ZS2 Frequently Asked Questions (FAQ)

THE BASICS

What is a ZS2 TechPanel™?

The ZS2 TechPanel is a structural insulated panel (SIP). It's a high performance building envelope panel used primarily in wall and roof applications. The panels are manufactured by sandwiching a rigid core insulating EPS foam between two proprietary TechBoards.

Have ZS2 Products been tested to comply with building codes?

ZS2 has conducted extensive third party testing on TechBoards and TechPanels partnering with Intertek, QAI Laboratories, ICC-ES and the Southern Alberta Institute of Technology.

How are TechPanels manufactured?

TechPanels are manufactured in the same way as traditional structurally insulated panels(SIPs). A rigid core of insulation, typically EPS (Expanded Polystyrene) is laminated to our proprietary TechBoard. TechPanels are manufactured in one of two manufacturing facilities under strict quality control processes. Wood, steel or composite splines and studs are incorporated as specified by the client in the factory.

How are TechBoard and TechPanels finished?

Exterior

TechBoard and TechPanels can be finished to any client specifications. Alternatively conventional materials can be used. From this point TechBoard and TechPanels can be finished with any exterior finish.

Interior

Typically, TechPanel and TechBoard on the interior needs a vapor barrier. This can be achieved with a traditional 6 mil poly and covered with drywall. Where vapor barriers are not a concern, TechPanel and TechBoard can be coated with a typical interior finish such as drywall or tile. You can paint the board directly but you will not have a level 4 finish like drywall.

Consult a ZS2 Representative to discuss the specifics of your project.

What load can the TechPanels withstand?

ZS2 has conducted extensive structural testing on TechPanels and have third party engineer verified load charts to assist with the structural design requirements for your projects. Please contact a ZS2 Representative to review the load charts.

How much does a TechPanel weigh?

A 4x8 TechPanel with lumber, 6.5" thick, typically weighs approximately 185lbs.

TechBoard weight per sheet is:
4x8 – 80 lbs
4x9 – 90 lbs
4x10 – 100 lbs

INSTALLATION

What comes in my ZS2 package?

- SIPS Panels
- Installation Drawing Set
- All mechanical fasteners for TechPanel connections (SIPS screws, staples, etc)
- Construction adhesive and low expansion spray foam
- Top plate lumber
- Lifting sling. Note: bolts will be included in the panel if required
- Hot wire tool for modifying panels if required

Do I need to be certified to install ZS2 Panels?

No. ZS2 Products are designed and manufactured for simple install.

Do you provide on site installation and guidance?

Yes. All projects have a detailed installation kickoff meeting with a ZS2 Project Manager. In addition, we have a few options available for installation guidance:

1. We always provide installation specific drawings, as well as access to install videos and documents.
2. We offer onsite training at the ZS2 TechCenter in Calgary, AB. for a day of training.
3. A request for onsite training can be made. (Contact your ZS2 Project Manager for cost and Technician availability.)

How do the ZS2 Panels arrive on site?

When ZS2 TechPanels are stored, they must be fully supported and protected from the weather elements. Store panels on a flat surface with supports placed at least 4' on center. This prevents bowing in the TechPanels. Cover stored panels with tarps or similar protective wraps. When panels are used as roofing it should be weatherproofed in a timely manner – if you are unsure of your timeline please consult your ZS2 contact for direction. Wall panels should have a code approved weather–proof cladding applied in a timely manner. If wall cladding application is delayed (more than three weeks) or if there is an anticipated exposure to precipitation, apply temporary breathable weatherproof cladding.

Can TechPanels™ be modified onsite?

Yes. Modifications onsite are easy using standard construction tools. Thick panels can be cut using a beam saw/reciprocating saw. Rigid insulation can be cut and modified using a hand held hot wire cutter or angle grinder. With proper up front planning and design, the use of TechPanels should minimize on–site changes which are too frequently a source of frustration and cost overruns in traditional construction.

Do TechPanels come pre-wired with electrical?

ZS2 does not pre–wire TechPanels but we offer 3 options for electrical.

1. No electrical chases required.
2. Standard electrical; 1 vertical and 2 horizontal chases at standard plug and switch height.
3. Custom placement and size based on customers needs.

Can electrical be ran through a TechPanel on site?

When requested, TechPanels can be manufactured with electrical chases installed ready to accept wiring and electrical fixtures. These chases (pre–cut channels) are typically spaced at regular intervals for easy access and installation but can also be customized both vertically and horizontally to meet any client's requirements. Electricians can feed wires without the need to drill through conventional framing saving additional time and effort.

Can TechPanels™ be replaced or repaired if damaged?

As with any construction material if damage occurs from events such as fire, flood or storm a qualified professional should do a thorough assessment. TechPanels, thankfully are highly resilient as compared to conventional construction materials when these events occur. Simple cosmetic damage is drastically reduced due to the high strength characteristics of TechBoard vs. other sheathing products. However, if required cosmetic damage can be easily repaired with approved coatings and materials. Structural damage can be repaired either by site modification or replacement of the panels. In case of structural damage a structural engineer along with ZS2 should be consulted to confirm and recommend appropriate steps for repair.

How are TechPanels secured to other components of the structure?

TechPanels can be installed both below and above ground. They can sit on strip footings, conventional foundation slabs, screw piles, or any type of horizontal element. A 'basetrack' is attached to the foundation or floor using conventional bolts/screws. Adhesive foam is applied, the TechPanels are 'slid' on top and screwed or stapled. TechPanels come prefabricated with 'tongue and groove' vertical splines. As TechPanels are tilted into place the vertical connection is also screwed or stapled. Together, this rapid method of installation and construction provides an extremely strong structural base. If additional stories are required a header plate is provided from which joists, I-beams or other horizontal structural elements can be joined. Integration with conventional building materials and methods is quick, easy and designed for superior strength and performance.

How are TechPanels joined together?

It's a tongue and groove connection.
All joints of adjoining panels must be splined by a structural member; SPF lumber spline (e.g. 2x4). Although, structural members can be a variety of materials based off structural and environmental requirements. During installation, panel joints must be connected using a mechanical fastener, construction adhesive, and spray foam (see details on Installation Drawings).

How do you attach exterior cladding to TechPanels?

A standard Zs2 TechPanel has structural members at 48" on center. Envelope engineers and architects should review project intent, supposed cladding system, and ZS2's available technical documents prior to project sign-off. It is the responsibility of the installer and Architect/Envelope Engineer to consult and follow manufacturers guidelines, as well as to adhere to local code requirement for the installation of exterior cladding on TechPanels.

Do I need a vapor barrier with a ZS2 TechPanel?

Although a TechPanel is water resistant, it is only one part of the building envelope. For longevity of the system we recommend adding additional layers of protection using conventional construction methods.