

## Bi-Steel

A construction system for the simplest to the most demanding applications



## Corus Bi-Steel

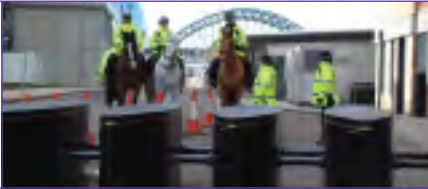
is a highly adaptable construction material, ideally suited to performance critical environments.



Corus Bi-Steel can be used in all applications that are suitable for in-situ cast, pre-cast concrete or blockwork.

# Adaptable Bi-design





### High performance

Bi-Steel® combines steel and concrete in a high performance, rapid erect construction system. Bi-Steel excels where strength or speed of construction are of vital importance.

Bi-Steel has inherent blast resistance characteristics which means that Bi-Steel structures can provide unrivalled protection from explosions.

Corus Bi-Steel offers a complete service, from concept design through to manufacture, fabrication and construction, providing full project management.

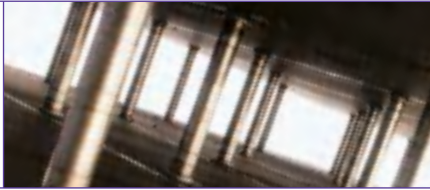
### Key applications include:

- Blast protection for commercial, industrial and defence structures
- Buildings and high-rise building cores
- Offshore wind turbine foundations
- Offshore oil & gas structures
- Civil engineering structures
- Blast chambers
- Anti-attack vehicle barriers
- Tunnel walls and barriers
- Trench linings



## Superior performance

**Bi-Steel provides advantages at every stage of a construction project from design and construction to occupancy or commissioning.**



Bi-Steel is a hybrid modular construction material, offering enhanced strength and buildability for a wide range of construction and engineering applications. Bi-Steel structures are based on steel-concrete-steel composite technology.

Each panel comprises two steel plates, separated by an array of transverse steel bars.

These panels form the basis of modular structures that are rapidly assembled and filled with concrete resulting in full strength Bi-Steel structures.

# Designed for speed and strength



Corus Bi-Steel uses the strength of steel and concrete to create an effective hybrid solution.



### Benefits for designers

Enables designers to provide clients with added-value solutions that offer enhanced safety for in-service and extreme loads at no extra cost.

- Bi-Steel is a highly flexible construction material which enables designers to offer their clients optimised structural solutions
- Panels can be produced to order, with thickness, materials and sizes to suit the needs of individual projects
- Curved panels enable structures to be built that would not be possible with either steel or concrete
- Designers can specify practical interfaces with foundations, secondary structures, architectural systems and attachments
- Design software and guidance is available to make the design process straightforward.

### Benefits for contractors

Modular construction methods make assembly fast, straightforward and reduce costs.

- Reduced construction time and minimum on site labour mean lower costs and reduced site overheads
- Bi-Steel systems have built in construction aids and rapid erect connection details making on site construction easier, faster and safer
- Corus provides just in time delivery reducing the pressure on site storage space
- Modules are lighter and thinner than equivalent strength reinforced concrete panels, which makes them easier to handle without the need for heavy cranes and reduces the demand for cranes
- Construction operations are reduced because minimum temporary works are needed and the concrete filling is straightforward requiring no formwork.

### Benefits for end users

Cost effective performance.

Whatever the application Bi-Steel structures are designed and built to achieve strength, performance in use and reduced on site construction.

- Enhanced strength and the highest levels of protection in the event of fire, vandalism, explosions, extreme weather and other hazards
- Structures are designed to be constructed or installed rapidly generating revenue sooner
- Aesthetics: Bi-Steel structures can accommodate all conventional internal and external finishes
- Stainless steel face plates are available for corrosion resistance in applications where subsequent maintenance is difficult.



## Design strengths

The expertise of our design team is at your disposal.

# Dedicated design team

Our technical team works with clients and their project team to design a Bi-Steel structure that meets requirements. The business has expertise in structural and civil engineering, offshore engineering, explosion and fire engineering and force protection as well as Bi-Steel.

To gain full benefit from innovative design Bi-Steel structures are incorporated at project concept stage. What's more Bi-Steel has saved clients time and money and provided added value during on-site construction phase.

- In-house design service or support to third party designers
- Design is supported by comprehensive design guidance and software.



### Precision-built panels

Bi-Steel panels are factory produced to ensure consistently high quality so that fabrication and final assembly are trouble free.

By sourcing high quality plate and bar materials from Corus' own mills there is full control of material consistency.

The bar connectors are welded to the plates by a patented friction welding process, which is used extensively in the automotive industry for critical components.

### Quality

Stringent quality control procedures monitor the entire production process very closely. Weld quality is monitored as each panel is produced and the critical weld parameters are constantly checked to make sure they fall within a tight target range.

- All processes are quality assured
- Design and project management to ISO 9001 approved systems.



### Health & safety

Off-site pre-fabrication and the speed of assembly significantly reduce the time and number of activities required in construction and therefore minimises the risks to the health & safety of construction workers.

**For more detailed technical information, please log on to our website at [www.bi-steel.com](http://www.bi-steel.com)**

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# www.bi-steel.com

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**Corus Bi-Steel**  
Crowthorne Business Estate  
Old Wokingham Road  
Crowthorne  
Berks RG45 6AW  
United Kingdom  
T +44 (0) 1344 751670  
F +44 (0) 1344 751671  
E [bi-steel@corusgroup.com](mailto:bi-steel@corusgroup.com)  
[www.bi-steel.com](http://www.bi-steel.com)



For the latest information  
on Bi-Steel, visit our  
website

[www.bi-steel.com](http://www.bi-steel.com)

or call on

**+44 (0)1344 751670.**



**Bi-Steel**

T +44 (0) 1344 751670  
F +44 (0) 1344 751671  
E [bi-steel@corusgroup.com](mailto:bi-steel@corusgroup.com)  
[www.bi-steel.com](http://www.bi-steel.com)

**Corus Bi-Steel**  
Crowthorne Business Estate  
Old Wokingham Road  
Crowthorne  
Berks RG45 6AW  
United Kingdom