

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER N-23-327

Relating to CARB Approval to use No-added Formaldehyde Resins by  
Composite Wood Product Manufacturers under  
section 93120.3, title 17, California Code of Regulations

**Jeld-Wen, Inc. – West Virginia**

Whereas, the California Air Resources Board (CARB) has adopted the “Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products” (ATCM; title 17, California Code of Regulations, sections 93120-93120.12), which establishes formaldehyde emission standards for composite wood products;

Whereas, section 93120.1(a)(29) of the ATCM defines “no-added formaldehyde” (NAF) based resins to mean resins formulated with NAF as part of the resin cross-linking structure for making hardwood plywood (HWPW), particleboard (PB), medium density fiberboard (MDF), or thin medium density fiberboard (tMDF) including, but not limited to resins made from soy, polyvinyl acetate, or methylene diisocyanate;

Whereas, section 93120.3(c) of the ATCM allows manufacturers of HWPW, PB, MDF, and tMDF who use NAF-based resins to apply for written approval from the Executive Officer for an exemption from the requirements of section 93120.3(b) of the ATCM;

Whereas, section 93120.3(c) of the ATCM allows manufacturers of HWPW, PB, MDF, and tMDF who use NAF-based resins to submit an application to the Executive Officer for an exemption from the requirements of section 93120.3(b) of the ATCM; the application shall include: (A) a statement indicating which product types will be manufactured using NAF-based resins for sale in California; (B) the chemical formulation of the candidate NAF-based resins, including base resins, catalysts, and other additives used in manufacturing; (C) the name of their CARB-approved third-party certifier (TPC); and (D) data on emissions performance of the candidate NAF-based resins;

Whereas, the data on emissions performance of the candidate NAF-based resins required in section 93120.3(c) of the ATCM must be obtained by working with a CARB-approved TPC, and must include three months of routine quality control testing data, the correlation of the routine quality control testing data to primary or secondary testing data, and the results of one primary or secondary method test, as required in Appendix 2 of section 93120.12 of the ATCM;

Whereas, section 93120.3(c)(1) of the ATCM requires that 90 percent of the three months of routine quality control testing data and the result of one primary or secondary method test must be shown to be no higher than 0.04 parts per million (ppm), and that all data must be shown to be no higher than 0.05 ppm for HWPW and 0.06 ppm for PB, MDF, and tMDF;

Whereas, section 93120.3(c)(4) of the ATCM provides that the Executive Officer shall approve the application and issue an Executive Order if the evidence submitted by the applicant is sufficient to demonstrate that the applicant has met the requirements specified in section 93120.3(c)(1) of the ATCM;

Whereas, Jeld-Wen, Inc. West Virginia (Jeld-Wen, formerly known as Jeld-Wen Wood Fiber Division, or the applicant) submitted an original application received on September 5, 2008;

Whereas, the original application from Jeld-Wen specified the range in product manufacturing parameters, applicable post-press product treatments, base resin trade name(s) and base resin manufacturer(s)/supplier(s), and other ingredients added to the base resin by the applicant to manufacture NAF tMDF products;

Whereas, CARB was provided base resin/adhesive information specifying the base resin polymer type and minimum and maximum values of all major and any minor ingredients in the base resin on a percent weight of solids basis;

Whereas, the base resin/adhesive supplier, commercial name, and resin type are set forth in Confidential Attachment A;

Whereas, section 93120.3(c) of the ATCM allows NAF product manufacturers to apply for re-approval by CARB by submitting an updated application;

Whereas, Jeld-Wen submitted the original and the updated applications for approval to CARB as follows:

Executive Order #	Received Date	Signed Date	Actions
N-08-003	09/05/2008	12/26/2008	Original
N-08-003A	02/19/2009	03/19/2009	Amendment to add an additional resin system
N-08-003B	08/09/2010	09/15/2010	Amendment to modify the operating parameters
N-10-003	11/17/2010	12/23/2010	Renewal and amendment to include an additional facility
N-13-003	11/13/2012	02/26/2013	Renewal
N-13-003A	02/11/2014	03/06/2014	Amendment to modify the list of approved facilities, which includes all three facilities located in West Virginia, Oregon, and Louisiana

Executive Order #	Received Date	Signed Date	Actions
N-15-003	02/17/2015	03/02/2015	Renewal
N-17-003	02/17/2017	03/21/2017	Renewal
N-18-327	10/04/2018	11/16/2018	Renewal and amendment to issue a separate Executive Order (N-18-327) for Jeld-Wen, Inc. West Virginia (Jeld-Wen or the applicant)
N-20-327	11/04/2020	12/21/2020	Renewal
N-20-327A	12/01/2021	02/16/2022	Amendment to add an additional resin system

Whereas, Jeld-Wen submitted an updated application for re-approval and to add an additional resin system to CARB on December 19, 2022;

Whereas, the updated application for renewal from Jeld-Wen was deemed complete on January 12, 2023;

Whereas, the Executive Officer finds that the completed, updated application demonstrated the NAF manufacturer's ability to continue to comply with section 93120.3(c) of the ATCM; and

Whereas, the Executive Officer approved Jeld-Wen's request for re-approval and it is appropriate that Executive Order N-20-327A be superseded by Executive Order N-23-327.

Now, therefore, it is ordered that Jeld-Wen is hereby approved as a NAF manufacturer of tMDF provided that the following terms and conditions are met for products sold, supplied, offered for sale, or manufactured for sale in California:

1. Jeld-Wen must use the commercial resins and suppliers listed in Section A of Confidential Attachment A of this Executive Order for the manufacture of NAF tMDF products.
2. As specified in Section B of Confidential Attachment A, Jeld-Wen is legally responsible for ensuring that the base resin specifications are within the ranges specified in the original application and any subsequent amendments of this Executive Order.
3. The application rate of the base resins used for the manufacture of NAF composite wood products by Jeld-Wen must be within the ranges specified in Section C of Confidential Attachment A of this Executive Order.
4. Other chemical components of the base resins (such as sizing wax and release wax) used for the manufacture of NAF tMDF products by Jeld-Wen must be within the ranges specified in Section D of Confidential Attachment A of this Executive Order.

5. The allowable operating parameters for press temperature and press time for the base resins used to manufacture the NAF tMDF products by Jeld-Wen must be within the ranges specified in Section E of Confidential Attachment A of this Executive Order.
6. Only the composite wood products with the product names listed in Section F of Confidential Attachment A of this Executive Order are authorized under this Executive Order.

Be it further ordered that Executive Order N-23-327 supersedes Executive Order N-20-327A, which was issued on February 16, 2022.

Be it further ordered that Jeld-Wen may change the resin system suppliers listed in Section A of Confidential Attachment A if the new resin supplier supplies the same resin type listed in Confidential Attachment A, at least one primary or secondary method test is performed on random samples selected by their CARB-approved TPC, and the Chief of the Risk Reduction Branch within the Transportation and Toxics Division is notified before Jeld-Wen uses the resin for production.

Be it further ordered that Jeld-Wen must conduct confirmatory testing for any new resin supplier by demonstrating that the results of one primary or secondary method test for the new resin system supplier are no higher than 0.04 ppm for the NAF products authorized under this Executive Order.

Be it further ordered that section 93120.3(c)(6) of the ATCM, as applicable, specifies that if the applicant decides to change to a formaldehyde-based resin system, the applicant must notify CARB in advance of changing resin systems and must comply with the requirements of section 93120.3(b) of the ATCM for that product type.

Be it further ordered that the Executive Officer may review and, for good cause, modify or revoke this Executive Order as provided in section 93120.3(c)(4) of the ATCM. The Executive Officer shall not modify or revoke this Executive Order without affording the applicant the opportunity for a hearing in accordance with the procedures specified in title 17, California Code of Regulations, section 60055.1 et seq.

Be it further ordered that this Executive Order shall have a duration of two years, and the applicant may apply for re-approval as provided in section 93120.3(c)(4) of the ATCM.

Be it further ordered that the applicant must maintain records in electronic or hard copy form for two years, for review by CARB upon request, as specified in section 93120.3(g) of the ATCM.

Be it further ordered that the applicant must notify the Executive Officer in writing within 30 days of any change in their product manufacturing parameters or base resin manufacturer(s) or supplier(s) that does not comply with any of the requirements, terms, or conditions specified in the ATCM or this Executive Order.

Executed at Sacramento, California on this 10<sup>th</sup> day of February 2023.



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Robert Krieger, Chief  
Risk Reduction Branch  
Transportation and Toxics Division