

# STRUCTURAL STEEL DECKING

## Frequently Asked Questions

### 1 What is a composite slab?

Composite slabs comprise reinforced concrete cast on top of profiled steel decking, which acts as formwork during construction and reinforcement at the final stage. Composite slabs are commonly used (with steel beam) in a wide range of building types and applications, such as commercial, industrial and residential buildings. Figure 1.0 shows the typical built-up of composite slabs with LYSAGHT® structural steel decking products.

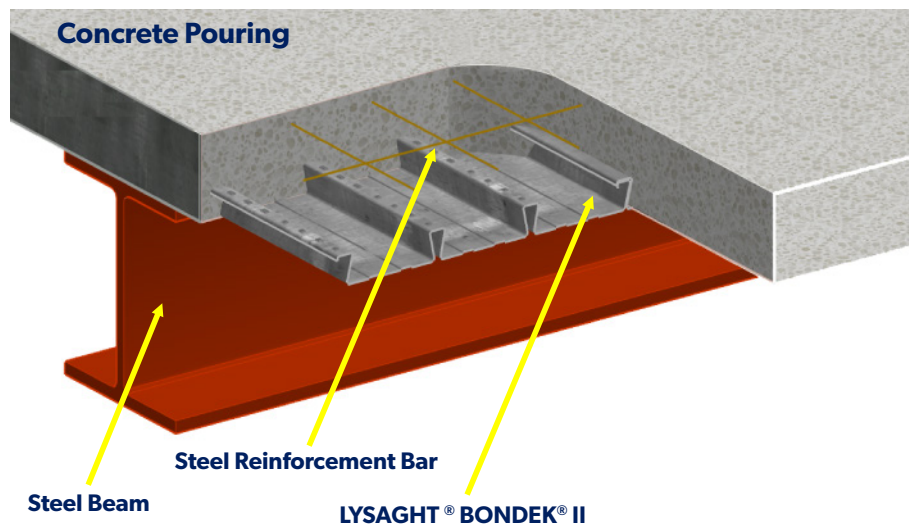


Figure 1.0 Composite Slab Typical Built-Up

### 2 What are the advantages of steel decking in composite slabs?

#### Speedy, Safe Construction

One advantage of steel decking is its speedy erection. The steel sheet can leave in place and utilised as bottom reinforcement for the concrete slab. The embossments on the top of the ribs provide added grip, or mechanical interlocking, with the concrete as done in normal reinforcement.

Another is that the steel sheet is roll-formed with safety features – embossing and flutes in the pan, which can minimise slip. Further, the steel decking profiles are designed to inhibit any longitudinal slip between the steel and concrete in the slab itself, and any transverse movement between the slab and the supporting beams.

#### Less Concrete Usage & Saving In Weight

Due to the ribbed design, the concrete required for the slab is reduced for any slab depth without compromising the strength of the structure or the fire performance. Results on the weight and size of the primary structure can be reduced. Consequently, foundation can also be reduced.

#### Unbeatable Strength

When the steel and concrete composite slabs are constructed, they are lighter and stronger than conventional slabs.

### 3. Which LYSAGHT® products can be used for metal floor decking?

BONDEK® II & SMARTDEK®

### 4. What type of building applications can LYSAGHT BONDEK® II & SMARTDEK® be used in?

Both the BONDEK® II & SMARTDEK® are suitable to be used for all type of building especially high rise building for floor construction. However, the spanning capacity of BONDEK® II is slightly higher than SMARTDEK®.

### 5. What is the spanning capacity of LYSAGHT BONDEK® II & SMARTDEK® as formwork?

The maximum span for formwork usage depending on the thickness of the slab, the profile thickness and the deflection limit. Suggested span requirements for specific profiles can be found in [Product & Solutions](#) or within the [Product Catalogue](#).

### 6. What is the design criteria determine the slab thickness support by LYSAGHT BONDEK® II & SMARTDEK®?

Types of Design	Formwork	Composite Slab
Design Criteria	Depending on the span requirement, type of support and deflection limit.	Depending on the span requirement, superimposed dead load, live load, fire rating, concrete grade, type of support and deflection limit.

### 7. Is it necessary to add fire protective coating to LYSAGHT BONDEK® II & SMARTDEK®?

Not necessary.

### 8. Can LYSAGHT® Structural Steel Decking products be fire-rated?

Yes, the fire resistance test of composite slabs using BONDEK® II & SMARTDEK® have been conducted and obtained BOMBA certificate.

## 9 Is LYSAGHT® decking composite slab suitable or recommended to be used for wet areas like roof terraces or toilets?

LYSAGHT® Structural Steel Decking products such as BONDEK® II & SMARTDEK® can be used in such case subject to the waterproofing specialist is able to ensure that there is zero water leakage through the slab.

## 10 What is the better way to secure the edge form to LYSAGHT® Structural Steel Decking products?

Edge form is a simple C-shaped section that simplifies the installation of most composite slabs with LYSAGHT® structural steel decking. It is easily fastened to the LYSAGHT® steel decking sheeting, neatly retaining the concrete and providing a smooth top edge for quick and accurate screeding. We make it to suit any slab thickness.

Edge form is easily spliced and bent to form internal and external corners of any angle and must be fitted and fully fastened as the sheets are installed. There are various methods of forming corners and splices. Some of these methods are shown in Figures 2.0 and 3.0.

Fasten edge form to the underside of unsupported LYSAGHT® steel decking panels every 300mm. The top flange of edge form must be tied to the ribs every 600mm with hoop iron 25mm x 1.0mm (Figure 3.0 and 4.0). Use 10-16 x 16mm self-drilling screws.

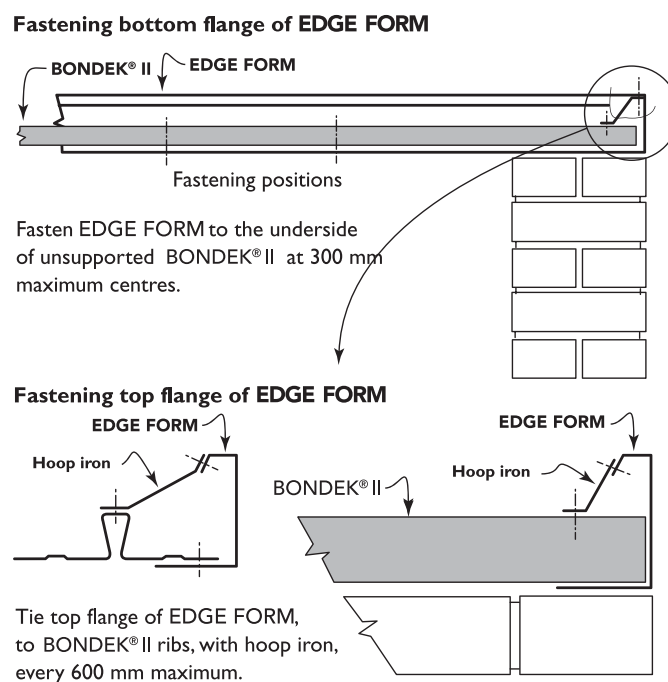


Figure 2.0 Typical fastening of edge form to BONDEK® II

**External corner**

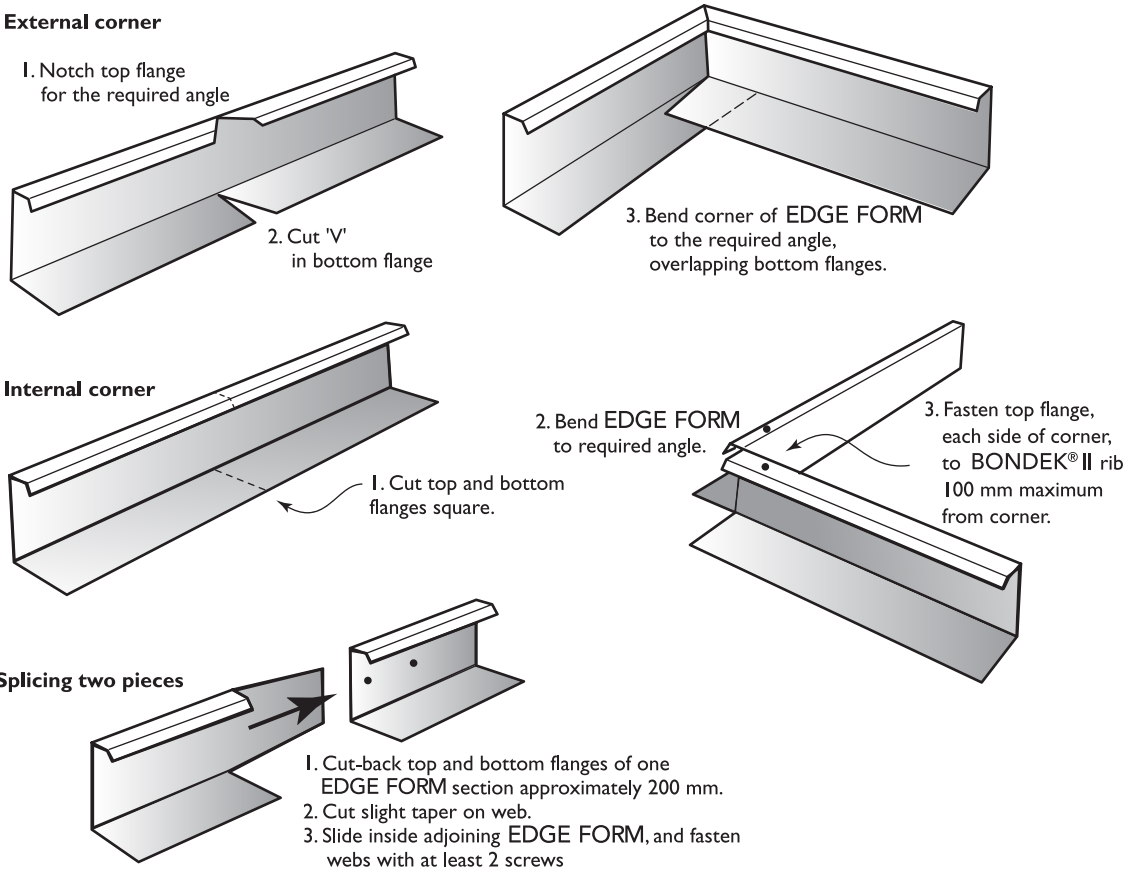


Figure 3.0 Fabrication of formwork is easy with edge form

**EDGEFORM**

A galvanised section that creates a permanent formwork at the slab edges-cut, mitred and screwed on site. Stock slab depths: 100, 125, 150 mm (others to special order). Stock length: 6100 mm

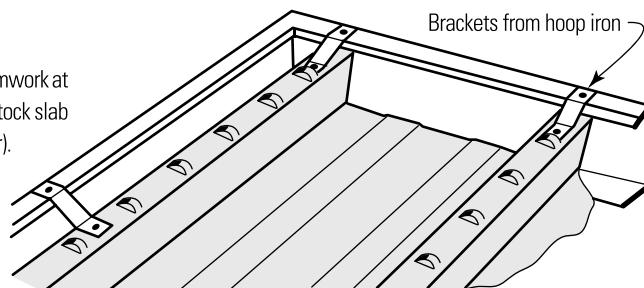


Figure 4.0

The method and advice for fitting edge form can be found on within the [BONDEK II Product Catalogue](#), page 38, item 4.2.9.

After reading this FAQs, if you still find yourself needing further explanation, or you would like to schedule a meeting, contact us today.



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