. The lath must be furred a minimum of 1/4-inch (6.35 mm) from solid substrates or framing members.

3.2.4 Water-resistant Barrier: Application of the barrier must comply with 2018 IBC Section 1403.2 or 2015, 2012, 2009 and 2006 IBC Section 1404.2 or IRC Section R703.2. Except as described below for wood-based sheathing, the water-resistant barrier must be either a minimum of one layer of asphalt felt complying with ASTM D226, Type I, or a water-resistant barrier recognized as equivalent to ASTM D226, Type I, in a current ICC-ES evaluation report.

When installation is over wood-based sheathing, the water-resistant barrier must be a minimum of two layers of ASTM E2556, Type II barrier as set forth in 2018 and 2015 IBC Section 2510.6 [Grade D kraft building paper as set forth in 2012, 2009 and 2006 IBC Section 2510.6] and 2018 and 2015 IRC Section R703.7.3 [2012, 2009 and 2006 IRC Section R703.6.3], or an equivalent recognized in a current ICC-ES evaluation report.

3.2.5 Vapor Retarder: Protection against condensation must be provided in accordance with 2018 IBC Section 1404.3 (2015, 2012 and 2009 IBC Section 1405.3 and 2006 IBC Section 1403.2). Under the 2018, 2015, 2012 IRC, a vapor retarder must be provided in
accordance with IRC Section R702.7, unless its omission is permitted under the exceptions in IRC Section R702.7. Under the 2009 IRC Section R601.3 and 2006 IRC Section R318.1, a vapor retarder must be provided, unless its omission is permitted under the exceptions to the 2009 IRC Section R601.3 and 2006 IRC Section R318.1.

4.0 INSTALLATION

4.1 Three-coat Application:

4.1.1 General: BMI 690 Plaster is applied to exterior walls of wood or steel frame, concrete or masonry construction in accordance with IBC Section 2512 or 2018 and 2012 IRC Section R703.7 or 2012, 2009 and 2006 IRC Section R703.6 and as described in ASTM C926 for Plaster Mix C. The BMI 690 Plaster must be mixed with water using a D30 mixer supplied by Sika Corporation; or, when product is delivered in portable silos, the plaster mixture is mixed with water using a mixer head attached at the bottom of the portable silo. The mix ratio is 1.75 gallons (6.65 L) of water to each 90 pounds (40.82 kg) of dry plaster mix. The product is applied in the conventional manner in two coats. The third coat of the three-coat stucco system must be a job-mixed finish coat complying with ASTM C926 applied in accordance with ASTM C926. All other details of installation are as required in ASTM C926.

4.1.2 Fire-resistance rated Construction: When BMI Plaster is installed in accordance with Section 4.1.1 of this report and 2018, 2015 and 2012 IRC Section 721 or 2009 and 2006 IRC Section 720, the fire-resistance rating is as noted in 2018, 2015 and 2012 IRC Table 721.1(2) or 2009 and 2006 IRC Table 720.1(2).

4.1.3 Shear Walls: When BMI Plaster is installed on wood-framed walls in accordance with Section 4.1 of this report, 2018, 2015 and 2012 IRC Section 2306.3, 2009 IRC Section 2306.7 and 2006 IRC Section 2306.4.5, the allowable racking shear value is 180 pfl (2627 kN/m). For seismic loads, the shear walls are designated as Item A.17 in Table 12.2-1 of ASCE 7-16 under 2018 IRC; Item A.17 in Table 12.2-1 of ASCE 7-10 under 2015 and 2012 IRC; and Item A.14 in Table 12.2-1 of ASCE 7-05 under the 2009 and 2006 IRC (limited to Seismic Design Categories A, B, C, and D).

4.2 Two-coat Application:

4.2.1 General: All details of application are as described in ASTM C926, except as noted in this section (Section 4.2). Lath is attached to wood framing spaced a maximum of 16 inches (406 mm) on center with minimum No. 16 gage corrosion-resistant staples spaced a maximum of 6 inches (152 mm) on center. Lath is attached to steel framing spaced a maximum of 16 inches (406 mm) on center with minimum 5/8-inch-long (0.625 mm), S-12 corrosion-resistant screws spaced a maximum of 6 inches (152 mm) on center. As an alternative to the first and second coats described in ASTM C926, the BMI plaster may be applied, in a single pass, to the full thickness of 3/4 inch (19.1 mm) to 5/8 inch (22 mm) when application is in accordance with the BMI Products published installation instructions and Section 4.1.1 of this report. The finish coat of the two-coat stucco system must be a job-mixed finish coat complying with ASTM C926, applied in accordance with ASTM C926.

4.2.2 Wind Resistance: The allowable wind load for the systems installed as described in Section 4.2.1 is as follows:

- For wood studs having a minimum specific gravity of 0.50 (Douglas fir-larch), allowable wind load is 50 psf (2.39 kPa), positive or negative.
- For minimum No. 20 gage steel studs, allowable wind load is 24 psf (1.15 kPa) negative (outward) and 45 psf (2.15 kPa) positive (inward).
- Framing must be designed to resist the applicable design forces. The maximum allowable deflection of the framing components must not exceed L/360, where L is the height of the framing members.

4.3 Types I, II, III and IV (Noncombustible) Construction:

When installed over steel framing and gypsum sheathing, the BMI Plaster may be installed on walls required to be of Type I, II, III or IV construction. Under the 2018, 2015 and 2012 IBC, for exterior walls on buildings of Type I, II, III or IV construction, recognition is limited to walls no greater than 40 feet (21.2 m) in height above grade as indicated in 2018 IBC Section 1402.5 and 2015 and 2012 IBC Section 1403.5, except as permitted under Exceptions 1 and 2 of 2018 IBC Section 1402.5 (2015 and 2012 IBC Section 1403.5).

5.0 CONDITIONS OF USE

The BMI Products 690 plaster products described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 Materials and methods of installation must comply with this report and the manufacturer’s published installation instructions. In the event of a conflict between this report and the manufacturer’s published installation instructions, this report governs.

5.2 The products must be field-mixed with water using equipment supplied by BMI Products.

5.3 Two-coat applications described in Section 4.2 are limited to use in Type V-B construction except as noted in Section 4.3 of this report, and buildings under the IRC. Use to resist racking loads is outside the scope of this report.

6.0 EVIDENCE SUBMITTED

6.1 Data showing compliance with IBC Section 2512 and 2018 and 2015 IRC Section R703.7 and 2012, 2009 and 2006 IRC Section R703.6.

6.2 Data in accordance with the ICC-ES Acceptance Criteria for Cementitious Exterior Wall Coatings (AC11), dated January 2013 (editorially revised May 2018).


7.0 IDENTIFICATION

7.1 The factory-prepared mixes are delivered to the jobsite in water-resistant bags or in portable silos. The bags bear labels and the silos are accompanied with certification of compliance to ASTM C926 and both labels and certification documents carry the following information:

a. Name and address of the manufacturer (Sika Corporation) and the evaluation report number (ESR-2535).

b. Product name and component information.
c. Weight of packaged mix or net weight of bulk product when delivered in silos.
d. Storage instructions.
e. Maximum amount of water and conditions that must be considered during field-mixing with water.
f. Curing instructions.

7.2 The report holder’s contact information is the following:
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Milpitas, California 95035
(408) 293-4008
www.usa.sika.com
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1.0 REPORT PURPOSE AND SCOPE

Purpose:
The purpose of this evaluation report supplement is to indicate that BMI 690 Plaster, recognized in ICC-ES evaluation report ESR-2535, has also been evaluated for compliance with the codes noted below.

Applicable code editions:

◼ 2016 California Building Code (CBC)
For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of the State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

◼ 2016 California Residential Code (CRC)

2.0 CONCLUSIONS

2.1 CBC:
The BMI 690 Plaster, described in Sections 2.0 through 7.0 of the evaluation report ESR-2535, complies with CBC Chapters 23 and 25, provided the design and installation are in accordance with the applicable 2015 International Building Code® (IBC) provisions noted in the evaluation report.

The BMI 690 Plaster may be used in the construction of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland–Urban Interface Fire Area, provided installation is also in accordance with the 2015 International Building Code® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Sections 701A.3 and 707A.

2.1.1 OSHPD:
OSHPD applications are beyond the scope of this supplement.

2.1.2 DSA:
DSA applications are beyond the scope of this supplement.

2.2 CRC:
The BMI 690 Plaster, described in Sections 2.0 through 7.0 of the evaluation report ESR-2535, complies with CRC Chapter 7, provided the design and installation are in accordance with the 2015 International Residential Code® (IRC) provisions noted in the evaluation report.

The BMI 690 Plaster may be used in the construction of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland–Urban Interface Area, provided installation is also in accordance with the applicable 2015 International Residential Code® (IRC) provisions noted in the evaluation report and the additional requirements of CRC Sections R337.1.3.1 and R337.7.

The products recognized in this supplement have not been evaluated for compliance with the International Wildland–Urban Interface Code®.

This supplement expires concurrently with the evaluation report, reissued May 2020.