



BAUTEX SYSTEMS, LLC
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BAUTEX BLOCK WALL SYSTEM

CSI Section:

03 11 19 Insulating Concrete Forming

1.0 RECOGNITION

Bautex Systems' Bautex Block Wall System has been evaluated for use as interior or exterior, reinforced, load-bearing or nonload-bearing walls. The Bautex units have been evaluated for structural performance, physical characteristics, sound transmission and fire resistance. The Bautex Block Wall System evaluated in this report is a satisfactory alternative that meets the codes and regulations:

- 2018, 2015, 2012 and 2009 International Building Code® (IBC)
- 2018, 2015, 2012 and 2009 International Residential Code® (IRC)
- 2017 and 2014 Florida Building Code® (FBC, Building) - Attached Supplement
- 2017 and 2014 Florida Residential Code® (FBC, Residential) - Attached Supplement

2.0 LIMITATIONS

The Bautex Block Wall System 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 limitations:

2.1 Bautex Block Wall System structures shall be designed and installed in accordance with this report and the applicable code.

2.2 The manufacturer's published installation manual and this report shall be available at all times at the jobsite during construction. Where there is a conflict, the most restrictive shall govern.

2.3 Plans, specifications, engineering calculations and other construction documents specifying the use of Bautex Block Wall System shall be submitted to the code official for approval. The calculations and documents shall be prepared by a registered design professional when required by the statutes of the jurisdiction where the project is to be constructed.

2.4 Inspection and installation of construction using Bautex Block Wall System shall comply with the requirements set forth in the applicable code for structural concrete. Special inspection shall be provided and comply with Section 2.9 of this report.

2.5 Use of Bautex Block Wall System as a seismic lateral force-resisting system is outside the scope of this report. Use of shear values noted in Section 3.2.4 of this report is limited to load-bearing and/or non-load bearing walls in Seismic Design Categories A and B.

2.6 Exterior walls and other building elements exposed to weather and/or moisture shall have code-complying weather-resistance coverings.

2.7 Surfaces of basement walls in contact with the ground shall be waterproofed.

2.8 Bautex Block BB 616-10 units and Bautex Wall Anchors BWA 22-10 shall be manufactured by Bautex Systems, LLC in San Marcos, Texas under a quality control program with inspections by Quality Control Consultants, LLC.

2.9 Special Inspections: Special inspection of Bautex Block Wall System walls shall be in accordance with Section 1705.3 of the IBC. The inspector's duties, at a minimum, shall include verifying Bautex Block BB 616-10 units and foam adhesive and Bautex Wall Anchor BWA 22-10 identification, unit placement, application of foam sealant, anchor locations and installation, placement of field reinforcement, sampling and testing concrete mixes, and concrete placement.

3.0 PRODUCT USE

3.1 General: Bautex Block BB 616-10 units are used with foam sealant, Bautex Wall Anchor BWA 22-10 anchors, reinforcing bars and concrete to construct walls for interior or exterior, unreinforced or reinforced, load-bearing or nonload-bearing walls, in accordance with Section 1901.2 of the IBC for plain and reinforced concrete.

3.2 Design

3.2.1 General: The Bautex Block Wall System shall be designed and constructed with vertical and horizontal cores, spaced 16-inches on center, filled with concrete with a minimum 3,000 psi (20.7 MPa) or higher specified compressive strength, f'_c , and one No. 4 to No. 6 size, grade 60, reinforcing bar centered in each core.

3.2.2 Gravity Load: The maximum allowable gravity load for walls with floor to floor heights less than or equal to 13-foot 4-inches (4.06 m) shall be 13,400 plf (195 kN/m).





3.2.3 Out-of-Plane Load: The maximum allowable out-of-plane (wind) load for the Bautex Block Wall System when constructed with minimum f'_c of 3,000 psi (20.7 MPa) concrete cores shall be 45 psf (2.16 kPa). The maximum load when constructed with minimum f'_c of 6,000 psi (41.4 MPa) concrete cores shall be 91 psf (4.36 kPa).

3.2.4 Shear Load: The maximum allowable shear load for walls constructed with cores with minimum f'_c of 3,000 psi (20.7 MPa) shall be 1,850 plf (27.0 kN/m).

The maximum allowable shear load for walls constructed with cores with minimum f'_c of 6,000 psi (41.4 MPa) shall be 2,370 pounds/foot (34.6 kN/m).

3.2.5 Anchor Load: The maximum allowable fastener load installed in Bautex Wall Anchor BWA 22-10, as described in Section 4.3 of this report, shall be in accordance with Table 2 of this report.

Table 2. Allowable Fastener Load ¹ (lbf)	
Withdrawal	56
Lateral / Shear	79

SI: 1 lbf = 4.448 N

¹ Minimum #6 x 2 in. course thread drywall screws.

3.2.6 Sound Transmission: Walls constructed of minimum 10⁷/₁₆-inch-thick (265 mm) Bautex Block BB 616-10 units with joints sealed with foam joint adhesive, as described in Section 4.2 of this report, on each face and minimum 3¹/₁₆-inch-thick (4.8 mm) exterior cement stucco finish and minimum 1/4 inch thick interior gypsum plaster finish provides a Sound Transmission Class (STC) rating of not less than 50 in accordance with Section 1206.2 of the 2018 IBC (Section 1207.2 of the 2015 and 2012 IBC), when tested in accordance with ASTM E90.

3.3 Installation: The Bautex Systems LLC published installation instructions, the Bautex Systems LLC Installation Manual and this report shall be strictly adhered to, and a copy of the instructions shall be available at all times on the jobsite during installation. Additionally, drawings and/or specifications shall supplement the published instructions, and feature detailed information concerning how the Bautex Block Wall System described in this report are to be integrated into the building under construction.

Exterior walls exposed to weather and/or outside moisture shall have a code-complying weather-resistive barrier. Bautex BB 616-10 units shall be adhered at all joints using Professional Foam Adhesive's Foam2Foam® Wind-Lock ICF Foam Adhesive. The Bautex Block wall units shall be laid in stack bond or in running bond, so that the vertical cores line-up.

Vertical and horizontal reinforcement shall be one No. 4 to No. 6 reinforcing bars, grade 60, centered in each Bautex

Block core, complying with Section 20.2.1.3 of ACI 318-14 or Section 3.5.3 of ACI 318-11, as applicable. Vertical reinforcement shall be spliced to reinforcement dowels from the foundation and continue up the walls through the vertical cores with a 90-degree hook in the bond beam. Development length for horizontal reinforcement shall be determined in accordance with Section 25.4.2 of ACI 318-14 or Section 12.2 of ACI 318-11, as applicable. The horizontal and vertical cores shall be filled with minimum 3,000 psi (20.7 MPa) concrete. [Figure 1](#) of this report illustrates details of a typical wall section.

Minimum ambient temperature during application of joint sealant shall be between 25°F to 120°F (-4°C to 49°C).

Bautex Wall Anchors, BWA 22-10, as described in Section 4.3 of this report, are inserted into the Bautex Block units until flush with the block face before concrete placement. The tip of the anchor shall protrude into the hollow core area of the assembled Bautex Wall System so that the anchor's oval cutout will be fully encased after concrete placement. The shaft of the anchor shall be installed in a vertical orientation. The wall anchors shall be located in-line with the wall systems horizontal or vertical cores.

3.4 Four-Hour Fire Resistance Walls: Walls constructed with Bautex Blocks BB 616-10 units, constructed as described in this section of this report, have a 4-hour fire-resistance rating. Walls shall be constructed with Bautex Blocks BB 616-10 units with horizontal and vertical cores, spaced 16-inches (406 mm) on-center, filled with minimum 4,000 psi concrete and one No. 4 reinforcing bar in each core. Blocks shall be adhered together using Professional Foam Adhesive Foam-2-Foam Wind-Lock ICF Foam Adhesive. Walls shall be a minimum nominal 10-inches-thick in either load bearing or non-load-bearing walls, installed in accordance with this report. Allowable axial (gravity) loads on fire-resistance-rated bearing walls shall be limited to 10,500 plf (153 kN/m).

4.0 PRODUCT DESCRIPTION

4.1 Bautex Blocks: Bautex Block BB 616-10 units are factory molded blocks manufactured of a proprietary blend of cement, EPS beads and additives. The Bautex Block units are nominally 16-inches-high (406 mm), 32-inches-long (813 mm) and 10-inches-thick (254 mm) with cores approximately six-inch (152 mm) in diameter spaced nominally 16-inches (406 mm) on-center both vertically and horizontally. Individual blocks weigh approximately 45 pounds (20.4 kg). [Figure 2](#) of this report illustrates a typical Bautex Block detail. Bautex Blocks have a class A interior finish with a flame spread index of less than 25 and smoke-developed index of less than 450 when tested in accordance with ASTM E84.

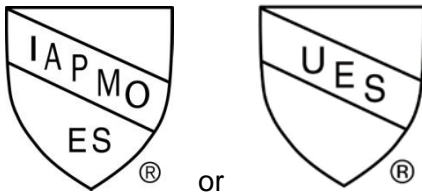


4.2 Joint Sealant: Joint sealant consists of Professional Foam Adhesive's Foam2Foam® Wind-Lock ICF Foam Adhesive. Foam2Foam® joint sealant is a polyurethane foam. The joint sealant when stored in unopened containers in cool dry areas and temperatures between 50°F to 100°F (10°C to 38°C) has a 1-year shelf life from the date of manufacture.

4.3 Bautex Wall Anchors: Bautex Wall Anchors BWA 22-10 are rigid ABS plastic attachment anchors. See [Figure 3](#) of this report for anchor detail.

5.0 IDENTIFICATION

Bautex Block units are identified on the pallets by labels which shall include the IAPMO UES Evaluation Report Number (ER-559), Bautex Logo, description of material, quantity of material, Bautex address, and a QR code indicating the date and time of packaging. Either mark of conformity may be used as shown below.



IAPMO UES ER-559

6.0 SUBSTANTIATING DATA

Data in accordance with the ICC-ES Acceptance Criteria for Concrete Floor, Roof and Wall Systems and Concrete Masonry Wall Systems (AC15), dated February 2010 (editorially revised August 2013); manufacturer's descriptive literature and installation instructions. Testing was performed by laboratories in compliance with ISO/IEC 17025, and include:

- 6.1** Report of strength tests in accordance with ASTM E72.
- 6.2** Report of testing for surface burning characteristics in accordance with ASTM E84.
- 6.3** Report of fire testing in accordance with ASTM E119.
- 6.4** Report of fire testing in accordance with NFPA 286.
- 6.5** Report of testing for airborne sound transmission in accordance with ASTM E90.

6.6 Report of testing for resistance to fungi in accordance with ASTM G21.

6.7 Report of testing for fastener capacity in accordance with ASTM D1761.

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research carried out by IAPMO Uniform Evaluation Service on the Bautex Block Wall System to assess conformance to the codes shown in Section 1.0 of this report and documents the product's certification. Products are manufactured at locations noted under section 2.8 of this report, this report is under a quality control program with periodic inspection under the supervision of IAPMO UES.

Brian Gerber, P.E., S.E.
 Vice President, Technical Operations
 Uniform Evaluation Service

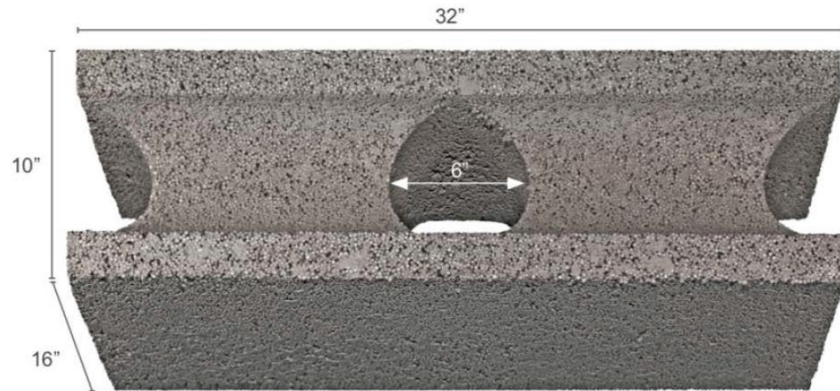
Richard Beck, PE, CBO, MCP
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GP Russ Chaney
 CEO, The IAPMO Group

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org



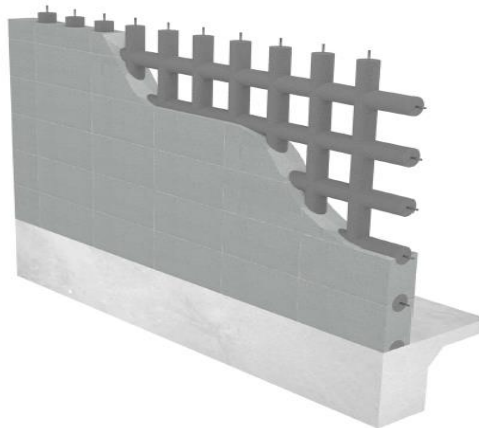
Figure 1



Typical Wall Section

Bautex BB 616-10

Figure 2



Typical Bautex Block Detail

Figure 3



Bautex Wall Anchor



FLORIDA SUPPLEMENT

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- 2017 and 2014 Florida Building Code® (FBC, Building)
- 2017 and 2014 Florida Residential Code® (FBC, Residential)

2.0 LIMITATIONS

The Bautex Block Wall System 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 limitations:

2.1 Bautex Block Wall System structures shall be designed and installed in accordance with ER-559 and the applicable code.

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2.7 Bautex Block BB 616-10 units and Bautex Wall Anchors BWA 22-10 shall be manufactured by Bautex Systems, LLC in San Marcos, Texas under a quality control program with inspections by Quality Control Consultants, LLC.

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2.9 FBC Building: All provisions of ER-559 referencing the 2015, IBC shall apply to use under the 2017 FBC, Building respectively.

2.10 FBC Residential: All provisions of ER-559 referencing the 2015, IRC shall apply to use under the 2017 FBC, Residential, along with Section R302 of the FBC, Residential, as applicable.

3.0 ADDITIONAL REQUIREMENTS

3.1 Evaluation to the high-velocity hurricane zone provisions in Section 1409 of the FBC, Building and Chapter 44 of the FBC, Residential is outside the scope of this report.

3.2 Verification shall be provided that a quality assurance agency audits the manufacturers quality assurance program and audits the production quality of products, in accordance with Section (5)(d) of Florida Rule 61G20-3.008. The quality assurance agency shall be approved by the Commission (or the building official when the report holder does not possess an approval by the Commission).

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org