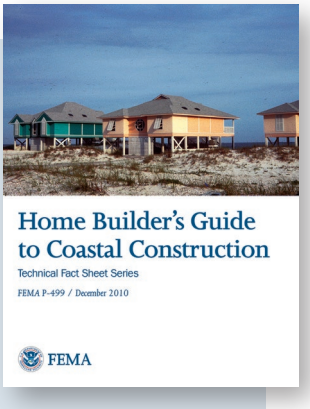
Overview of FEMA P-499, 2010 Edition
Homebuilder's Guide to Coastal Construction

BUILDING SCIENCE BRANCH

May 2019

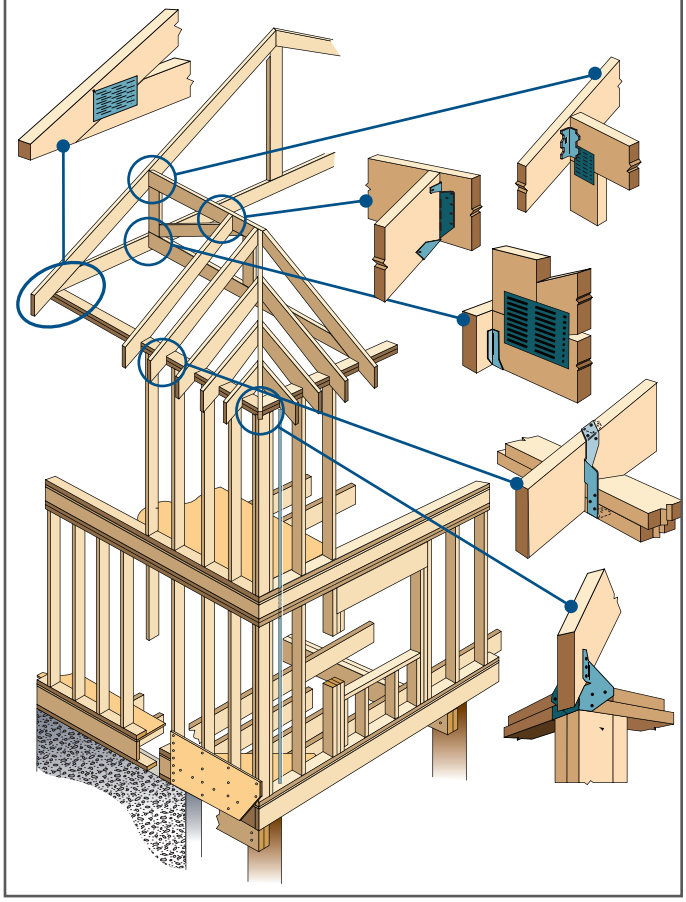


Key Topics:

- Load paths *(Fact Sheet No. 4.1, 4.2, and 4.3)*
- Coastal building materials *(Fact Sheet No. 1.7)*
- Non-traditional building materials and systems (e.g., engineered wood products, structural insulated panels [SIPs], insulating concrete forms [ICFs], prefabricated shear walls and moment frames, sprayed closed-cell foam insulation) *(Fact Sheet No. 1.8)*
- Moisture barrier systems *(Fact Sheet No. 1.9)*
- Roof-to-wall and deck-to-wall flashing *(Fact Sheet No. 5.2)*
- Window and door installation *(Fact Sheet No. 6.1)*
- Protection of openings, shutters, and glazings *(Fact Sheet No. 6.2)*
- Roof sheathing installation *(Fact Sheet No. 7.1)*
- Roof underlayment for asphalt shingle roofs *(Fact Sheet No. 7.2)*
- Construction practices for high-wind regions:
  - Siding installation *(Fact Sheet No. 5.3)*
  - Asphalt shingle roofing *(Fact Sheet No. 7.3)*
  - Tile roofing *(Fact Sheet No. 7.4)*
  - Metal roof systems *(Fact Sheet No. 7.6)*
- Protecting utilities *(Fact Sheet No. 8.3)*

Load Paths

Connection hardware applications

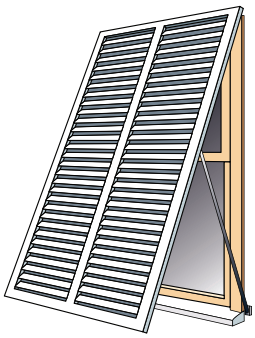


Coverings

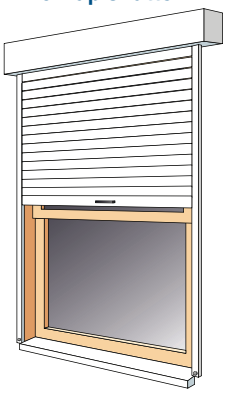
Colonial shutters



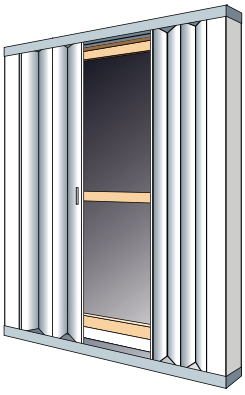
Bahama shutter

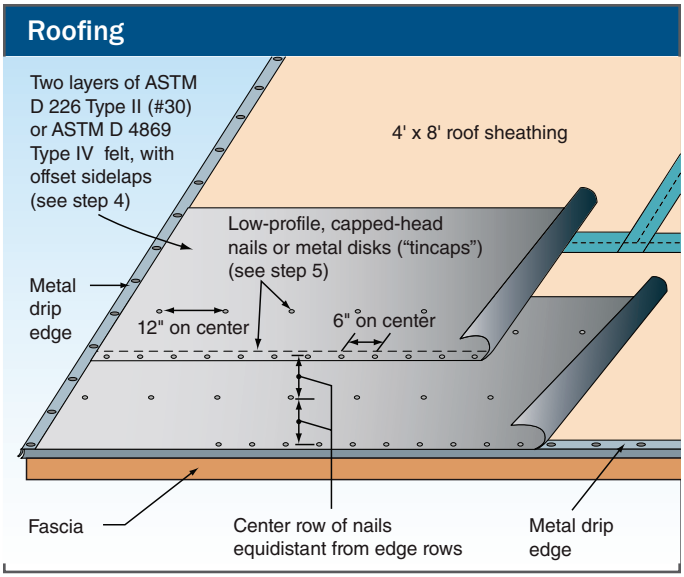


Roll-up shutter



Accordion shutter





Description

This publication contains a series of 37 fact sheets that provide technical guidance and recommendations concerning the construction of coastal residential buildings. The fact sheets present information aimed at improving the performance of buildings subject to flood and wind forces in coastal environments. The fact sheets make extensive use of photographs and drawings to illustrate NFIP regulatory requirements, proper siting of coastal buildings, and recommended design and construction practices for building components, including structural connections, the building envelope, utilities, and accessory structures. Many of the fact sheets also include lists of additional resources that provide more information about the topics discussed.

Target Audience

Primarily homeowners, residential contractors, and designers along with federal, state, and local government officials working within the residential building sector. The fact sheets are intended to assist with following floodplain management and model building code requirements for residential buildings subject to flood and wind forces in coastal environments.

The fact sheets are grouped into nine categories – **General, Planning, Foundations, Load Paths, Wall Systems, Openings, Roofing, Attachments, and Repairs**:

CATEGORY	TITLE
General	Coastal Building Success and Failures
General	Summary of Coastal Construction Requirements and Recommendations for Flood Effects
General	Using a Digital Flood Insurance Rate Map (DFIRM)
General	Lowest Floor Elevation
General	V Zone Design Certification
General	Designing for Flood Levels Above the BFE
General	Coastal Building Materials
General	Non-Traditional Building Materials and Systems
General	Moisture Barrier Systems
Planning	How Do Siting and Design Decisions Affect the Owner's Costs?
Planning	Selecting a Lot and Siting the Building
Foundations	Foundations in Coastal Areas
Foundations	Pile Design and Installation
Foundations	Wood Pile-to-Beam Connections
Foundations	Reinforced Masonry Pier Construction
Foundations	Foundation Walls
Load Paths	Load Paths
Load Paths	Masonry Details
Load Paths	Use of Connectors and Brackets
Wall Systems	Housewrap
Wall Systems	Roof-to-Wall and Deck-to-Wall Flashing
Wall Systems	Siding Installation in High-Wind Regions
Wall Systems	Attachment of Brick Veneer in High-Wind Regions
Openings	Window and Door Installation
Openings	Protection of Openings—Shutters and Glazing
Roofing	Roof Sheathing Installation
Roofing	Roof Underlayment for Asphalt Shingle Roofs
Roofing	Asphalt Shingle Roofing for High-Wind Regions
Roofing	Tile Roofing tor High-Wnd Areas
Roofing	Minimizing Water Intrusion through Roof Vents in High-Wind Regions
Roofing	Metal Roof Systems in High-Wind Regions
Attachments	Enclosures and Breakaway Walls
Attachments	Decks, Pools, and Accessory Structures
Attachments	Protecting Utilities
Repairs	Repairs, Remodeling, Additions and Retrofitting (Flood)
Repairs	Repairs, Remodeling, Additions and Retrofitting (Wind)

For more information, see the FEMA Building Science Frequently Asked Questions website at http://www.fema.gov/frequently-asked-questions-building-science.

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