

# ICC-ES Evaluation Report

**ESR-4917**

Reissued August 2024


This report also contains:

Subject to renewal August 2025

- CBC Supplement
- FBC Supplement
- LABC Supplement

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<p><b>DIVISION: 03 00 00—</b> <b>CONCRETE</b></p> <p><b>Section: 03 39 00—</b> <b>Concrete Curing</b></p>	<p><b>REPORT HOLDER:</b></p> <p><b>MASTER BUILDERS SOLUTIONS</b> <b>ADMIXTURES US, LLC</b></p>	<p><b>EVALUATION SUBJECT:</b></p> <p><b>MASTERLIFE 300D</b> <b>ADMIXTURE &amp;</b> <b>MASTERLIFE 300L</b> <b>ADMIXTURE</b></p>	
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## 1.0 EVALUATION SCOPE

**Compliance with the following codes:**

- 2021 and 2018 [International Building Code® \(IBC\)](#)
- 2021 and 2018 [International Residential Code® \(IRC\)](#)

For evaluation for compliance with codes adopted by the [Los Angeles Department of Building and Safety \(LADBS\)](#), see [ESR-4917 LABC and LARC Supplement](#).

**Properties evaluated:**

- Physical
- Durability
- Permeability reduction

## 2.0 USES

MasterLife 300D and MasterLife 300L admixtures are crystalline-based chemical admixtures used in concrete in accordance with Section 26.4.1.5.1 of ACI 318-19 (2021 IBC) or Section 26.4.1.4.1 of ACI 318-14 (2018 IBC), as referenced by Section 1903 of the IBC, and Section R402.2 of the IRC, with permeability reduction property.

## 3.0 DESCRIPTION

### 3.1 General:

MasterLife 300D and MasterLife 300L admixtures are crystalline-based chemical admixtures used in concrete for permeability reduction purposes. MasterLife 300D and MasterLife 300L admixtures have proprietary formulations without the use of calcium chloride or chloride-based ingredient during the manufacture.

### 3.2 Material:

**3.2.1 MasterLife 300D Admixture:** MasterLife 300D admixture is a powdered product, packaged in 12 lb. (5.5 kg) and 24 lb. (11 kg) shreddable bags, and in 12 lb. (5.5 kg) water-soluble pods.

**3.2.2 MasterLife 300L Admixture:** MasterLife 300L admixture is a liquid product, packaged in 265 gal (1003 L) totes and also delivered in bulk quantities.

**3.2.3 Concrete:** Concrete must be ACI 318 code compliant normal-weight concrete.

## 4.0 INSTALLATION

**4.1 General:** Recommended dosage rate for MasterLife 300D admixture is 2 percent by mass of total cement amount per  $\text{yd}^3$  ( $\text{m}^3$ ). MasterLife 300D admixture is batched at the concrete production plant in a manner similar to that for cement or other cementitious materials. Minimum 5 minutes of mixing after the addition of MasterLife 300D admixture must be provided to ensure thorough and uniform distribution of the admixture in the concrete mixture.

Recommended dosage rate for MasterLife 300L admixture is 1.25 gal/ $\text{yd}^3$  (6.2 L/ $\text{m}^3$ ) of concrete. MasterLife 300L admixture may be added to the concrete mixture during the initial batch sequence at the production plant or at the jobsite in accordance with the manufacturer instructions. When MasterLife 300L admixture is added to the concrete at the jobsite, mixing at high speed for 3 to 5 minutes after the addition of MasterLife 300L admixture is recommended to ensure concrete mixture uniformity.

Concrete samples containing MasterLife 300D admixture and concrete samples containing MasterLife 300L admixture were tested at specified dosage rates given in this report in accordance with ASTM C1218, and both comply with Table 19.3.2.1 of ACI 318 (-19 and -14) for maximum water-soluble chloride ion content of reinforced concrete.

**4.2 Special inspection:** Special inspection must be in accordance with Section 1705.3 of the IBC during the mixing, and placing of the concrete. In addition, the report applicant must submit inspection procedures to verify proper usage, when requested by the code official.

## 5.0 CONDITIONS OF USE:

MasterLife 300D admixture and MasterLife 300L admixture described in this report complies with, or is a suitable alternative to what is specified in, the code indicated in Section 1.0 of this report, subject to the following conditions.

- 5.1 MasterLife 300D admixture and MasterLife 300L admixture used in concrete under the IBC and IRC are subject to prior approval by the registered design professional.
- 5.2 Average percent permeability reductions for concrete containing MasterLife 300D and MasterLife 300L admixtures are as following:
  - 5.2.1 When tested in accordance with CRD-C48 and DIN 1048 standards, average percent permeability reductions for concrete containing MasterLife 300D admixture at the recommended dosage level of 2 percent by mass of cement relative to untreated ACI 318 compliant normal-weight reference concrete are 72 percent and 57 percent, respectively.
  - 5.2.2 When tested in accordance with CRD-C48 and DIN 1048 standards, average percent permeability reductions for concrete containing MasterLife 300L admixture at the recommended dosage level of 1.25 gal/ $\text{yd}^3$  (6.2 L/ $\text{m}^3$ ) relative to untreated ACI 318 compliant normal-weight reference concrete are 86 percent and 62 percent, respectively.
- 5.3 Special inspection must be provided in accordance with Section 4.2 of this report
- 5.4 MasterLife 300D and MasterLife 300L admixtures comply with the requirements for a Type S, specific performance chemical admixture as specified in ASTM C494/C494M.
- 5.5 MasterLife 300D admixture and MasterLife 300L admixture are manufactured under a quality control program with inspections by ICC-ES.

## 6.0 EVIDENCE SUBMITTED

Data in accordance with the [ICC-ES Acceptance Criteria for crystalline-based permeability-reducing chemical admixtures used in concrete \(AC531\)](#), approved February 2022.

## 7.0 IDENTIFICATION

- 7.1 MasterLife 300D admixture and MasterLife 300L admixture are identified by the product names, report holder name (Master Builders Solutions Admixtures US, LLC), company address, and the ICC-ES evaluation report number (ICC-ES ESR-4917).
- 7.2 The report holder's contact information is the following:

**MASTER BUILDERS SOLUTIONS ADMIXTURES US, LLC**  
23700 CHAGRIN BLVD.  
CLEVELAND, OH 44122  
(216) 839-7500  
[www.master-builders-solutions.com](http://www.master-builders-solutions.com)

DIVISION: 03 00 00—CONCRETE  
Section: 03 39 00—Concrete Curing

**REPORT HOLDER:**

MASTER BUILDERS SOLUTIONS ADMIXTURES US, LLC

**EVALUATION SUBJECT:**

MASTERLIFE 300D ADMIXTURE & MASTERLIFE 300L ADMIXTURE

**1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that MasterLife 300D and MasterLife 300L admixtures, described in ICC-ES evaluation report [ESR-4917](#), have also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

**Applicable code editions:**

- 2020 *City of Los Angeles Building Code* (LABC)
- 2020 *City of Los Angeles Residential Code* (LARC)

**2.0 CONCLUSIONS**

The MasterLife 300D and MasterLife 300L admixtures, described in Sections 2.0 through 7.0 of the evaluation report [ESR-4917](#), comply with the LABC Chapter 19, and the LARC, and are subject to the conditions of use described in this supplement.

**3.0 CONDITIONS OF USE**

The MasterLife 300D and MasterLife 300L admixtures described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-4917](#).
- The design, installation, conditions of use and identification of the MasterLife 300D and MasterLife 300L admixtures are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report [ESR-4917](#).
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.
- Under the LARC, an engineered design in accordance with LARC Section R301.1.3 must be submitted.

This supplement expires concurrently with the evaluation report, reissued August 2024.

**DIVISION: 03 00 00—CONCRETE**  
**Section: 03 39 00—Concrete Curing**

**REPORT HOLDER:**

**MASTER BUILDERS SOLUTIONS ADMIXTURES US, LLC**

**EVALUATION SUBJECT:**

**MASTERLIFE 300D ADMIXTURE & MASTERLIFE 300L ADMIXTURE**

**1.0 REPORT PURPOSE AND SCOPE**

**Purpose:**

The purpose of this evaluation report supplement is to indicate that MasterLife 300D and MasterLife 300L admixtures, described in ICC-ES evaluation report ESR-4917, have also been evaluated for compliance with the codes noted below.

**Applicable code editions:**

- 2019 California Building Code (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2019 California Residential Code (CRC)

**2.0 CONCLUSIONS**

**2.1 CBC:**

The MasterLife 300D and MasterLife 300L admixtures, described in Sections 2.0 through 7.0 of the evaluation report ESR-4917, comply with CBC Chapters 19, provided the design and installation are in accordance with the *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapter 19, as applicable.

**2.1.1 OSHPD:**

The applicable OSHPD Sections of the CBC are beyond the scope of this supplement.

**2.1.2 DSA:**

The applicable DSA Sections of the CBC are beyond the scope of this supplement.

**2.2 CRC:**

The MasterLife 300D and MasterLife 300L admixtures, described in Sections 2.0 through 7.0 of the evaluation report ESR-4917, comply with CRC Section R402, provided the design and installation are in accordance with the *International Residential Code*® (IRC) provisions noted in the evaluation report and the additional requirements of CRC Section R402.

This supplement expires concurrently with the evaluation report, reissued August 2024.

DIVISION: 03 00 00—CONCRETE  
Section: 03 39 00—Concrete Curing

**REPORT HOLDER:**

MASTER BUILDERS SOLUTIONS ADMIXTURES US, LLC

**EVALUATION SUBJECT:**

MASTERLIFE 300D ADMIXTURE & MASTERLIFE 300L ADMIXTURE

**1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that MasterLife 300D and MasterLife 300L admixtures, described in ICC-ES evaluation report ESR-4917, have also been evaluated for compliance with the codes noted below.

**Applicable code editions:**

- 2020 Florida Building Code—Building
- 2020 Florida Building Code—Residential

**2.0 CONCLUSIONS**

The MasterLife 300D and MasterLife 300L admixtures, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-4917, comply with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, provided the design requirements are determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-4917 for the 2018 *International Building Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable.

Use of the MasterLife 300D and MasterLife 300L admixtures for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* or the *Florida Building Code—Residential* have not been evaluated, and is outside the scope of this supplemental report.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued August 2024.