

# constructsteel

Monthly update for the construction industry

November 2021



constructsteel

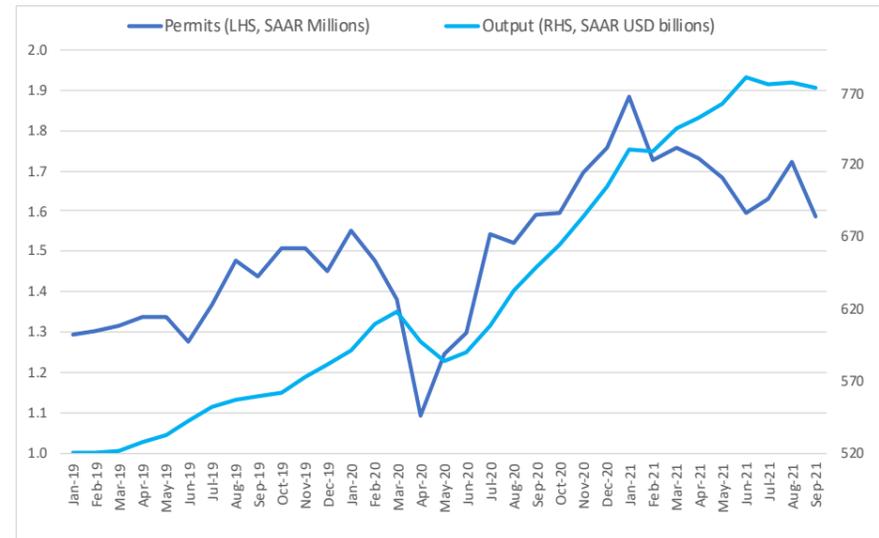
## Construction market trends

**United States** Shortages and expensive building materials acting as a drag on homebuilding; private non-residential output improving.

Private residential output down -0.4% m-o-m (19% y-o-y) in September; building permits down -7.8% m-o-m (0.2% y-o-y) to lowest since August 2020. Private non-residential output down -0.4% m-o-m (-0.5% y-o-y). Architecture Billings Index (ABI) at 56.6 in September as architecture firms report strong business conditions (>50, expansion).

Private residential permits vs output

Source: US Census, American Institute of Architects

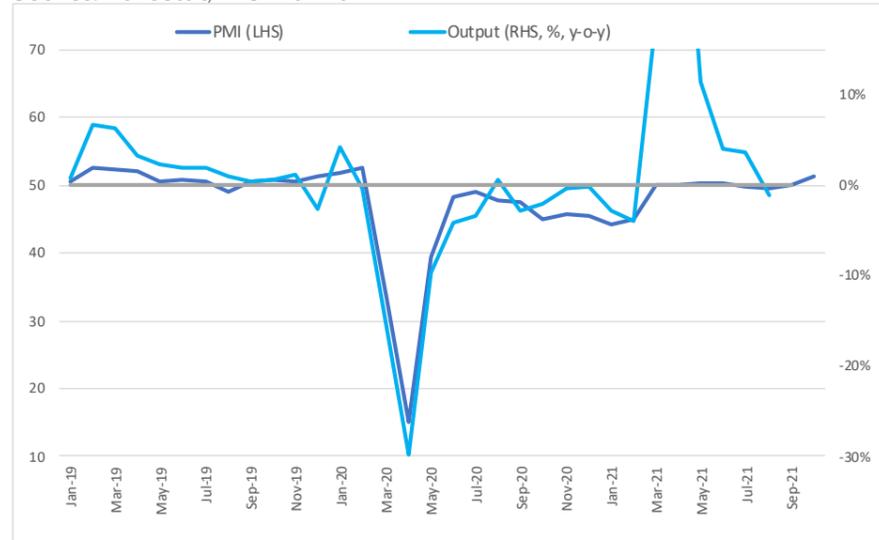


**Europe** Construction continues to stabilise with Eurozone construction PMI seeing sharpest increase since the onset of the COVID-19 pandemic.

Eurozone output down -1.3% m-o-m in September (-1.1% y-o-y). IHS Markit Eurozone Construction PMI rose to 51.2 in October and highest since February 2020 due to stronger demand and increasing workloads (> 50, expansion).

Eurozone construction output vs PMI

Source: Eurostat, IHS Markit



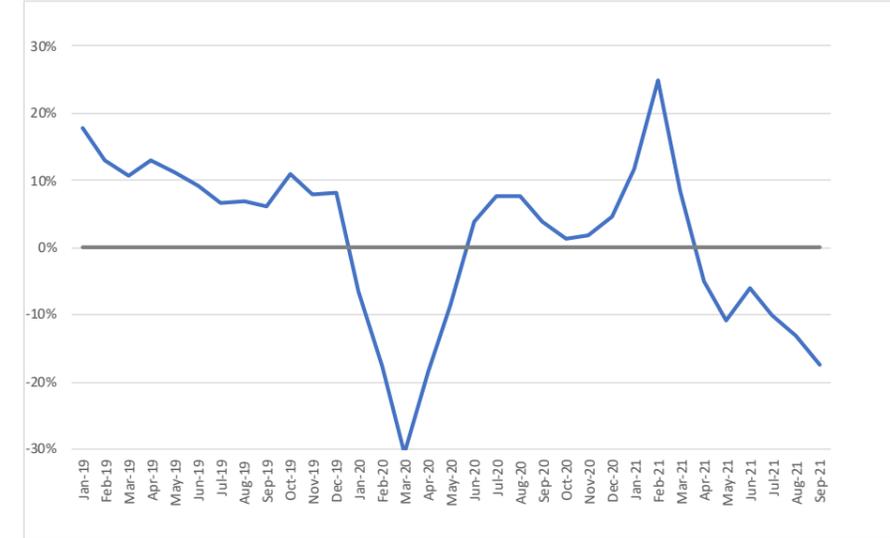
Knowledge partner:  
**McKinsey & Company**

**China** Downward adjustment in residential real estate continues.

3 month moving average y-o-y growth in floor space started fell -17.4% in September; floor space sold was down -12.5% during same period

Floor space started (3 month moving average, %, y-o-y)

Source: National Bureau of Statistics of China

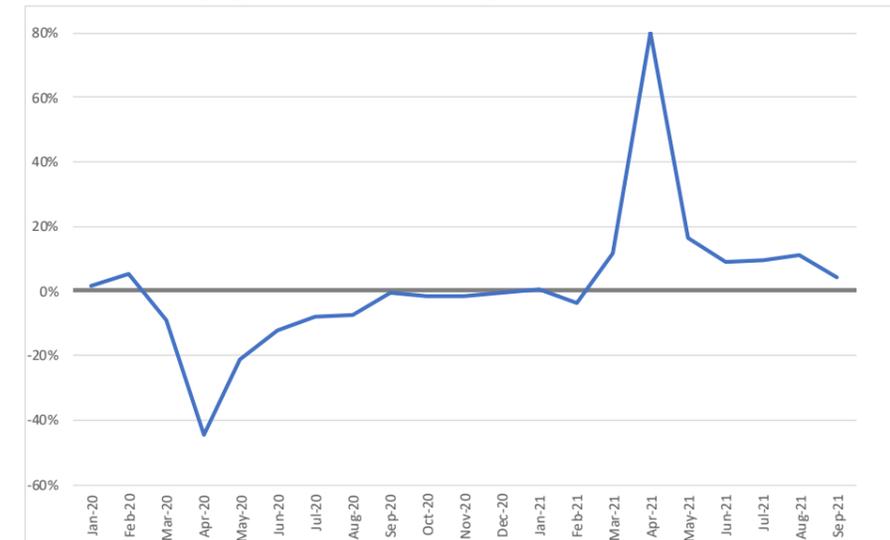


**India** Temporary slowdown in September core activities due to heavy rainfall impacting construction.

Weighted average of eight core industries output up 4.4% y-o-y in September; production of steel and cement up 3% and 11% y-o-y respectively.

Weighted average of eight core industries industrial production (% y-o-y)

Source: Ministry of Commerce & Industry, India



## Special topic: Developing solutions that respond to customer needs



**Dutt Thirumalai**

International Business Development Manager,  
Saint-Gobain



Saint-Gobain has been at the forefront of innovation in offering lighter and sustainable solutions to make the world a better home. We continue to strive for excellence in offering world-class performance solutions that help in keeping the planet greener, homes more comfortable and with ability to adapt to changing needs, as well as office and commercial spaces that are flexible and innovative helping with productivity and providing a better user experience.

With the rising need to address climate change and raw material depletion, we strongly believe in solutions that are local, accessible and that respond to the needs of our customers. We understand the growing demand for materials in solutions that use less resources, are easily recyclable and/or easily adaptable, that perform for the lifetime of buildings and beyond. This means using lighter and high-performance materials that, in the sum effect of a combined system, deliver better comfortable space as well as easier installation.

This also means utilising lighter materials such as gypsum, insulation, and steel to deliver affordable and sustainable buildings for the future that maximise internal space and capture the needs of the occupants for years to come.

With the importance of building faster, cleaner, and resource-efficient buildings whilst consuming less CO<sub>2</sub>, it is well established that steel can provide part of the solution alongside concrete and timber. What is unique though is steel is 100% recyclable and usage of recycled steel also minuses energy demand for production of new steel components. Steel buildings also perform well in demanding conditions including seismic zones and as they are lighter, demand less resources overall during build phase offsetting the carbon impact of production.

Steel buildings could save up to 15% of foundation costs on average and in combination with other lighter above-ground solutions of lighters walls, façade, floors, and roof. An example from Saint-Gobain is our Isover F4 facades which is factory fabricated



and delivers solutions with 10 times less CO<sub>2</sub> during production than traditional façades. The same is true for prefabricated wall panels with steel frame that are lighter and easily transportable to job sites.

With green hydrogen steel production for the future and sustainably sourced electric-arc furnace steel, the argument for steel buildings is ever stronger and is set to grow. Saint-Gobain realises the importance of this construction method and is able to offer a number of solutions to address acoustics, fire, thermal, moisture management, and comfort requirements of steel framed buildings.

Steel framed construction also lends itself to off-site construction technology that enables further minimisation of resources, improved performance, reduced time to build and improved finish expectation of buildings' end users. At the end of the natural life cycle of the building, the components that go into these solutions can be dismantled and reused too with minimal intervention which further amplifies the sustainability credentials.

Addressing the issue of sustainability with industry players and associations like the World Steel Association, and programmes such as constructsteel is even more important to deliver on ambitious sustainability goals of corporations and countries where it is no longer a question of commitment but a race to be relevant in the future. There is more innovation in this area to be delivered including responsive materials that adapt to environment, materials that contribute to whole steel structural integrity thereby optimising components and easy de-mountability and full transparency through system Environmental Product Declarations (EPDs) and whole-building Life Cycle Assessments (LCAs).

Saint-Gobain has been working closely with constructsteel supporting the activity and building relationship with steel companies to mutually benefit our businesses. Given the challenges mentioned above, it is more important than ever to foster on these relationships, enhance collaboration activities and support each other in accelerating the message and delivering success for all.

**Technical trends:**  
 Ensuring adaptation and resilience to climate change  
 McKinsey & Co – Voices on Infrastructure



This article was first published in McKinsey's Global Infrastructure Initiative Voices on Infrastructure publication – September 16, 2021

to pave over streams and green spaces have reduced the protection offered by trees, plants, and natural drainage. As the most recent Intergovernmental Panel on Climate Change report noted, “ongoing urbanization together with more frequent, longer and warmer heat waves will make cities more exposed to global warming.”

The impacts of climate change are not felt equally by all residents. Poorer communities, the sick, and the elderly are more at risk. For example, rapid urbanization is leading to bigger, more crowded informal settlements, which often lack the resources to withstand the cyclones or flooding that climate change could bring. The challenge of ensuring that those who contributed least to climate change don't suffer the most

is both global and local.

In just the past few months, we have seen the immediate threats posed by climate change. Extreme heat and wildfires have claimed hundreds of lives in Western Canada and the United States. Hundreds have died, and there has been major property damage due to unprecedented floods in Belgium and Germany. There is no question that protecting urban residents and the infrastructure that supports them requires urgent action.

Ensuring successful adaptation requires going beyond simply executing new projects; there is also a need to incorporate resilience into existing projects, develop innovative financing structures to unlock adaptation investment, and plan the built environment for

improved adaptation. While infrastructure players are beginning to invest in building resilience, many are looking for guidance on where to begin. With this in mind, C40 Cities—a network of 97 global cities dedicated to addressing climate change—and McKinsey Sustainability set out to identify a starting set of 15 high-potential actions for cities to consider.

Some of these actions build “systemic resilience,” meaning they improve a city's ability to withstand and recover from a range of hazards (see exhibit). Almost all cities should develop a basic understanding of climate risks and their impact, incorporate these risks into planning, develop early-warning systems, and ensure financial backstops for damages. [Exhibit]

A friendly green oasis in the bustle of central Singapore, Bishan-Ang Mo Kio Park was long defined by a three-kilometer concrete canal that ran along its southern border. The canal often overflowed, flooding nearby roads.

In 2009, Singapore began stripping away the concrete, converting the canal into a meandering river. The result not only is more beautiful but also provides better drainage and water quality. Even the local

wildlife approves. The new waterway has brought more biodiversity to the park, including otters and a wide variety of birds.

This effort is an example of a growing trend in cities around the world: the use of natural features to manage the movement of water and reduce the risk of flooding. More broadly, it is an example of how cities are adapting to the realities of a rapidly changing climate.

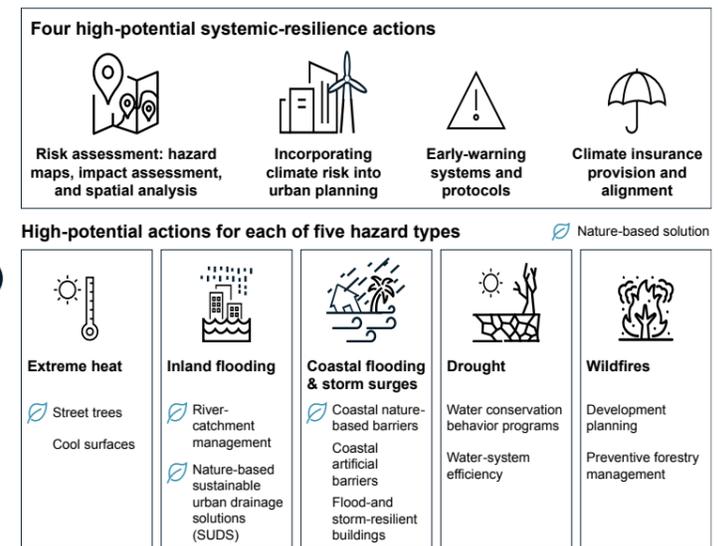
Situated on the front lines of climate change, cities are already home to most of the world's people—and they're still growing. Moreover, they are often sited on coastlines and the floodplains of major rivers. That makes them vulnerable to rising seas and flooding.

At the same time, urban buildings and roads absorb and reflect the sun's heat, making cities considerably hotter than surrounding areas. Historic decisions

**Focused Adaptation aims to help leaders embark on adaptation**

*Focused Adaptation* aims to reduce the complexity of adaptation for city leaders by identifying a short -list of adaptation actions leaders could evaluate for their city

- 1 **Compiled over 100 of the most -common adaptation actions** which build resilience to five physical climate risks
- 2 **Assessed and scored the risk reduction potential** of all actions relative to each other based on quantitative case studies, peer -reviewed impact research, and expert perspective
- 3 **Assessed and scored the relative complexity of implementation** for all actions in terms of financial cost, infrastructure difficulty, and stakeholder complexity
- 4 **Identified the highest -potential actions cities could considering adopting** using a benefit by feasibility matrix
- 5 **Grouped cities into “typologies”** based on economic, built -environment, and governance variables to assess whether the highest potential actions differed based on these variables; concluded that roughly the same actions rose to the top for all typologies



Other actions are specific to certain hazards, meaning they reduce the impact of a particular threat, such as heat or floods, or enhance a city's ability to recover from it. Examples include installing cool roofs, restoring wetlands, planting street trees, and managing river catchment.

For each action, C40 and McKinsey offer real-life examples of how they can work. Many not only build resilience but also provide additional benefits, such as cutting greenhouse-gas emissions or air pollution:

- When Madrid's Mercamadrid fish market installed a roof painted white to reflect the sun, temperatures inside the building fell by 5 degrees Celsius.
- Planting street trees brings shade and reduces temperatures while making cities more beautiful; Medellín's Green Corridors project serves as an excellent example.
- Retrofitting public infrastructure can be expensive up front but can ultimately pay for itself. According to the US National Institute of Building Sciences, building retrofits to make structures more resistant to hurricanes

can create \$6 in value for every \$1 spent.

Improving drainage reduces the risk of flooding and is also good for the creatures who live in and along riverbanks, as the otters in Bishan-Ang Mo Kio Park in Singapore display.

Effectively delivering on these 15 adaptation actions will require collaboration across the public and private sectors, including mobilization of both public and private capital. Some of these actions, such as building barriers to protect coastal areas, are expensive. Others, such as planting street trees and initiating behavioral-change programs, are relatively cheaper. Every city, regardless of wealth, can do something along the following core elements:

1. Governance structures to build accountability that adaptation plans are integrated into a city's climate strategy
2. Strategic planning to ensure that climate adaptation is a core part of city growth and is updated regularly
3. Monitoring and reporting processes to illustrate adaptation progress and assess impact
4. Capacity building and stakeholder

management to increase society's climate awareness, as well as the capabilities of government employees, citizens, and even firms

5. Finance planning to establish collaborations with different institutions and long-term, continuous funding

During the 2017–18 water crisis, Cape Town, South Africa, introduced a creative campaign to encourage residents to curb water use. The campaign sponsored activities, such as school competitions, and used a series of nudges, such as promoting two-minute songs to sing to limit time spent in the shower, to lower water use. It worked: Cape Town managed to cut water use by more than half.

The global climate crisis is under way. Lives, livelihoods, and infrastructure are already at risk. Cutting emissions is critical, but it is also a long-term effort. In the meantime, cities can act now to protect their people and create a more resilient and hopeful future.



## Construction steel news headlines

### construction market and regulations

Nearly a fifth of US metro areas lost construction jobs between September 2020 and September 2021. An economic recovery for the construction industry is being undermined by Washington's failure to boost infrastructure investments and continuing supply chain disfunction, members of Congress in the House are being urged to quickly pass an infrastructure bill that already received broad, bipartisan support in the Senate. [Link](#)

The UN has praised a pledge made by 40 of the world's leading cement and concrete manufacturers to cut CO2 emissions by 25% by 2030, and to be net zero by 2050. The promise by the Global Cement and Concrete Association (GCCA) has been signed by companies from around the world, including Cemex, China's CNBM, CRH, HeidelbergCement and Holcim. GCCA members account for 80% of the global cement industry volume outside China, while also including several large Chinese manufacturers. [Link](#)

Construction growth to outpace manufacturing this decade, says new global forecast by Oxford Economics and Marsh McLennan companies Marsh and Guy Carpenter. Construction will be an engine of global economic growth in the decade to 2030, with output expected to be 35% higher than in the ten years to 2020, according to a new global forecast. Authors say extra output in the decade will amount to \$4.5 trillion, giving construction an output worth \$15.2 trillion by 2030 and 13.5% of global GDP. [Link](#)

Construction prices in Germany rising at fastest rate in 50 years. Material shortages and a boom on the German housing market are fuelling the biggest price increase in building costs since 1970. According to new figures from the Federal Statistical Office, the cost of building conventionally manufactured residential buildings rose 12.6 percent year-on-year in August 2021. The last time such a strong increase was recorded was in November 1970, when prices shot up 13.1 percent compared to the same month of the previous year. [Link](#)

The World Green Building Council is targeting COP26 attendees with a call for governments and industry to take integrated action on issues affecting climate. New report published is intended as a call to action for the built environment industry and policy makers to respond to the climate crisis with both the building and infrastructure sectors acting together. Buildings and infrastructure – must be on a clear path to decarbonise at the latest by 2050 and have made significant progress by 2030. [Link](#)

Vietnam has announced plans worth \$10.5bn to build or upgrade 16 railways with a total length of 4,800km over the next 10 years. The aim is to improve the performance of the domestic system and better connect it with international routes. The Vietnamese government wants to encourage private sector investment from companies and individuals outside Vietnam. [Link](#) In the meantime, India issued a tender for 21km long rail tunnel between for the Mumbai-Ahmedabad High

Speed Rail Corridor. Work will include a 7km undersea stretch, to be constructed using tunnel boring machine and the new Austrian tunnelling method. The total cost of the 508km corridor, which will be India's first high-speed line, has been set at \$15bn. [Link](#)

The European Union makes first investment in hyperloop. Dutch engineering spin-off Hardt Hyperloop has been awarded €15m by the European Commission, the first time that the EU has directly funded the development of the ultra-fast transport concept. The funding will also progress the European Hyperloop Centre in Groningen, set to demonstrate lane-switching for a high-speed hyperloop system in 2023. [Link](#)

### Building materials & construction technologies

The US and the European Union have ended a dispute over steel and aluminium tariffs and said they would work on a global arrangement to combat "dirty" production and overcapacity in the industry. US and the EU plan also to address the existential threat of climate change and production overcapacity in the steel industry, which is one of the biggest CO2 emitters in the world. [Link](#)

World's largest 3D-printed neighbourhood is being created by Texan 3D-printing company Icon, working with American homebuilder Lennar and Danish architect Bjarke Ingels Group. The 100-home development in Austin will use Icon's Vulcan construction

system, capable of building 3,000 sq ft homes using the company's proprietary walling system. 3D printing is taking off around the world as it continues to be used on larger projects. [Link](#)

A University of Tokyo team has created calcium carbonate concrete, a new type of material formed of waste concrete and carbon dioxide captured from the air or industrial exhaust gases. Although described by the university as a "stable" and "durable construction material", it is not strong enough to be a replacement for structural concrete in large buildings. [Link](#)

Built by Nature, an innovation and funding organisation aimed at accelerating the construction of timber buildings across Europe has been launched. The scheme has been backed by big-name firms including Lendlease, Arup and Ramboll; others involved include the sustainable home provider jointly owned by Skanska and IKEA, BoKlok, and architect Waugh Thistleton [Link](#)

Trimble and Microsoft have announced a strategic partnership to accelerate the digital transformation of construction by building the Trimble Construction Cloud powered by Microsoft Azure. By leveraging the Microsoft cloud, the two companies will collaborate to develop, build and deliver industry cloud platforms and solutions that connect people, technology, tasks, data, processes and industry lifecycles. [Link](#)

### construction sector players

Ferrovial sells Spanish Infrastructure Services business to Portobello Capital for €186m. It's a part of company's ongoing strategy based on prioritising infrastructure development,

construction and management. Deal covers transport infrastructure maintenance and upkeep services, healthcare and social welfare support services, facility management and industrial services. When the sale happens, Ferrovial will acquire a 24.99% stake in Portobello Capital for an estimated €20m. Completion of the deal is expected to take place in the first quarter of 2022. [Link](#)

Four senior Katerra women lead US expansion of modular builder, Modulous. London-headquartered modular housing start-up has established a US base in Seattle led by four former executives of Katerra, the high-tech modular pioneer that went bust in June this year. The move came after Modulous raised £5m from venture capital firms. Unlike Katerra, which invested in factories around the US before collapsing under debt amid the pandemic, the Modulous approach is "asset-light", with manufacturing and installation outsourced. [Link](#)

Ibstock to invest £50m in brick slips factory in UK. The new venture, Ibstock Futures, aims to grow the brick maker's presence in the market for façade products in off-site and modular construction. Ibstock said that the UK market for brick slips was approximately 120 million slips a year, and growing fast. However, at present, automated plants in mainland Europe supply around two-thirds of the brick slips used in the UK, with the remainder cut manually from facing bricks in the UK. [Link](#)

North America's top cement maker Cemex posted a net loss of \$376 million in the third quarter, sending shares tumbling 4%, after the company was hit by supply chain disruptions and a spike in energy and transport costs. The company's net loss came even as Cemex reported a 10% rise in quarterly sales,

helped by strong demand in the United States and Mexico. Company had implemented a second round of price increases in the reported quarter for its cement and ready-mix businesses in the United States, with prices up 2% from the prior three months. [Link](#)

French construction giant Vinci's has published its third quarter financial results, showing revenues for the first nine months of 2021 to be €35.8 billion – up 3% compared with the same period of 2019. In the third quarter alone, the company generated revenue of €13.2 billion, up 1% on the equivalent period in 2019. The company highlighted the strong performance of its Construction and Energies divisions, with a nine-month combined order intake of €32.5 billion. [Link](#)



World Steel Association

Avenue de Tervueren 270  
1150 Brussels  
Belgium

T: +32 (0) 2 702 89 00  
F: +32 (0) 2 702 88 99  
E: [steel@worldsteel.org](mailto:steel@worldsteel.org)

C413 Office Building  
Beijing Lufthansa Center  
50 Liangmaqiao Road  
Chaoyang District  
Beijing 100125  
China

T: +86 10 6464 6733  
F: +86 10 6468 0728  
E: [china@worldsteel.org](mailto:china@worldsteel.org)

[constructsteel.org](http://constructsteel.org)  
[worldsteel.org](http://worldsteel.org)



**constructsteel**

**worldsteel**  
ASSOCIATION