



IMAGINE BUILDING DIFFERENTLY

PRODUCT DATA SHEET

52-Wall Assembly B.PUBLIC Prefab

PRODUCT OVERVIEW

Product Description

The 52-Wall assembly is an advanced vapor-open wall assembly designed for generations of performance. Prefabricated in controlled environments to exacting standards, B.Public assemblies exemplify best practices in construction and building science for unparalleled performance, durability, health, and environmental sustainability. The 52-Wall provides industry leading comfort, quiet, and speed to today's construction.

Application

The 52-Wall is designed to meet typical type V construction requirements up to 3 stories in the colder ICCE climate regions 5, 6, and 7 coast to coast. B.Public assemblies and component connections are thermally-bridge-free per PHI standards allowing for unprecedented design freedom without sacrificing performance. Available in standard 10' heights as well as custom widths and heights including custom window and door opening configurations.

Installation

All prefabricated wall assemblies come fully wrapped in rated weather-resistant barriers for durability during delivery and installation. Our unique isolated cavity design coupled with a redundant air-barrier ensures that prefabricated assemblies exceed Passive House air-tightness requirements. Preinstalled hoist pick-points reduce on-site labor and simplify the craning and placing process.

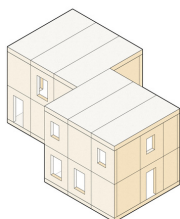
Key Attributes

- Vapor open assembly
- Consistent high R-value
- Class A flame & smoke rated materials
- Industry-leading acoustic performance
- Thermal bridge free per PHI standards
- Eliminates windwashing energy loss
- Carbon storing / Low embodied energy
- > 70% post-consumer recycled content by weight
- Living Building Challenge compliant - Red list free
- No dangerous off-gassing
- Free of urea-formaldehyde & foam



TECHNICAL OVERVIEW

Description	Off-site prefabricated light wood frame wall assembly
R-Value	Whole wall R-52 (PHPP)
Vapor Control	Class II / vapor variable membrane 0.13 to >13.0 perms Rated WRB- 2 months exposure
Cavity Insulation	Dense-pack Cellulose / Borate treated for fire / mold / insect resistance.
Weather Barrier	Fully adhered monolithic non-porous vapor-open weather barrier / rated 6 months exposure.
Thickness	14" (15.5" with int 1.5" furring)
Structure	Thermally broken studs @ 24" OC 1/2" Structural sheathing





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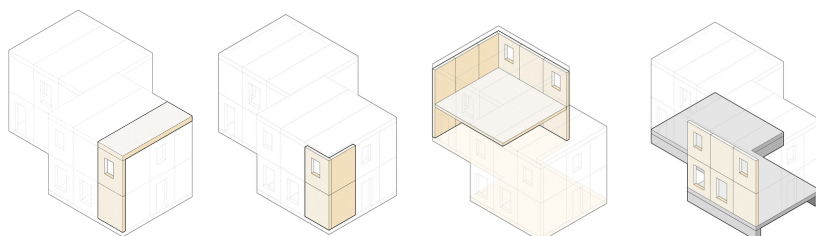
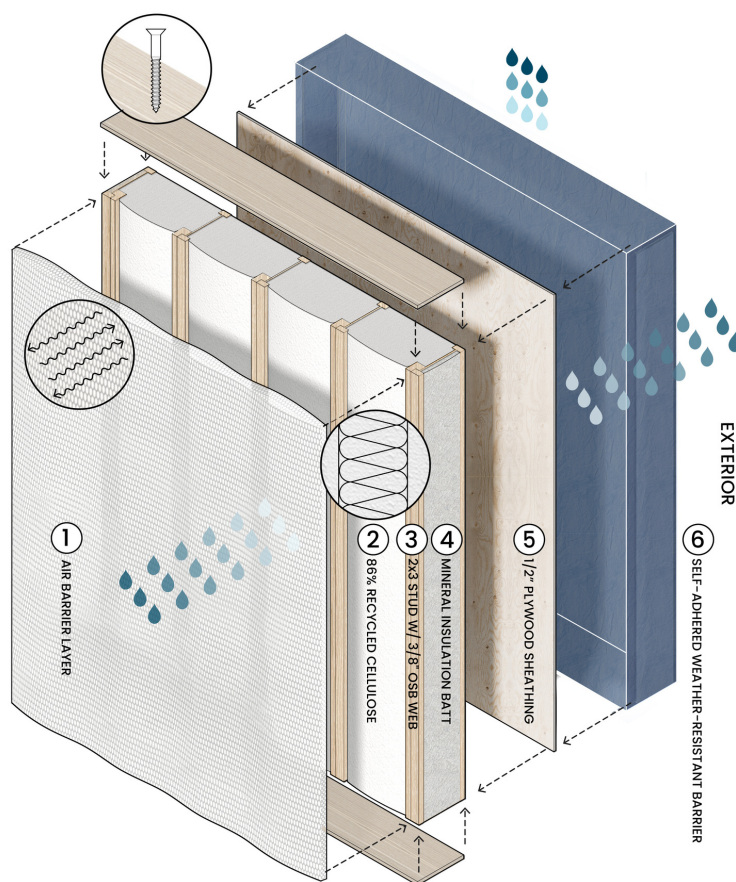
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MATERIAL SPECIFICATIONS

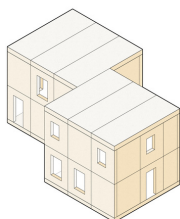
SPECIFICATIONS*

Description	Off-site prefabricated light wood frame wall assembly
R-Value	Whole wall R-52 (PHPP)
Thickness	14"
① Interior Membrane	IBC / IRC Class II vapor retarder Vapor variable membrane 0.13 to >13.0 perms WRB -rated for 2 months exposure Class A Flame spread index 0 Class A Smoke developed index 35 ICC -ES report ESR-4854 Air permeance 0.00004 cfm/ft
② Cavity Insulation	Dense-pack cellulose 3.5 lb per cubic ft. Borate treated for fire/mold/insect R-3.76 per inch 85% recycled content Formaldehyde free. Lowest carbon footprint of all insulation types. -35 GWP value kg CO2e Class A fire rated
③ Structural Vertical	2x6 SPF studs @ 24" OC with engineered web stud for depth. Engineered wood plates.
⑤ Structural Shear	Standard shear capacity 773 plf High capacity shear wall 1,545 plf
⑥ Exterior Weather Barrier	Fully adhered monolithic non-porous vapor-permeable weather resistant barrier. Rated 6 months exposure. Self-sealing around nail & screw penetrations. Waterproof to >32ft water column Vapor permance 11 perms Airtightness 0.00009 cfm/ft2 Class A fire rated FS:10 SDI:15



*per manufacturer's reports

B.PUBLIC PREFAB. PBC
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505-577-4207



This document is applicable in conjunction with other B.PUBLIC Prefab documents and technical information. National building regulations must be complied with. The customer is responsible for determining if B.PUBLIC Prefab products are suitable for the intended purpose. B.PUBLIC Prefab accepts no responsibility for misuse. This information is subject to change without notice. REV 09-2023





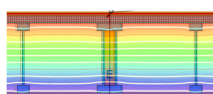
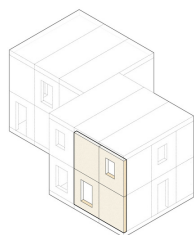
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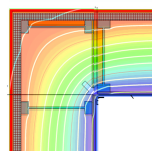
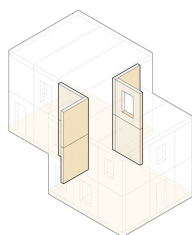
THERMAL PERFORMANCE

Vertical Wall Connection



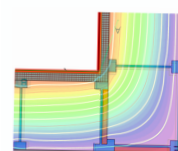
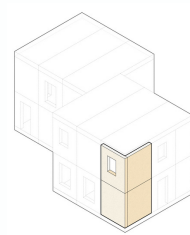
IP = pos 0.002 BTU / (h.ft.F)
M = pos 0.003 W / (m.K)

Inside Corner Connection



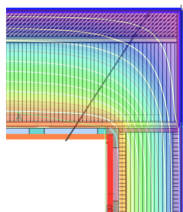
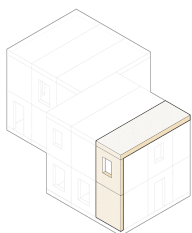
IP = pos 0.016 BTU / (h.ft.F)
M = pos 0.027 W / (m.K)

Outside Corner Connection



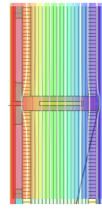
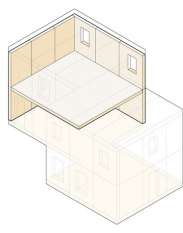
IP = neg 0.034 BTU / (h.ft.F)
M = neg 0.058 W / (m.K)

Roof to Wall Connection*



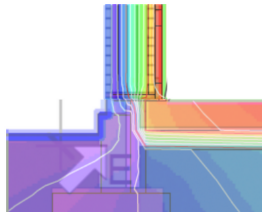
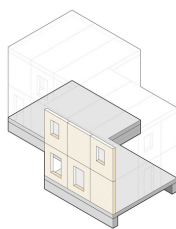
IP = neg 0.041 BTU / (h.ft.F)
M = neg 0.070 W / (m.K)

Horizontal Wall Connection



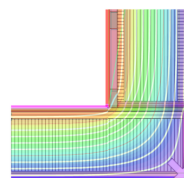
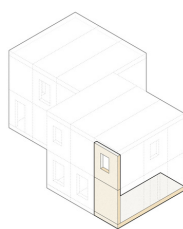
IP = pos 0.006 BTU / (h.ft.F)
M = pos 0.010 W / (m.K)

Wall to Slab Connection**



IP = neg 0.048 BTU / (h.ft.F)
M = neg 0.083 W / (m.K)

Wall to Frame Floor Connection***



IP = neg 0.032 BTU / (h.ft.F)
M = neg 0.055 W / (m.K)

Criteria for Thermal-Bridge-Free-Design

It was found that for ordinary building geometries, the "thermal bridge free" requirement was almost always adequately met for all linear disturbances if $\Psi \leq 0.01 \text{ W / (m.K)}$
Passive House Institute, Germany

IP = Imperial measure
M = Metric measure
neg = Negative result
pos = Positive result

*Shown with B.Public R-80 Roof assembly.

**Shown with B.Public standard concrete foundation design.

***Shown with B.Public R-51 Floor assembly

