



Riverside County Fire Department

Office of the Fire Marshal

2300 Market St., Ste. 150, Riverside, CA 92501 Ph. (951) 955-4777 Fax (951) 955-4886

Technical Policy

Title: Fire-Flow for Outdoor Storage of Wood Pallets at Pallet Manufacturing and Recycling Facilities
--

Technical Policy: # TP 22-001	Effective Date: 01/18/22	Revised Date: 04/16/23
--------------------------------------	---------------------------------	-------------------------------

Code References: Ordinance 787.10; 2022 California Fire Code, Sections 102.9, 104.1, 503, 507, 907, 2810, Appendix B & C; 2022 National Fire Protection Association Standard 72
--

Purpose

The Riverside County Fire Department (RCFD) Office of the Fire Marshal (OFM) has prepared this policy to provide guidance to building officials, contractors, architects, business owners, consultants and the general public on local interpretations and practices that are considered to be in compliance with the California Fire Code (CFC). The purpose is to provide fire-flow technical guidance for outdoor wood pallet stacking storage arrangements at pallet manufacturing and recycling facilities (CFC 2810.9). The applicant, at their option, may utilize this guidance or propose to the OFM another fire-flow to be provided for an alternate pallet stacking arrangement. The intent is to clarify aspects of the code that are vague or non-specific by addressing selected issues under normal conditions. The requirements of this policy shall not be construed as altering any existing code, law or regulation which may require fire protection features not covered or alluded to in these requirements, nor shall they waive any requirements of any code, law or regulation. The reader is cautioned that the guidance detailed in this policy may or may not apply to their specific situation, and that the OFM retains final authority to determine compliance.

Scope

This policy is applicable to outdoor storage of wood pallets at new pallet manufacturing and recycling facilities and expansions of outdoor storage of wood pallets at existing pallet manufacturing and recycling facilities. This policy provides an optional outdoor pallet stacking storage arrangement and resulting fire-flow requirement in accordance with CFC Section 2810.9. Other pallet stacking storage arrangements and fire-flow analysis may be submitted to the OFM for review. All other applicable provisions of the CFC including, but not limited to, Section 2810 still apply.

Requirements

1. Pallet storage areas shall be kept free and clear of vegetation, combustible debris, and storage of other combustible materials.
2. Maximum pallet stack dimensions shall be 20 feet x 20 feet with a maximum area of 400 square feet.
3. Maximum pallet stack height shall be 20 feet.
4. Maximum pallet stack volume shall be 8,000 cubic feet.
5. Individual pallet stacks shall be organized into orderly pallet stack arrays.
6. Minimum separation between pallet stacks within arrays shall be 8 feet.

7. Minimum separation between pallet stack arrays shall be 90 feet (materials, uses, buildings and/or structures within the separation are subject to OFM approval) OR provide an OFM approved solid continuous concrete masonry unit block wall with no openings (or other OFM approved barrier) separating the pallet stack arrays. The height of the wall shall be higher than or equal to the height of the tallest pallet stack within 90 feet of each side of the wall and the length of the wall shall extend as necessary until 90 feet of separation between arrays and the pallet stacks within them is achieved. Pallet stacks shall not be stored within 0.75 times the pallet stack height or 8 feet from the wall, whichever is greater. (Note that Planning and/or Building Safety Departments approval may be required for walls)
8. 90 feet of separation shall be provided between the nearest pallet stack array and any adjacent property line that can be built upon (materials, uses, buildings and/or structures within the separation are subject to OFM approval) OR provide an OFM approved solid continuous concrete masonry unit block wall with no openings (or other OFM approved barrier) separating the pallet stack array and the adjacent property lines that can be built upon. The height of the wall shall be higher than or equal to the height of the tallest pallet stack in the adjacent pallet stack array within 90 feet from the wall. The length of the wall shall extend as necessary until 90 feet of separation between the pallet stack array and the adjacent property line that can be built upon is achieved. Pallet stacks shall not be stored within 0.75 times the pallet stack height or 8 feet from the wall, whichever is greater. (Note that Planning and/or Building Safety Departments approval may be required for walls)
9. Maximum pallet stack array area including internal separations such as, 8 foot aisles and fire apparatus access roads, shall be 36,000 square feet.
10. Fire-flow shall be determined based on the largest pallet stack array area (including internal separations) utilizing CFC Appendix B, Table B105.1(2) for Type V-B construction.
11. Pallet stack array areas shall not exceed the available fire-flow at the array locations.
12. Fire apparatus access roads in accordance with CFC Section 503 shall extend to within 150 feet of all portions of the pallet stacks.
13. Permanent delineation of pallet stack, pallet array and on-site fire apparatus access roads shall be provided as approved by OFM.
14. Fire hydrants capable of providing the required fire-flow shall be spaced along the required fire apparatus access roads in accordance with CFC 507.5 and Appendix C, Table C102.1, or as otherwise determined by the OFM.
15. The Fire Marshal may require an OFM approved automatic fire detection system to be provided for the entire pallet storage area based on the potential for fires to expand beyond the available fireflow. Factors considered may include history of wind events, limited fire department access, proximity and availability of fire apparatus to respond, surrounding vegetation, and other factors that can contribute to fire growth and size. The automatic fire detection system shall comply with National Fire Protection Association Standard 72 and shall transmit an alarm to a supervising station and provide a local alarm at a normally occupied location.

Note that additional department approvals such as Planning and/or Building Safety Departments may be required. Their regulations may be more restrictive than the requirements above.

Example pallet storage site plan diagram on next page

Example Pallet Storage Site Plan

