

S-Lite

Lightweight Panel Formwork System

The Complete Solution for Efficient Construction



Your Formwork Partner

Disclaimer:

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تنويه:

في حين تم بذل كل جهد ممكن لضمان دقة المعلومات الواردة في هذا الدليل، لا يمكن أن تقبل شركة سكاكفو المسؤولية عن أي أخطاء قد تحدث نتيجة الاعتماد على أي من محتويات هذا الدليل، والشركة غير مسؤولة عن أي خسارة من أي نوع قد يتم تكبدها نتيجة لأعتتماد محتويات هذا الدليل. تحتفظ الشركة بحق تغيير أي من المنتجات او التفاصيل دون إشعار مسبق.

يجب على العملاء التأكد من أن يتم تبني الممارسات الصحيحة في الموقع من ناحية استخدام المعدات المذكورة في هذا الدليل. كذلك يجب على العملاء التأكد من كفاءة وحرفية الأشخاص القائمين على تركيب واستعمال وتفكيك عناصر الأنظمة وان تكون هذه العمليات متطابقة مع المتطلبات والمعايير المذكورة في المواصفات الدولية ذات العلاقة ولوائح وتعليمات السلطات المحلية. هذا الدليل لا يحتوي على أية تفاصيل تخص التصميم ولكن يصف مكونات الأنظمة بشكل تصويري ويعطي فكرة عن عناصر الأنظمة المتاحة في إطار هذه المجموعة من المنتجات. الرجاء الاتصال بمهندس شركة سكاكفو للحصول على أي استفسارات فنية تخص المنتجات المذكورة في هذا الدليل.

Build smarter and safer with S-Lite

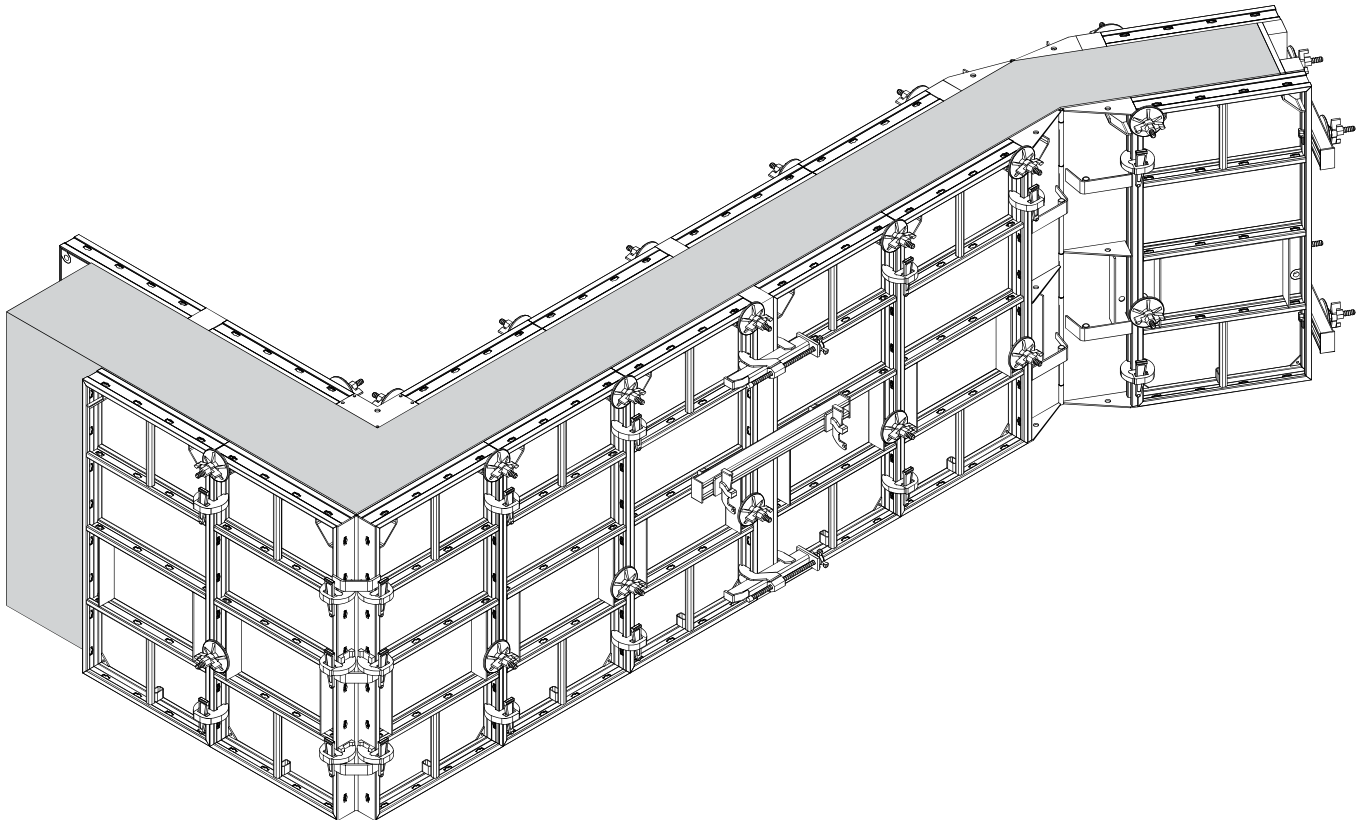
The S-Lite panel formwork system stands as a comprehensive solution tailored for the swift and economical construction of concrete elements in diverse structural projects. Ideal for various structures, S-Lite panels formwork offer unparalleled ease of installation by hand, enabling efficient assembly on-site. Furthermore, their robust design allows for effortless relocation using crane assistance, facilitating smooth workflow and project progression.

Manufactured from torsion-resistant hollow section steel profiles, S-Lite panels guarantee durability and structural integrity under demanding construction conditions. Panels are hot-dip galvanized, ensuring superior protection against corrosion, thus extending its operational lifespan significantly. The innovative design and high-quality of the S-Lite panel formwork make it an essential asset in modern construction projects.

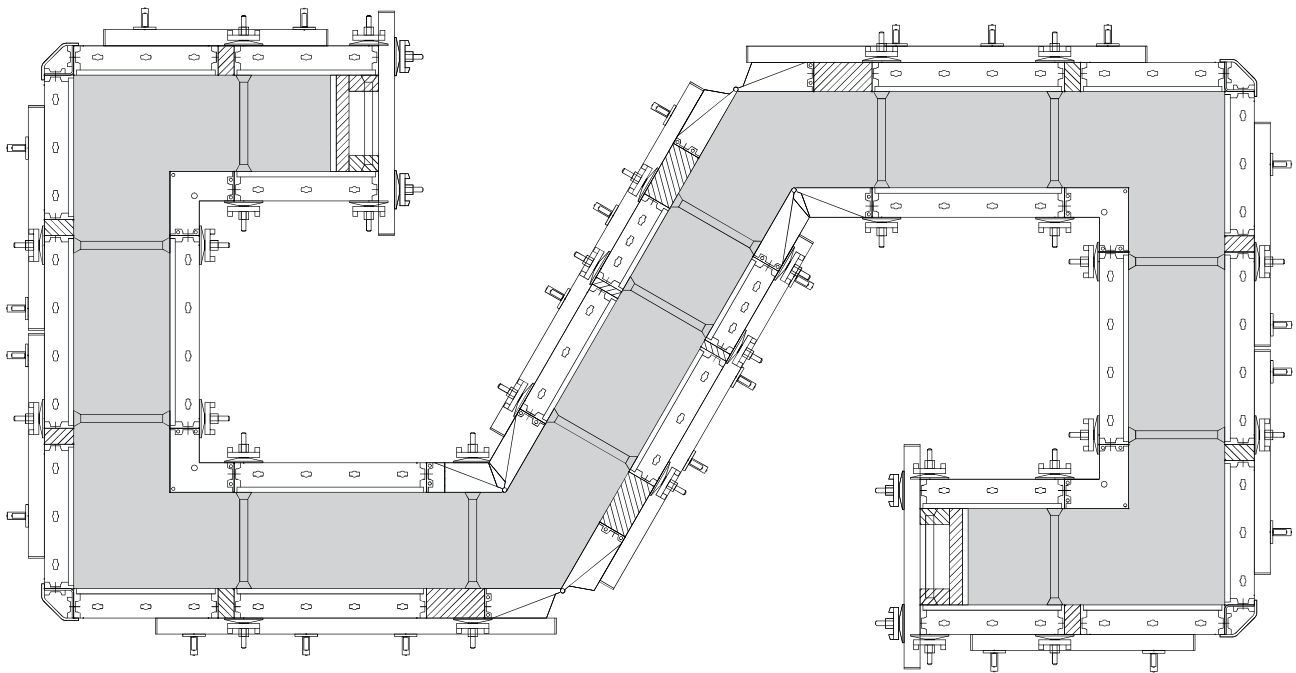
The system comprises durable yet lightweight elements and accessories that are easily manageable by hand. Offering versatile panel sizes, ranging in height from 1.20m to 3.0m and widths spanning 0.30m to 0.90m, S-Lite stands out for its adaptability across various on-site applications.

S-Lite is made to be used in the formwork of wall, column, footing, and slab edge formwork. Its efficiency extends to constructing walls up to 3.0m in height, achieved by either stacking panels vertically or rotating them by 90° to accommodate any wall height requirement. The dimensions of S-Lite panels conform to a logical 150mm increment grid, ensuring precision and consistency during assembly.

For construction sites equipped with cranes, the system facilitates the simultaneous shifting of multiple elements in large-area units, streamlining the construction process. To facilitate this, S-Lite lifting hooks are provided, ensuring safe and efficient handling of system components.



Lightweight panels, high-performance accessories, and adaptable design for efficient construction on any site.



System Features

Lightweight Panels: S-Lite panels are lightweight, making manual setup easy and reducing reliance on costly cranes and skilled labour.

Fast and Simple Clamping Gadgets: The continuous slot within the S-Lite border profile, running along the inside of the steel profile, enables flexible fastening of S-Lite clamps at any desired point.

Increased Productivity: Panels can be easily clamped together and lifted by crane, enhancing system productivity.

Easy assembling and Stripping: S-Lite's modular system ensures quick assembly and dismantling, optimizing construction schedules.

Marine Plywood or Composite Ply Sheathing: Choose quality ply or composite sheathing for durability, superior finish, and easier maintenance.

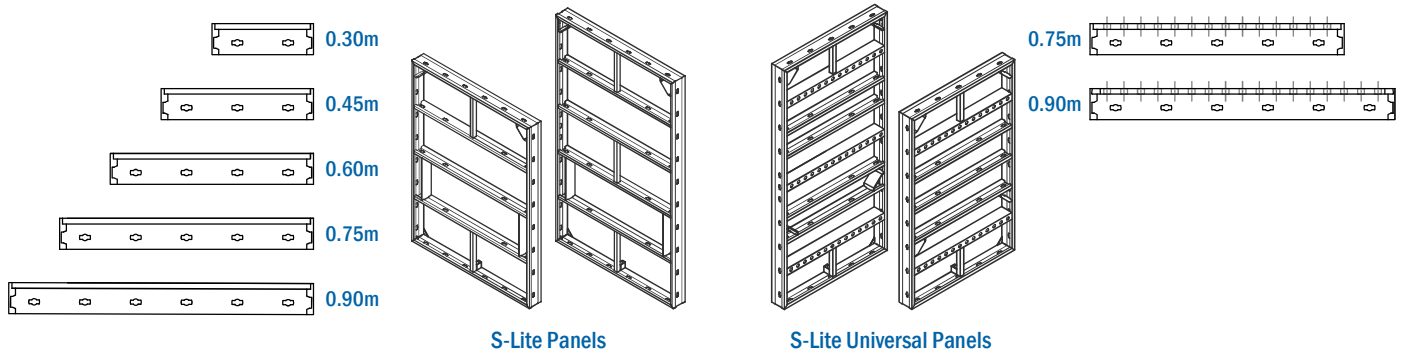
Versatility: With four standard heights and five width sizes, S-Lite adapts to virtually any required formwork configuration. S-Lite is a sturdy wall formwork panel system. The S-Lite panels are designed to withstand hydrostatic loads of 67 kN/m² up to a concreting height of 2.70 meters. When the panels are stacked, a maximum concreting pressure of 40 kN/m² is permissible.

Speed: Optimized tie hole positioning reduces the number of ties needed, cutting costs and construction time.

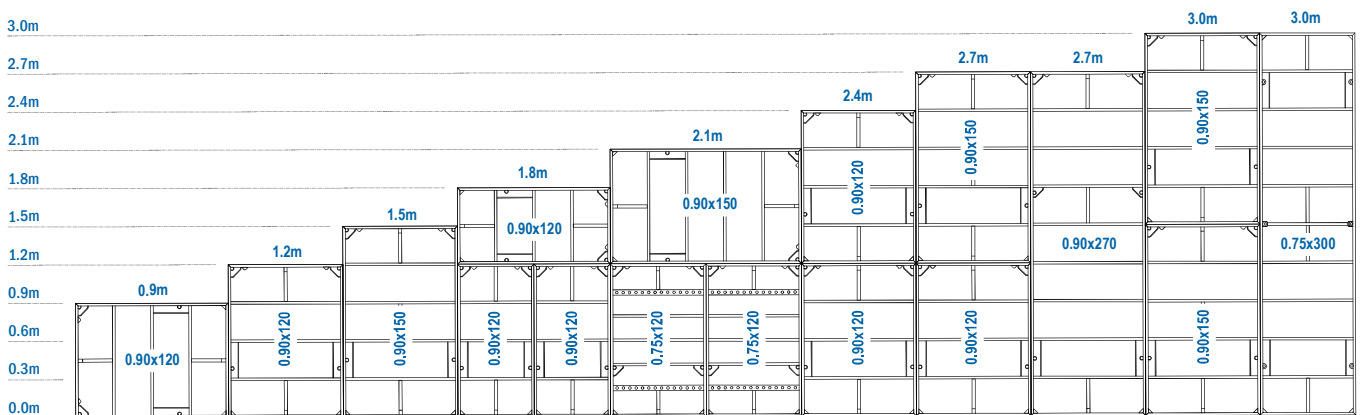
Hot-Dipped Galvanized panels: Extends panel lifetime and reduces maintenance expenses.

The logical system grid

The S-Lite panels feature a practical and advantageous grid system formed by their combination of heights and widths, which enhances the adaptability and cost-effectiveness of the formwork. With just 5 widths and 4 standard heights you can effectively accommodate any architectural layout. Height and width adjustments can be effortlessly made in 15cm increments, adding to the convenience of the system.



S-Lite presents a remarkable panel grid solution, providing a versatile range of configurations in both width and height. This innovative system empowers you to utilize the panels vertically or horizontally, accommodating diverse construction requirements. Central to its adaptability is the meticulously crafted 15cm grid pattern, enabling seamless adjustments to match your structure's dimensions precisely. Regardless of the complexity of your architectural plans, the S-Lite panel grid ensures seamless integration with the formwork, enhancing efficiency and precision in every stage of construction.



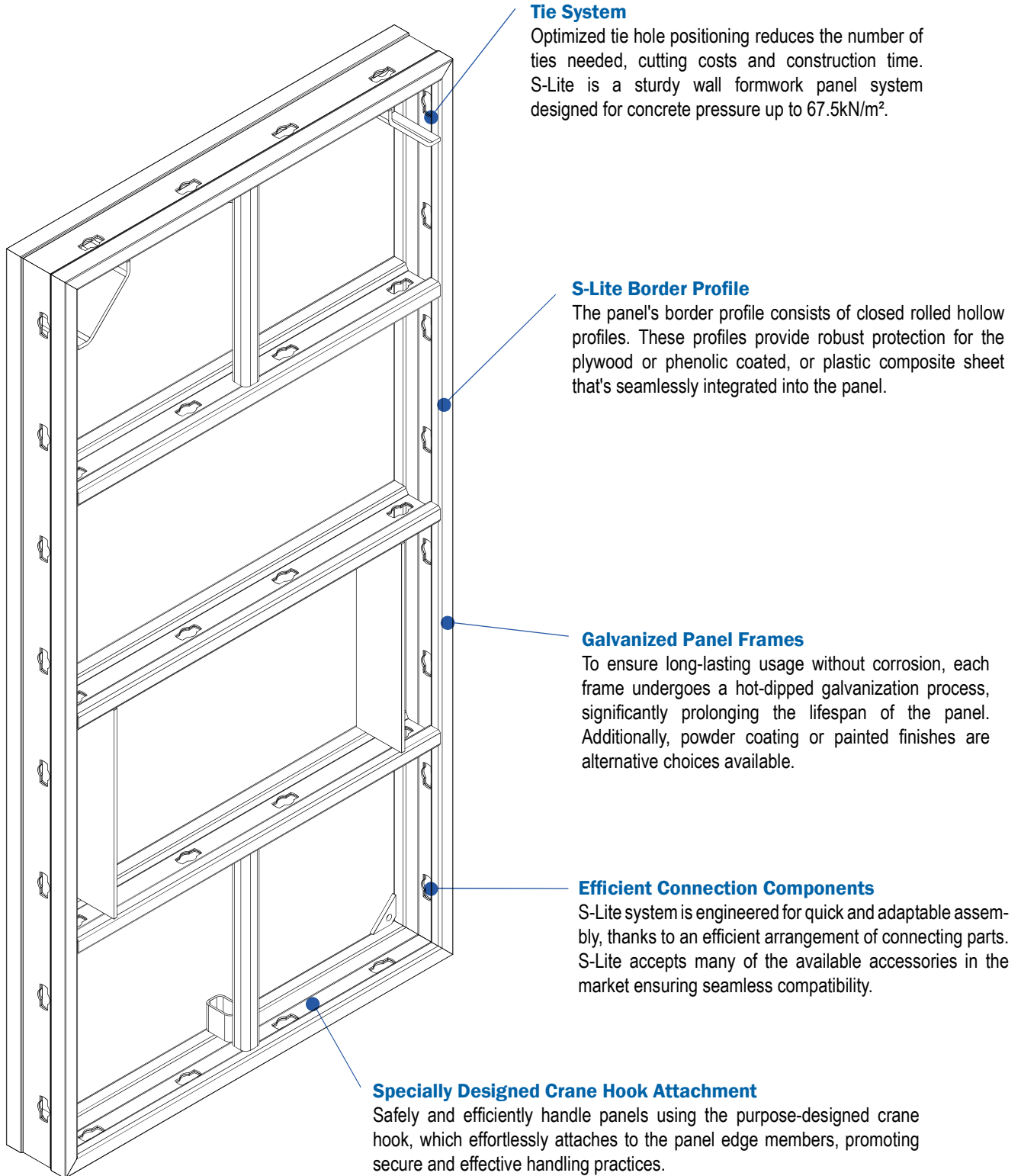
S-Lite Panel Families

To accommodate the unique requirements of construction sites, we offer customized panel sizes tailored to your needs. This flexibility guarantees that we can manufacture panels of any required size, addressing the distinct demands of construction projects. Whether larger or smaller panels are needed, our adaptable production capabilities ensure we provide the perfect solutions for construction site specifications.



S-Lite Panels Details

Providing unmatched flexibility at the construction site, S-Lite panels are available in five distinct widths and two heights, with the option for customized heights as well. This range allows for various forming possibilities. By utilizing the exceptional features of S-Lite, you can achieve incomparable adaptability, durability, and efficiency to meet your formwork requirements.



Tie System

Optimized tie hole positioning reduces the number of ties needed, cutting costs and construction time. S-Lite is a sturdy wall formwork panel system designed for concrete pressure up to 67.5kN/m².

S-Lite Border Profile

The panel's border profile consists of closed rolled hollow profiles. These profiles provide robust protection for the plywood or phenolic coated, or plastic composite sheet that's seamlessly integrated into the panel.

Galvanized Panel Frames

To ensure long-lasting usage without corrosion, each frame undergoes a hot-dipped galvanization process, significantly prolonging the lifespan of the panel. Additionally, powder coating or painted finishes are alternative choices available.

Efficient Connection Components

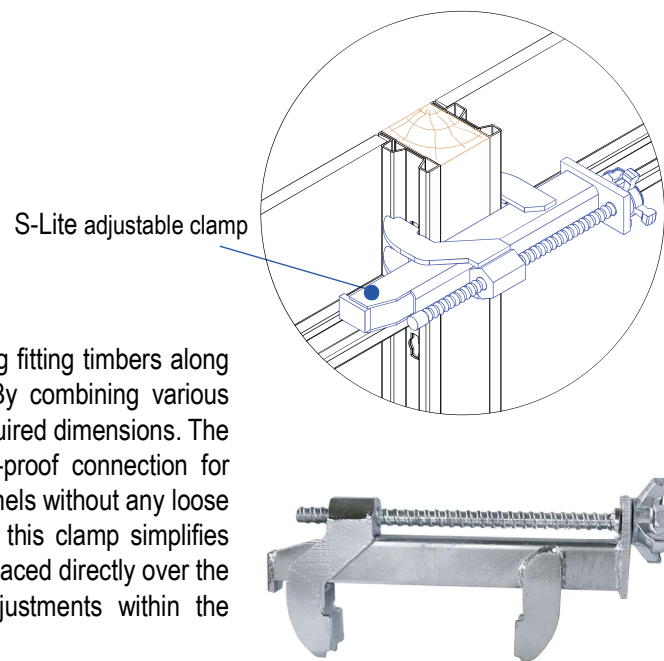
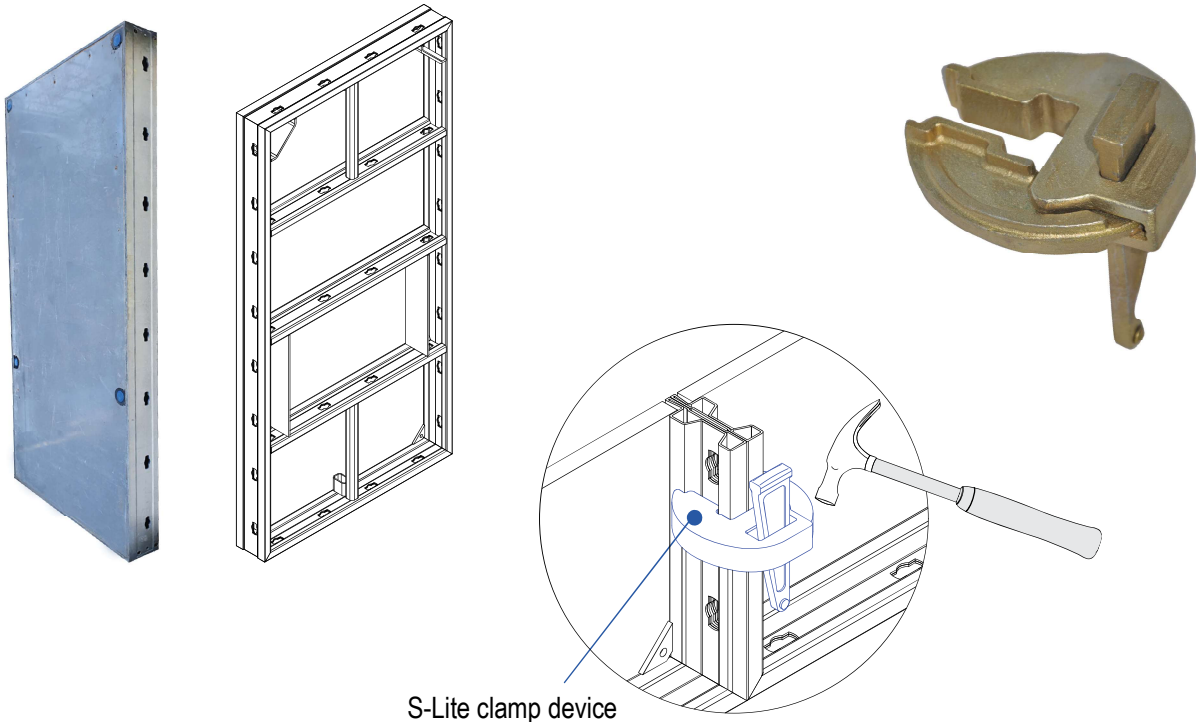
S-Lite system is engineered for quick and adaptable assembly, thanks to an efficient arrangement of connecting parts. S-Lite accepts many of the available accessories in the market ensuring seamless compatibility.

Specially Designed Crane Hook Attachment

Safely and efficiently handle panels using the purpose-designed crane hook, which effortlessly attaches to the panel edge members, promoting secure and effective handling practices.

Panel Connections

The S-Lite device clamp serves as a rapid, robust connecting mechanism for all S-Lite panels, requiring only a hammer for operation. Designed to swiftly pull panels together, it ensures a secure, tension-proof joint without any parts prone to loss. Resistant to dirt and capable of aligning panels flush, this clamp facilitates seamless integration with the surrounding bead on the S-Lite border profile, enabling interlinking at any point. Additionally, this feature permits stepless staggering of panel heights, enhancing versatility in construction configurations.



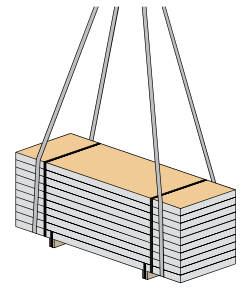
Closure adjustments of up to 150 mm can be made by using fitting timbers along with the S-Lite adjustable clamp for length adjustments. By combining various widths of fitting timbers, the closure can be tailored to the required dimensions. The S-Lite adjustable clamp serves as a reliable and tension-proof connection for closures up to 150mm, ensuring flush alignment between panels without any loose parts. Resilient to dirt and operable solely with a hammer, this clamp simplifies installation processes while maintaining structural integrity. Placed directly over the crossbar, it facilitates seamless and efficient closure adjustments within the specified range.

Assembly and Usage Instructions – Method Statement

The following sequence is based on constructing a straight wall. Always start forming from the corner outwards.

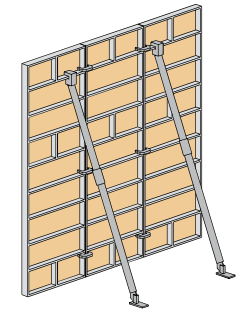
1. Panel Transport and Handling:

- Carefully unload panels from the truck to avoid damage.
- Use a certified lifting chain to lift one panel at a time, ensuring safety and load stability.
- Large multi-panel configurations can be pre-assembled horizontally on a level surface, using S-Lite connecting components for seamless integration.



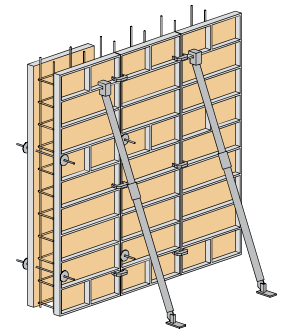
2. Formwork Assembly:

- Uniformly spray release agent on the formwork sheathing for easy demolding.
- Attach the crane suspension tackle to the S-Lite lifting hook (Max. load capacity = 500 kg per hook).
- Ensure S-Lite panels are securely braced at every phase of construction.
- Fix the first panel to the ground with a panel strut to prevent it from falling over. Do not use a sledgehammer to plumb the panels as it can damage the profiles; use appropriate plumbing tools instead.
- Continue aligning and clamping panels, attaching panel struts. The assembly can then be precisely plumbed and aligned.



3. Erecting the Opposite Formwork Unit:

- After placing reinforcement, close the formwork.
- Apply release agent to the opposite formwork unit and use a crane to relocate it to the required position.
- Stand up the first panel of the opposing formwork.
- Fit form-ties before disconnecting the crane.
- If the opposite formwork lacks push-pull props, do not disconnect the crane until enough form-ties have been installed to stabilize the entire assembly.
- Install the remaining form-ties and continue aligning, clamping, and fitting form-ties for the rest of the panels.

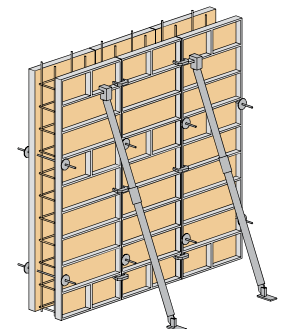


4. Mounting the Pouring Platform and Ladderway:

- Mount the pouring platform and attach guard-rails where necessary.
- Ensure that the multi-panel gangs without opposing formwork and with pouring platforms and push-pull props are fixed to the ground to prevent slippage.

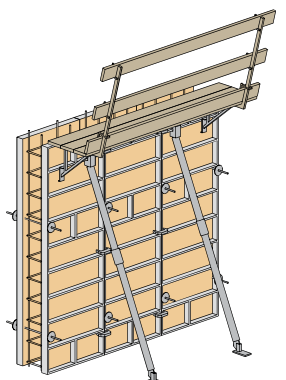
5. Pouring Concrete:

- Pour concrete within the maximum permissible rate to ensure structural stability.
- Use vibrators moderately, coordinating their usage time and location to comply with standards.
- Ensure concrete compaction by vibration adheres to relevant standards.
 - Clean the rear wall of the formwork with water immediately after pouring.



6. Striking and Moving Formwork to the Next Location:

- Adhere to the minimum striking times specified by the structural engineer.
- Remove loose items from the formwork and platforms.
- Attach the opposite formwork unit to the crane before removing form-ties and undoing panel clamps.
- To expedite crane operations, pre-remove most form-ties, ensuring sufficient ties remain to maintain formwork stability.
- When stripping formwork, avoid using the crane to break cohesion between concrete and formwork to prevent crane overload. Instead, use appropriate tools like timber wedges or a pry-bar to detach the formwork from the concrete.
- Hoist the formwork unit and either store it temporarily or lift it to its next location.
- Clean residual concrete off the formwork sheathing for reuse.

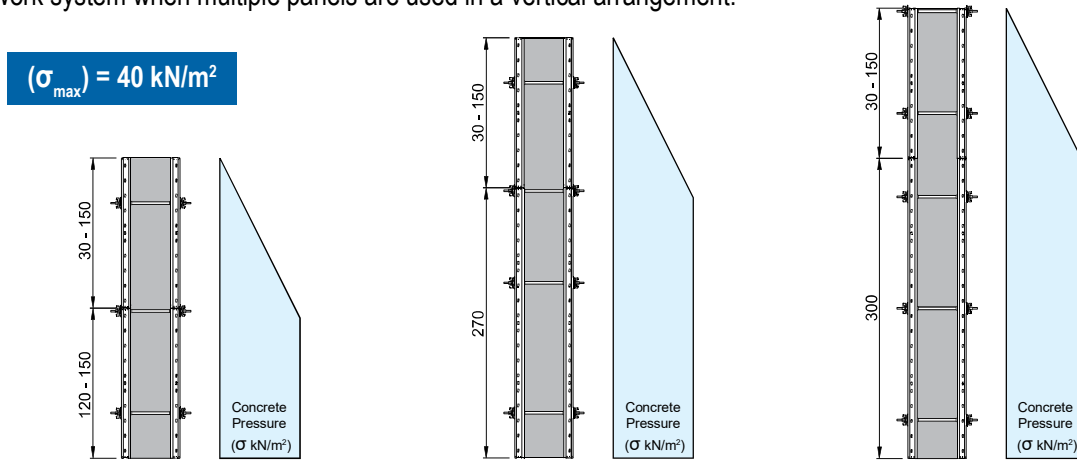


7. Notes for Crane-Handled Formwork:

- Large multi-panel elements can be pre-assembled face-down on a level screed floor.
- These gangs can be lifted and reset with lifting chains and lifting hooks.
- The S-Lite Lifting Hook must only be used for its intended purpose.
- Always inspect the S-Lite lifting hook for any signs of damage or deformation before use. If the lifting hook is damaged, remove it from use immediately.
- Do not use the lifting hook on damaged (dented) panels.
- Position the S-Lite lifting hook over the inter-panel joint to prevent sliding. For horizontal panels, place the hook over a cross-profile.
- Suspend the multi-panel formwork unit symmetrically at the center of gravity.
- It is recommended to use two lifting hooks. The maximum angle of lifting chains should be 60°.

Permissible Fresh Concrete Pressure

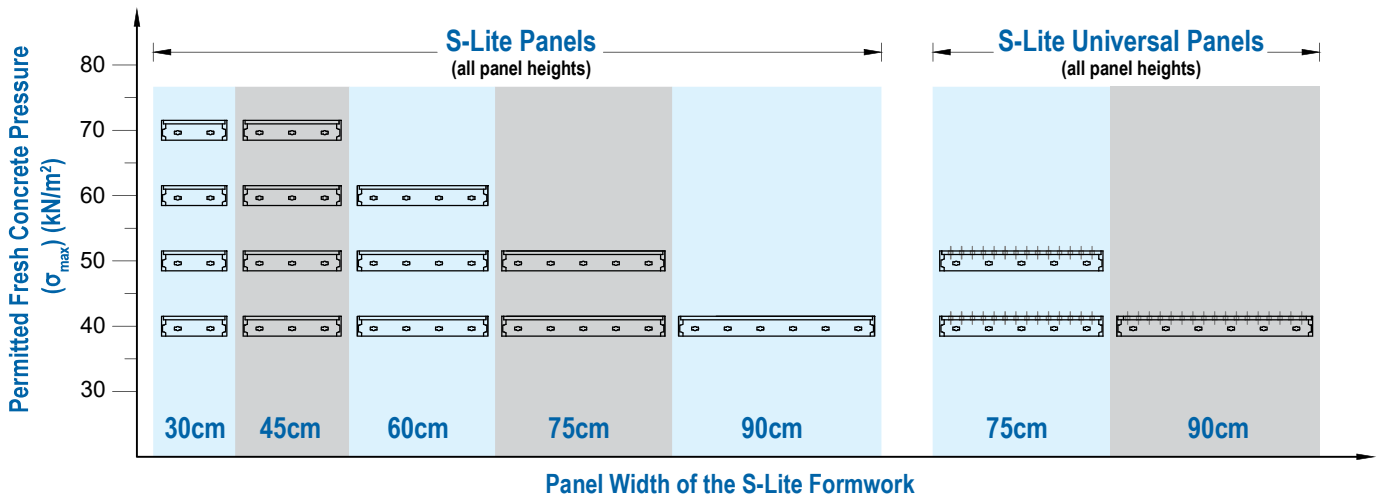
The S-Lite panels are designed to withstand hydrostatic loads of 67kN/m² up to a concreting height of 2.70m. When the panels are stacked, a maximum concreting pressure of 40kN/m² is permissible. These specifications ensure that S-Lite panels are used within their designed limits, providing safety and structural stability during concrete pours. When S-Lite panels are vertically stacked, the permissible fresh concrete pressure is limited to 40kN/m². This specification is crucial for ensuring the structural integrity and safety of the formwork system when multiple panels are used in a vertical arrangement.



When designing vertically stacked S-Lite panels, if the required permissible lateral fresh concrete pressure exceeds 40kN/m², certain design modifications must be implemented to ensure structural integrity and safety. Specifically, the design should incorporate panels of smaller widths to accommodate higher lateral pressures. The relationship between permissible fresh concrete pressure and maximum panel width is critical for maintaining safe design standards. The figure below illustrates this relationship, detailing how allowable pressures vary with panel width for vertically stacked configurations.

For instance, when the fresh concrete pressure increases to 60kN/m², only panels with widths of 0.60m, 0.45m, and 0.30m are permissible. If the fresh concrete pressure rises to 70kN/m², only panels with widths of 0.45m and 0.30m can be used. All other S-Lite accessories can withstand a fresh concrete pressure of up to 70kN/m².

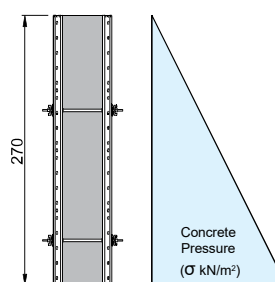
Permitted Fresh Concrete Pressure as a Function of the Maximum Panel Width



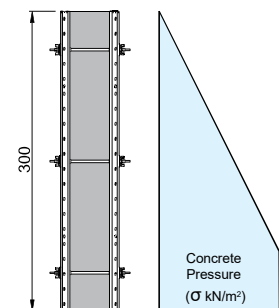
S-Lite Panels (2.70m) - Maximum Pour Height= 2.70m

These panels can withstand a maximum hydrostatic pressure of 67.5kN/m². This value represents the maximum permissible pressure (σ_{max}) that the panels can endure when subjected to the lateral pressure of fresh concrete up to a height of 2.70m.

$(\sigma_{max}) = 67.5\text{kN/m}^2$

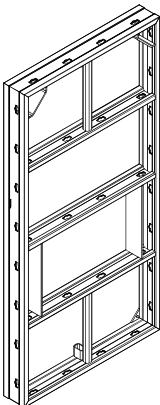
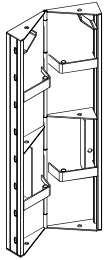
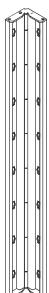
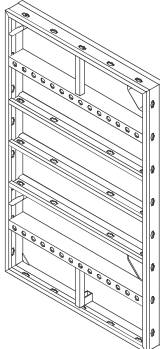
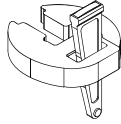
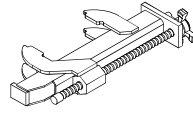
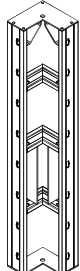
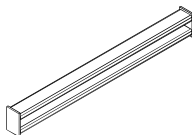
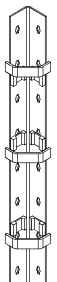
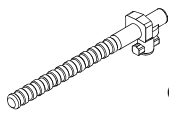
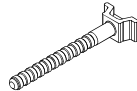




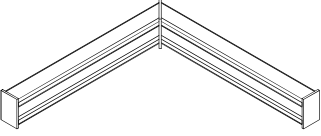
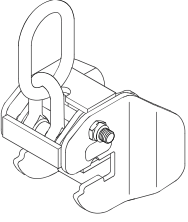
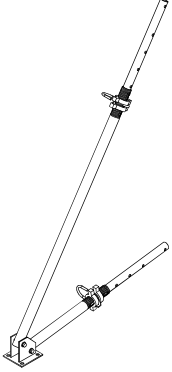

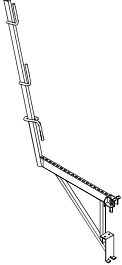
$(\sigma_{max}) = 60\text{kN/m}^2$



S-Lite Panels (3.00m) - Maximum Pour Height= 3.00m

These panels are designed to support a maximum permissible pressure (σ_{max}) of 60kN/m².

		Wt. (kg)	Code			Wt. (kg)	Code
S-Lite Panels				S-Lite Hinged Inside Corners			
	S-Lite panel 0.30mx1.20m	20.3			S-Lite hinged inside corner 1.20m	34.8	
	S-Lite panel 0.45mx1.20m	24.8			S-Lite hinged inside corner 1.50m	41.3	
	S-Lite panel 0.60mx1.20m	30.3		Galvanised or powder-coated			
	S-Lite panel 0.75mx1.20m	32.9					
	S-Lite panel 0.90mx1.20m	39.3					
	S-Lite panel 0.30mx1.50m	25.3					
	S-Lite panel 0.45mx1.50m	29.7					
	S-Lite panel 0.60mx1.50m	35.6					
	S-Lite panel 0.75mx1.50m	38.2					
	S-Lite panel 0.90mx1.50m	47.0		S-Lite Hinged Outside Corners			
Galvanised or powder-coated	S-Lite panel 0.30mx2.70m	39.6			S-Lite hinged outside corner 1.20m	13.0	
	S-Lite panel 0.45mx2.70m	51.5			S-Lite hinged outside corner 1.50m	16.6	
	S-Lite panel 0.60mx2.70m	62.6		Galvanised or powder-coated			
	S-Lite panel 0.75mx2.70m	71.9					
	S-Lite panel 0.90mx2.70m	78.7					
	S-Lite panel 0.30mx3.00m	44.2					
	S-Lite panel 0.45mx3.00m	55.8					
	S-Lite panel 0.60mx3.00m	64.3					
	S-Lite panel 0.75mx3.00m	76.0					
	S-Lite panel 0.90mx3.00m	90.8		S-Lite Clamp Device			
S-Lite Universal Panels				1.20			
	S-Lite universal panel 0.75x1.20m	39.9			Galvanised		
	S-Lite universal panel 0.75x1.50m	51.0					
	S-Lite universal panel 0.75x2.70m	81.9		S-Lite Adjustable Clamp			
	S-Lite universal panel 0.75x3.00m	91.6			Galvanised		
	Galvanised or powder-coated						
S-Lite Inside Corner				S-Lite universal waling			
	S-Lite inside corner 1.20m	25.8			S-Lite universal waling 0.70m	3.9	
	S-Lite inside corner 1.50m	32.2			S-Lite universal waling 1.25m	6.6	
	S-Lite inside corner 2.70m	52.6		Galvanised			
	S-Lite inside corner 3.00m	58.1					
	Galvanised or powder-coated				S-Lite Contact Device		
S-Lite Outside Corner				1.20			
	S-Lite outside corner 1.20m	11.5		Galvanised			
	S-Lite outside corner 1.50m	12.8					
	S-Lite outside corner 2.70m	24.9		S-Lite Universal Bolts			
	S-Lite outside corner 3.00m	25.2			Galvanised		
	Galvanised or powder-coated						
S-Lite T-Bolts				0.45			
					Galvanised		

	Wt. (kg)	Code
Anchor plate 15  Galvanised	1.10	
Hexagon nut 15  Galvanised	0.23	
S-Lite Corner Waling 	4.7	
S-Lite Lifting Hook  <p>Max. load: 500 kg per lifting hook Galvanised</p>	7.5	
Double Push-Pull Prop  <p>Double Push-Pull Prop 350 31.0 Double Push-Pull Prop 600 51.0</p>		
S-Lite Push-Pull Prop Head  Galvanised	1.0	
S-Lite Access Bracket  <p>Galvanised Length: 98 cm Height: 157 cm</p>	7.6	

Wt. (kg) Code



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