

PANEL W SPECIFICATIONS

- Standard nominal dimensions:
Thickness of 2", 3" and 4" for walls, 3" and 4" for slabs.
Width of 4" (for slabs the usable width is 40" due to overlap).
Length of 8'.
- Wire of steel 14 guage with Fy 71,100 psi.
- Water based polyurethane with density 0.94 to 1.19 pcf.
- Expanded polystyrene with density 0.44 to 0.56 pcf for the core, and 0.87 to 1.00 pcf for ribs molds.
- Own weight:
Panel 0.27 to 1.43 psf.
Wall with mortar 18.4 to 31.9 psf.
Slab with concrete and mortar 35.4 to 38.9 psf.

RECOMMENDED PROPORTIONING FOR COATINGS

- Concrete for walls and ceilings with strength f'c 1,500 psi:
Mix 1 Portland cement sack + 5 buckets of sand + 5 buckets of 3/8" gravel + 1.75 buckets of water + 1/5 pound of polypropylene fiber to get 6 cubic feet of concrete, to cover 54 to 82 square feet of ceilings or walls by one face, depending on the coating thickness and the panel type.
- Mortar for walls and ceilings with strength f'c 1,500 psi:
Mix 1 Portland cement sack + 6.75 buckets of sand + 1.75 buckets of water + 1/5 pound of polypropylene fiber to get 3.75 cubic feet of mortar, to cover 36 to 54 square feet of ceilings or walls by one face, depending on the coating thickness and the panel type.
- Concrete for slabs with strength f'c 3,000 psi:
Mix 1 Portland cement sack + 3.5 buckets of sand + 4.25 buckets of 1/2" gravel + 1.25 buckets of water + 1/5 pound of polypropylene fiber to get 4.25 cubic feet of concrete, to cover 23 square feet of slabs.

Note: considering cement sacks of 94 pounds and buckets of 5 US gallons.
Note: for non-structural applications, like dividing walls and ceilings, it is possible to use masonry cements and masonry mortars following recommendations of respective manufacturer.

SLABS CHART

REBARS PER RIB	PANEL W SLAB 3"				PANEL W SLAB 4"			
	FLOOR OR HORIZONTAL ROOF		SLOPED ROOF MORE THAN 5% OF OWN SLOPE		FLOOR OR HORIZONTAL ROOF		SLOPED ROOF MORE THAN 5% OF OWN SLOPE	
	DISTANCE BETWEEN SUPPORTS	CAMBER (in)	DISTANCE BETWEEN SUPPORTS	CAMBER (in)	DISTANCE BETWEEN SUPPORTS	CAMBER (in)	DISTANCE BETWEEN SUPPORTS	CAMBER (in)
1#3	0' 0" to 7' 2"	3/16	0' 0" to 8' 10"	3/8	0' 0" to 7' 10"	3/16	0' 0" to 9' 10"	3/8
1#4	7' 2" to 9' 6"	3/8	8' 10" to 11' 9"	5/8	7' 10" to 10' 6"	3/8	9' 10" to 13' 1"	5/8
2#3	9' 6" to 9' 10"	5/8	11' 9" to 12' 5"	3/4	10' 6" to 11' 2"	5/8	13' 1" to 14' 1"	3/4
1#3 + 1#4	9' 10" to 11' 6"	3/4	12' 5" to 13' 9"	1	11' 2" to 13' 1"	3/4	14' 1" to 16' 5"	1
2#4	-	-	-	-	13' 1" to 14' 9"	1	-	-

Note: the reinforcement designation 1#3 means one rebar #3 (diameter 3/8"), 2#3 means two rebars, 1#4 means one rebar #4 (diameter 1/2"), and 2#4 means two rebars. All rebars must be corrugated of steel with Fy 60,000 psi.

OBSERVATIONS

- For further information consult the Technical Sheets of specific products.
- The structural calculations, structural design and right use of **PANEL W** products are exclusive responsibilities of the builder, who must fulfill jobsite's building regulations in force.



PANEL W[®]
build. simple.

**DEMAND IT WITH
THE BRAND PRINTED!**

AUTHORIZED DEALER

Leaders in the market and pioneers in Mexico and Latin America since 1975.



We comply the norms of **NOM-ONNCCCE** and **ONNCCCE** that specify the degree of thermal insulation and structural capacity for the Mexican Republic.



Certification **ISO 9001-2008** that endorses the quality of our products and services.



FLORIDA APPROVAL, that certifies that our panels can resist pressures of winds up to 200 mph.



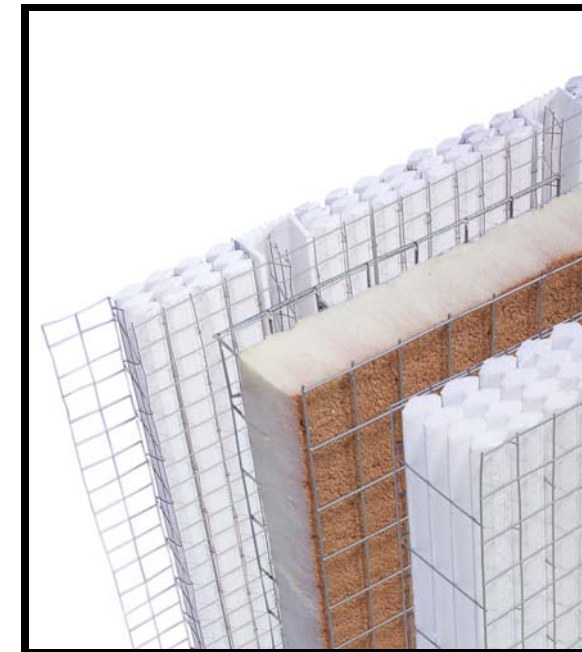
Endorsed by the **UN** as a company that does not use substances that harm the ozone layer, and because of manufacturing products that are friendly with the environment.

► www.panelw.com



PANEL W[®]
build. simple.

**ILLUSTRATED
INSTALLATION MANUAL**



What is PANEL W?

PANEL W is a very simple construction system, it is based on structural panels of steel wires, with an integrated core of plastic foam of polyurethane or polystyrene, that are covered in the job site with concrete or mortar to get complete buildings of reinforced concrete, with its same attributes of strength and durability.

Building with **PANEL W** provides lightweightness and thermoacoustic insulation that contributes to energy saving and user comfort, also being an inexpensive system and fast to build.



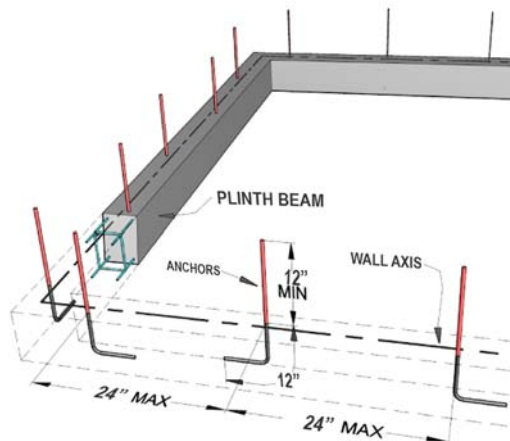
APPLICATIONS

- Load-bearing walls
- Dividing walls
- Floor and roof slabs
- Facades
- Spandrel walls
- Parapets
- Arches
- Domes
- Architectural Details



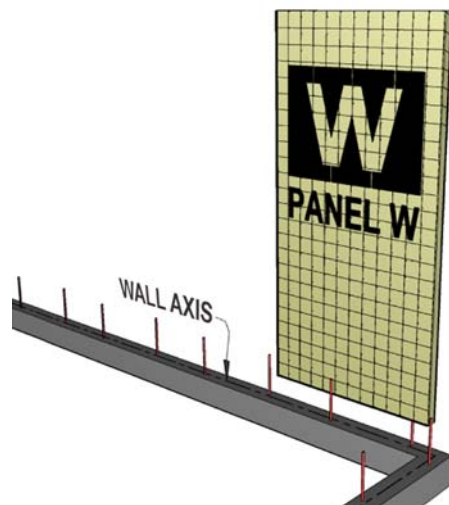
1. FOUNDATION AND ANCHORS PLACEMENT

The foundation can be an ordinary footing, plinth beam or concrete slab. Place 3/8" rebar anchors embedded in foundation, spaced from each other 24" as maximum, alternating between each side of the wall's axis so they fit inside **PANEL W** structure, between the foam and the mesh.

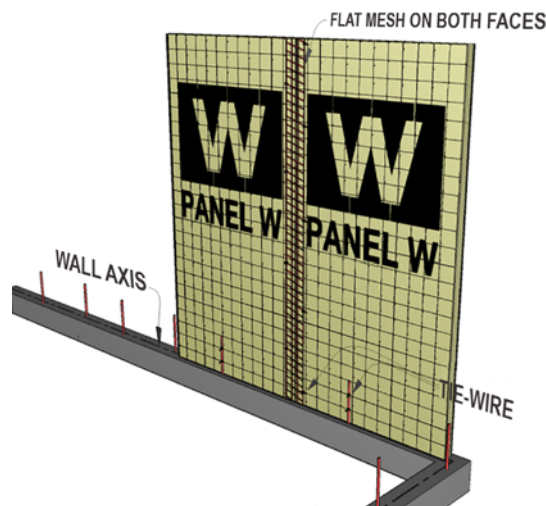


2. WALLS PLACEMENT

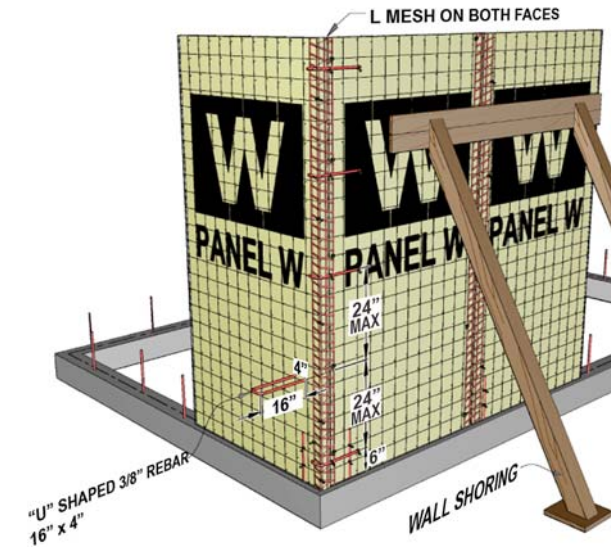
Place the panels vertically on the foundation in such a way that rebar anchors fit inside the **PANEL W**, between the foam and the mesh.



Fasten the panels together and to the anchors with tie-wire. Reinforce joints on both faces with **FLAT MESH** or **ZIG-ZAG**. Center the meshes at the joint and fasten using tie-wire or staples, except for the **ZIG-ZAG**, which fastens by bending its tips. For walls higher than one panel, place the panels vertically staggered.

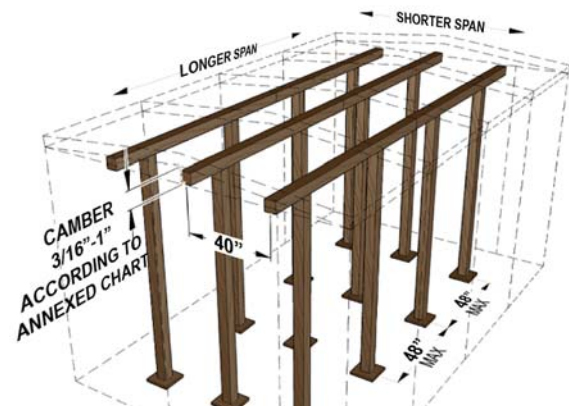


Place **L MESH** on the corners and reinforce them with "U" shaped 3/8" rebar. Check the panels to stay aligned and plumb, raker shores or wire tensors can be used to hold the panels in right position.



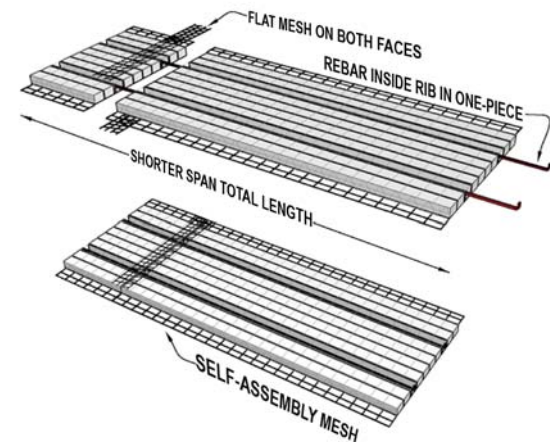
3. SHORING FOR SLABS

Set temporary shoring for the slab using timber or metal stringers aligned to the longer span, oriented widthwise the slab panels, spaced from each other 40" as maximum. Support the stringers by props, spaced from each other 48" as maximum. Shim the central stringer to higher position to provide necessary camber, as indicated in the Slabs Chart annexed.

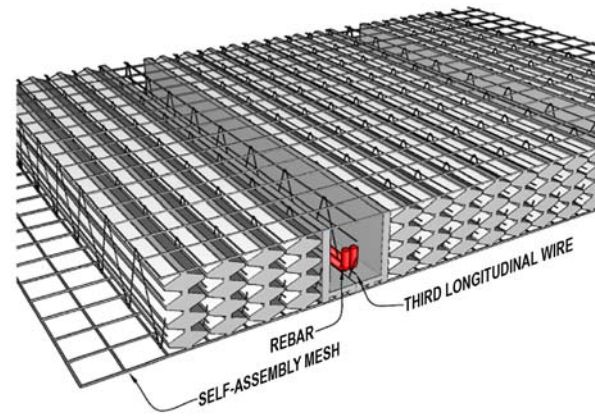


4. SLABS PLACEMENT

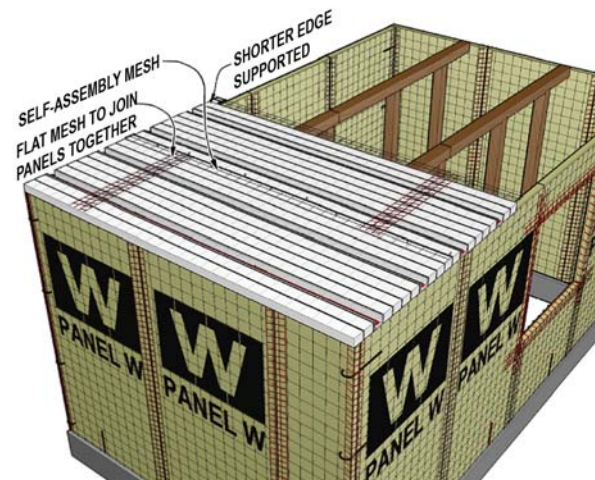
Join together the slab panels to complete the length of the shorter span between definitive supports, forming one-panel-width rows. Tie firmly panels' joints using tie-wire. Place **FLAT MESH** or **ZIG-ZAG** on both faces of the joint. Place rebars inside the ribs as indicated in the Slabs Chart annexed. Each rebar must cover the full span in one-piece.



Fasten rebars to the panels with tie-wire, securing them to the panel's third longitudinal wire, counted from top to bottom, and strictly ensure they preserve such position.



Place the row, oriented so both shorter edges get supported on the walls and the panels' original longer edge follows the direction of the shorter span available. Place the next row beside, staggered, and fasten the self-assembly meshes on both faces. Tie firmly the slab to the walls.

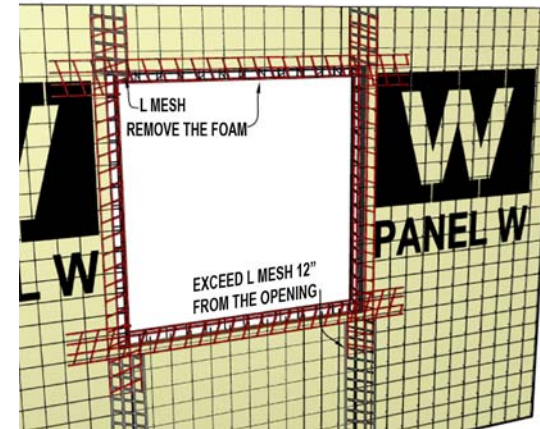


Reinforce with **L MESH** and "U" shaped rebar all the slab-to-wall joints, in a similar way that joining together wall-to-wall at corners, except that for the shorter edges of the rows instead of "U", place 16"x16" "L" shaped rebar over the ribs, anchoring to the walls. Remove slab's foam to the strip that matches support walls.



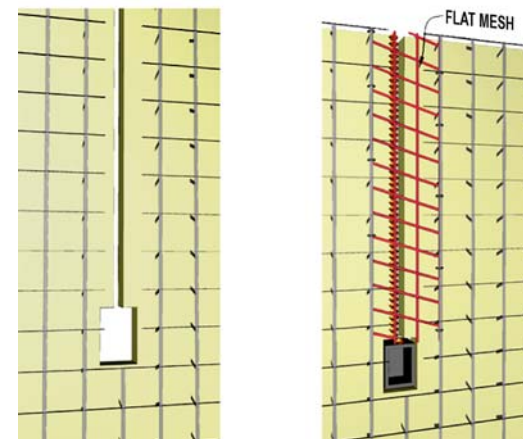
5. DOORS AND WINDOWS

Mark the contour of doors and windows on the **PANEL W** by felt-tip pen, cut the wires by bolt cutter and the foam by knife or mini hacksaw, or all in one-step by electric saw. Remove 2" of foam around the entire opening perimeter, and reinforce it placing **L MESH** on both faces. All cuttings of **PANEL W** can be used to avoid waste.



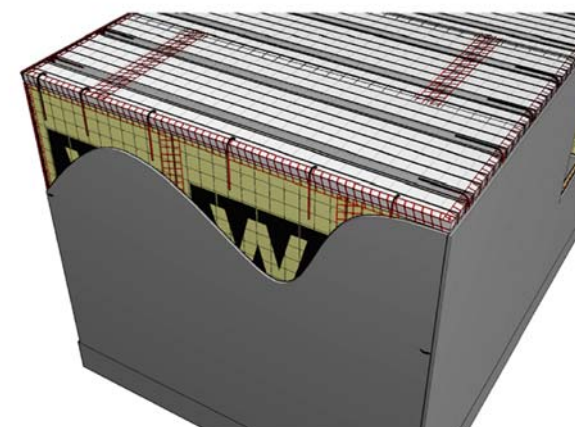
6. UTILITIES INSTALLATION

Mark the location and insert the utilities inside the **PANEL W**, between the foam and the mesh. If necessary, cut the wires of one face only, following the utilities path and make a cavity in the foam, place the utilities and restore with **FLAT MESH** or **ZIG-ZAG**.



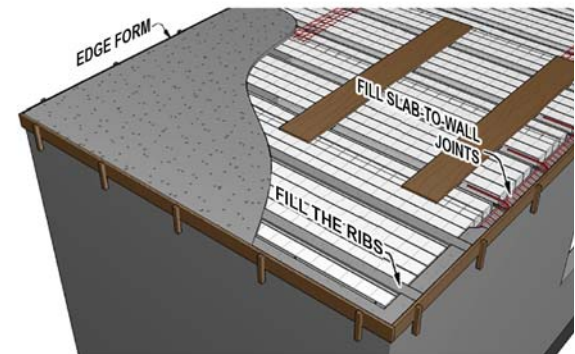
7. WALLS COATING

Cover both faces of the walls with recommended concrete or mortar. Apply by brick trowel, plastering trowel or shotcrete machine, starting from the foam up to cover the mesh, and then a second layer 5/8" to 3/4" thick. Cure the coating by dampening it at least 4 times per day for the first 7 days, to then be able to coat the slab.



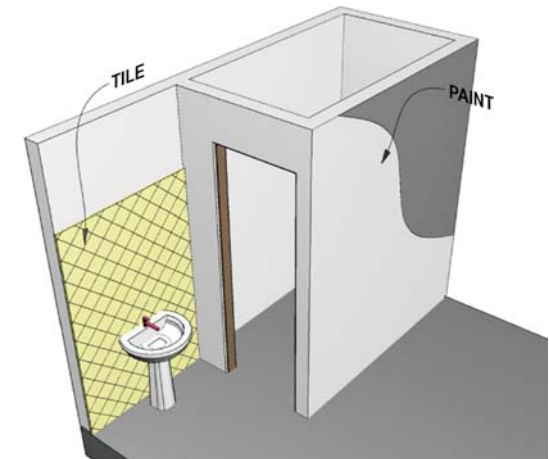
8. SLABS COATING

Pour a layer of recommended concrete on the upper face of all **PANEL W** slabs, completely filling the ribs and the space between the foam and the mesh, plus 1-5/8" thick. After 14 days remove the shoring, and when the camber disappears, apply recommended concrete or mortar to the lower face to completely cover the mesh, plus 5/8" thick, in a similar way to what was done for the walls. Cure each coated face by dampening it at least 4 times per day for the first 7 days.



9. FINISHES

On top of the coatings it is possible to easily apply a wide variety of finishes like paint, gypsum plaster, Tyrolean render, textured coatings, tiles, mosaic tiles, flagstones, brick veneer, stone veneer, moldings, wood and more. It is needed the application of waterproofing to the upper face of the roof.



10. FINAL RECOMMENDATIONS

- Do not waste **PANEL W** pieces, try to use all resulting cuttings.
- Verify that all panels' joints have **ZIG-ZAG**, **FLAT MESH**, **L MESH** or self-assembly mesh on both faces, and tie firmly all joints.
- Check that all walls' anchors are aligned to start proper installation.
- Verify that wall panels are in upright position, plumb and braced before starting to cover them.
- Check that slab panels' orientation is correct and their shorter edges got supported.
- Verify that the anchoring rebars at joints, the rebars in the slabs, and the provided camber are appropriate and they are in the right position.
- Check that the proportioning of the concrete or mortar is as recommended.
- Apply the coatings of walls and ceilings, at least in two-steps, until getting the recommended thickness.
- Cure all the coatings, keeping them moist at least for the first 7 days since their application.
- Do not remove slab's shoring before 14 days since its pouring.