The Formwork Magazine

Doka Xpress

1/2012 India · www.doka.com

Safer workplace – Ahuja Towers, Mumbai

Editorial

Dear Readers,

Doka India began operations in Feb 2008 with its HQ in Mumbai, a branch office at New Delhi and a 10,000 sqm stock yard. Since then it has grown from strength to strength over the past 4 years with a CAGR of around +35 % on a strong foundation of our distinctive & differentiated products /solutions.

The Doka India family studded with highly motivated and talented members of the team (now 45+ in numbers) continues to grow. We now have another branch office in Chennai and a resident office in the rapidly expanding IT infrastructure hubs Hyderabad and Bangalore.

Doka's project expertise has grown widely in the past 4 years with the execution of various projects in high rise, residential towers, commercial buildings and in the fields of power and infrastructure. This has resulted in adding newer dimensions to our industry coverage.

We are committed to continually expanding Doka's brand awareness and exploiting to the fullest the potential of fast growing investment in infrastructure in the region with our prompt services to customers and becoming a partner in their progress.

Yours sincerely,
Anupam Kr. Sharma
Managing Director
Doka India Pvt. Ltd.

Doka News

▲ Customer orientation program, Mumbai

Doka India organized a customer orientation program on 4th August 2012 at the Four Points Hotel, Vashi, in order to launch the two newly introduced products i.e. Dokaflex 15 & Frami eco and to showcase the load bearing tower Staxo 40. The program was attended by large base of customers from west India, where they had an opportunity to "look and feel" the system mockups with informative presentations on the same. The program provided attendees with a quicker understanding of how these lightweight systems are assembled and dismantled and how such solution could benefit and prove to be economical, faster and safer for residential construction in general. Moreover, it gave a networking platform for all who were present. Doka has planned to organize these events in other metro cities soon for creating awareness about system formwork in the construction market.

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Landmark project won: Minerva Tower in India

Doka has won another landmark, the super-highrise Lokhandwala Minerva building in Mumbai.

Looming out of a 12-storey parking podium, the skyscraper will top out at 300 m and feature 82 storeys in two separate towers. Named the 'Minerva' after the Roman goddess of wisdom, the design for the tower comes from Hafeez Contractors, and bears a similarity to an oversized letter 'M'. The tower will be for residential use only and aims to be one of the most luxurious addresses in Mumbai. For the core walls, automatic climbing formwork SKE50 and SKE100 will be in use. In order to guarantee an optimal construction workflow, each core will be split into two individual working zones. This increases productivity and guarantees a smooth workflow. Construction of the building is scheduled to be finished in 2014. With this project Doka continues its expansion strategy in the segment of the world's tallest buildings.

The facts

JOBSITE	Minerva Tower
LOCATION	Mumbai, India
CUSTOMER	Larsen & Toubro
BUILDING HEIGHT	300 m
NUMBER OF STOREYS	82
CONSTRUCTION TIME	36 months
USE	Luxury residential building
PRODUCTS IN USE	SKE50/100, Large-area formwork Top 50

▼ The Minvera Tower in Mumbai will be formed with Doka's automatic climbing formwork.

Formwork solution for thin slabs

▲ Dokaflex 15 has been developed specifically for forming concrete floor-slabs of between 10 and 15 cm in thickness. This versatile handset system features weight- and capacity-optimized system components and so is very easy to handle.

Dokaflex 15 is a novel and versatile handset system from Doka for thin slabs. With its optimised materials usage, ease of handling and ingenious all-in-one solution, Dokaflex 15 scores for cost efficiency in every regard.

Dokaflex 15 is a new formwork solution for residential construction that Doka has developed specifically for forming concrete floor-slabs of 10-15 cm in thickness. With this system Doka is catering to a construction method in which it is common to have a larger number of downstand beams, and thus thinner slabs. The advantages of these slab constructions are obvious: the cost-savings from needing less concrete for the slabs and less structural steel for reinforcing them.

In developing Dokaflex 15, the Doka formwork experts took account of the lower weight of the slab. The result is an economical formwork solution that is optimized for this particular application. The system is based on the proven Doka timber formwork beam H16, with its unique '1-2-5' spacing marks for easy handling, and on the new floor prop Eco 15 with a load capacity of 15 kN. Both these basic components are optimally tailored to Dokaflex 15's field of use. The 4-way head DF15 and supporting head DF15 for the load-bearing construction, and the removable folding tripod DF15, together round off the Dokaflex 15 'construction kit'. The beam-forming head DF15 makes for easier forming of downstand beams.

Optimized equipment use

To help users work out what quantities are needed, and to facilitate formwork use on the site, Dokaflex 15 comes with the pre-defined '1-2-5' system grid. This grid uses marks on the beams to show the maximum spacings between the props and beams, permitting 'no-worry' pouring of slabs up to a max. thickness of 15 cm. The system makes forming-up a lot faster by cutting the time needed for measuring-up, and also a lot safer.

▶ The '1-2-5' system grid and the unique spacing marks on the beams make forming-up a lot faster, and also a lot safer.

◀ The simple system grid and form/tie ratio make for high-speed forming operations (Kayan cooling tower, Saudi Arabia).

Frami eco: a product innovation from Doka

'Framed formwork Frami eco' is a new hand-set and crane-lifted formwork system developed by Doka for walls, columns and foundations; its optimized product quality makes it a highly economical system.

Frami eco is ideal for fast, cost-saving forming – with or without crane assistance. Its product family includes the tried-and-tested components of the Frami Xlife system. The specially coated frame and 15 mm Dokaplex form-facing make Frami eco particularly economical. Its sturdy system components make it very long-lived: the rugged, powder-coated hollow steel-section frame and strong connectors give it great stability, while its ergonomical design ensures both high load capacity and easy, straightforward handling. That means reliability over many re-use cycles.

High product quality

Frami eco scores with its simple system grid and low form/tie ratio. This provides flexibility on the site, reduces the commissioning quantities and minimizes infill zones. Above all, though, the system shortens the forming-times, ensuring fast workflows: a hammer is the only tool needed. The range of possible uses is very wide: with widths of 0.30 m to 0.90 m – in a 15 cm grid – and heights of 1.20 m and 3.00 m, Frami eco is a complete system for forming walls, columns and foundations. With their special hole grid, the Frami eco universal panels are ideal for cost-saving forming of stop-ends and outside corners. The universal panels can also be used to build column formworks – within the system, and with no extra panels.

Safety – a key focus

In the concreting operations, Frami eco also ensures high safety: bracket-based platform solutions, including system ladderways with integrated ladder cages, can be added to all Frami eco wall and column formwork units in a few simple steps. These safety accessories can be mounted to the formwork while working from floor level. This boosts safety on the site right from the word 'go'.

▼ The specially coated steel frame and 15 mm Dokaplex form-facing make Frami eco highly economical.

The facts

CONTRACTORS
Larsen & Toubro, Chennai

START OF CONSTRUCTION
February 2010

COMPLETION scheduled for
March 2013

HEIGHT 240 m

ARCHITECTS P & T, Singapore

SYSTEMS FIELDED
Protection screen Xclimb 60

▶ **Doka India supplied the site with the self-climbing protection, which shields the building work from wind and weather and ensures a high degree of safety.**

Ahuja Towers: inspired by ships' sails

In Mumbai, the premier port city of the Indian subcontinent, a new landmark is taking shape: Ahuja Towers is rising skywards in Prabhadevi, on the densely populated south side of this giant metropolis.

Following completion, the 240 m twin tower will house multi-storey car parks on ten podium levels, and luxurious apartments on a further 41 storeys. Doka India supplied the site with the self-climbing protection screen Xclimb 60, delivering a very substantial boost to workplace safety. For the design of the Ahuja Towers, the Singapore-based architecture firm P & T took its cue from the wind-filled sails of the boats along the Mumbai coastline: this highrise project will enrich the skyline of Mumbai with a visually most appealing facet. The acute lack of space on and around the site has posed a major challenge to the

Dinesh Kr. Khatri
Project Manager
Larsen & toubro

The professional

"We are happy with the technical expertise and support staff of Doka, they understood our requirements & proposed suitable solution for fast & safe execution. Service provided by Doka India was very good & prompt. We feel satisfied using the system."

The solution!

To protect the site crew from harsh weather condition and high-speed winds, Doka provided the self-climbing protection screen Xclimb 60, which helped improve working efficiency and safety on site.

clients and the contractors: Ahuja Towers is situated in the densely populated district of Prabhadevi and is boxed in by residential buildings, industrial estates and a busy main road. A tight schedule and perfect timing are essential here if construction is to proceed smoothly. The safety of site employees and local residents is also extremely important – especially in view of the high wind-speeds often measured here. To prevent items of equipment from falling off and to protect the crew, Doka supplied its protection screen Xclimb 60 for Ahuja Towers. Given the very tight timeframe, a crane-independent solution had to be found.

Protection from wind and weather

Thanks to the all-round gapless enclosure of the top building levels by the protection screen Xclimb 60 and the fact that this is anchored to the structure at all times, all work can be carried out protected from climatic influences and in the very greatest safety. The protection screen's high degree of pre-assembly simplified the planning and made for a highly economical solution. As Xclimb 60 has been fielded here as a self-climbed system, fast resetting times are possible without crane assistance. Doka scored with the client, Larsen & Toubro, for its reliability and for its round-the-clock support for L&T's technical staff right from the first assembly step. Larsen & Toubro project director Dinesh Kumar Khatri is very satisfied with the partnership: "The protection screen Xclimb 60 helps the crew by giving them a safe environment to work in. And being able to reposition it cranelessly also means we can work much more efficiently."

Work has been underway on Ahuja Towers since February 2010 and is scheduled for completion in March 2013. Once completed, the tower – by then enveloped in sleek structural glazing – will be a number 1 Mumbai address for luxurious living, offering residents exclusive views of the sailing boats off the coast on the Arabian Sea.

▼ The severe space constraints on and around the Ahuja Towers site have confronted the client and the site team with a major challenge: exact timing is an abolute 'must' here.

Towering over southern Mumbai, the Sky Tower is one of the most prestigious projects being worked on by developer Indiabulls.

Reaching for the sky

With nowhere to grow but 'up', densely populated South Mumbai is increasingly studded with skyscrapers. One of them is the Sky Tower, currently being built by renowned contractor Indiabulls. Doka India has supplied an automatic climbing platform SCP for the central core walls and shear walls.

Situated in a world-class financial district, the Sky project is a branded luxury residential development on approximately 20 acres of prime real-estate in downtown Mumbai. The approximately 750,000 m² project is master-planned to creatively integrate the existing office development with luxury residential towers, making them some of the most iconic and visually arresting structures in the city.

The Sky Tower is 257 m tall, with 2 basement levels, 11 parking floors, 2 clubs, 2 transfer floors and 41 residential/refuge/service floors. The main structural form consists of a reinforced-concrete peripheral frame and shear walls with central core walls. The tower is being built with two transfer floors due to the different layouts of the parking and residential floors. Outrigger beams and walls have been provided at refuge levels, to connect the outer frame and central core and improve the lateral stiffness. The core and staircase walls are 600 mm thick. The core walls are typically linked by a series of six 900 - 1,300 mm deep RC link-beams. The link-beam width typically matches the thickness of the adjacent core wall. The dense, heavy reinforcement does not allow the use of normal concrete, hence the use of self-compacting concrete (SCC) here.

Space constraints overcome

Neighbouring residential towers and functioning office premises pose constraints on the working hours, logistics and scheduling of construction activities. Moreover, the space constraints and the need to ensure safety at great heights were also major issues. Doka India therefore proposed fielding the self-climbing platform SCP to reduce the construction time by taking the core construction out of the critical path. Based on the core geometry and predetermined construction sequence, the compact platform achieves a weekly cycle per floor and provides sufficient space to stack material on the platform. Indiabulls also benefits from the assurance and reliability, maximum safety, time-efficiency of fast assembly, and full round-the-clock technical support from engineering staff. The formwork inside the platform comprises 480 m² of Framax Xlife panels, which stand out for their high number of re-use cycles and the smooth concrete surfaces they deliver.

The site crew is very enthusiastic about the safe SCP platform, which makes life much easier for them by eliminating the fear of heights and protecting both people and objects from any risk of falls. With the platform, the complete core zone climbs ahead of the following storey floors. 'De-linking' the various structure components in this way speeds up work and improves productivity.

The facts

JOBSITE	Sky Tower
LOCATION	Mumbai, India
CUSTOMER	Indiabulls
BUILDING HEIGHT	257 m
NUMBER OF STOREYS	58
CONSTRUCTION TIME	48 months
USE	Luxury residential building
PRODUCTS IN USE	Platform SCP, framed formwork Framax Xlife

The solution!

To ensure fast, safe construction progress and to overcome space constraints, Doka India provided an automatic climbing solution consisting of the platform SCP and Framax Xlife panels. The platform provides a safe working environment and allows equipment and the concrete placing boom to be lifted together with no need for a crane.

▼ A great place to work: Doka's self-climbing platform SCP gives all-round protection, providing a safe working environment and efficient formwork operations.

▶ **Doka developed a made-to-measure formwork concept for constructing the piers and Y-shaped pylons.**

The facts

CONTRACTORS
SEW Infrastructure Ltd.

START OF CONSTRUCTION
December 2009

COMPLETION March 2012

LENGTH OF BRIDGE 175 m

HEIGHT OF PIERS/PYLONS 40 m

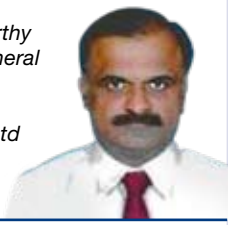
SYSTEMS FIELDED Large-area formwork Top 50, load-bearing towers Staxo 100, dam formwork D22, climbing formwork MF240

Made-to-measure for the Mumbai metro

Mumbai, the biggest metropolis on the Indian subcontinent, has an efficient but chronically overcrowded network of inner-city trains. The city is thus investing heavily in expanding its transportation infrastructure.

Doka assisted the work on a new metro line with an ingenious formwork system for a 175 m long extradosed bridge that was built across a flyover on the Western Express Highway. The special challenge here: work on the two nearly 40 m tall piers and Y-shaped pylons could only take place at night, and with no disruption to traffic. Mumbai's infrastructure is struggling to keep pace with the headlong growth in the city's population and economy. To improve local mass-transit capacity and connect up new districts of the city, a new metro network is under construction.

A key project on the elevated metro line 1 between Versova and Ghatkopar is a 175 m long extradosed bridge in the suburb of Andheri; built by SEW Infra-



B.S.R. Murthy
Senior General Manager
SEW Infrastructure Ltd

The professional

"The formwork solution provided by Doka has helped us in working smoothly amid several problems like traffic, space constraints and tight construction schedule. Round-the-clock site support by Doka is also commendable."

structure Ltd., the structure crosses a flyover on the Western Express Highway. An extradosed bridge combines the structural behaviour of a cable-stayed bridge with that of a girder bridge. The cable-stays act like tensioning tendons located outside the body of the carriageway deck. They carry the superstructure from a relatively low pylon, pre-stressing it at the same time.

Made-to-measure formwork concept
Doka developed a custom formwork concept for building the two piers and Y-shaped pylons. The contractors required a climbing solution so as to avoid any disruption whatever to vehicle traffic on the elevated Western Express Highway or the major crossroads beneath it, in any stage of the work. Work was only allowed to take place at night. The 19 m tall pier shafts were formed using crane-jumped Climbing formwork MF240 plus Large-area formwork Top 50 – a system combination that makes for very safe, fast forming operations. Climbing formwork MF240 permits controlled, regular working cycles on all tall structure. Despite being so easy to erect, it is suitable for tackling many different requirements and stands out for its excellent adaptability to any geometry. The 2.40 m wide working platform also offers plenty of space for safe working. The casting sections were max. 3.80 m in height, with a clear width of 3.50 m, and were poured in a 10-day cycle. A second set of formwork was used for other, diam. 2 m piers. The pier-heads were divided into two casting segments which were formed using large-area formwork Top 50 and the load-bearing tower Staxo 100. With its robust steel frames, this latter system is designed for high shoring heights and high loads. Staxo 100 was also used to create temporary workspaces and as additional shoring for the carriageway trough (with Top 50 superstructure and formwork).

High-performing dam formwork
On the formwork for the 20 m tall pylon legs, which have an outward inclination of around eleven percent, Doka scored with its high-performing dam formwork D22. The high load capacity of this system means that only a small number of cantilever brackets are needed, which made a critical contribution towards fast construction progress. The D22 adapted perfectly to the constantly varying shape of the structure, while the Dokaplex 18 formwork sheets ensured a superior surface finish. All subsequent operations were performed from working platforms on four different levels. The formwork experts used the tapered holes in the D22 dam formwork to hang the working platforms from – an extremely economical solution. The cycle time during construction of the pylon legs was seven days per cycle.

B.S.R. Murthy, Senior General Manager at SEW Infrastructure Ltd., was very satisfied indeed with the formwork concept provided by Doka: “Being tailor-made specially for us, these solutions gave us maximum benefit in terms of safety, efficiency and cost savings. Our decision to field dam formwork D22 in conjunction with large-area formwork Top 50 gave us the ideal equipment combination for constructing the continuously tapering structure while complying with the tough specifications regarding the concrete finish and the safety rules. The round-the-clock support we got from the Doka team, and the fast site-erection times, both made a big contribution to the success of this build.”

The solution!

Customized formwork solution was provided for the construction of piers and pylons such that it creates minimum disturbance to the nearby traffic.

▼ Mumbai’s first metro line is currently under construction. At one point, a bridge takes the new route across the city’s busy Western Express Highway.

▶ **Crane climbing system eliminates the wastage of time in shuttering and de-shuttering.**

The facts

JOBSITE	Double-walled storage tank
LOCATION	Dahej, Gujrat
CUSTOMER	ITD Cementation India ltd.
STRUCTURE HEIGHT	21 m
STRUCTURE DIAMETER	48 m
CONSTRUCTION TIME	6 months
PRODUCTS IN USE	Large-area formwork Top 50, climbing formwork 150F

Nagendra Choudhary
Project Manager
ITD Cementation Ltd.

The professional

“The solution provided by Doka for circular tanks is unique and has saved a lot of time and money for us by reducing the need for timber logs.”

Cost-effective solutions for double-walled storage tanks

ONGC Petro Addition Ltd. (OPaL) is setting up a new petrochemical complex at Dahej and is required to build a circular double-walled storage tank (DWST).

▼ **Connection of H-beam to steel walings by short wooden packers and cup square bolts results in huge saving of timber.**

ITD Cementation has taken on the challenge of constructing this 48 m diameter and 21 m high DWST with 1,000 mm wall thickness at bottom, decreasing gradually to 600 mm at a height of 7 m. Given Doka's engineering expertise in building circular tanks, ITD Cementation decised to use a Doka formwork system. The formwork solutions for inside and outside were both created with a combination of Doka wall formwork Top 50 and crane-lift climbing formwork 150F with 3.5 m casting steps. This tank also has four concrete buttresses to provide support against the pressure of liquid ethylene, for which a special solution with Top 50 was evolved. To cast the ring beam at the top, additional sets of special cantilever brackets were introduced so as to overcome the sudden increase in wall thickness.

Moreover, normally to make a circular panel, concrete facing ply is provided with a shaping timber support and then afterwards H20 beams and steel walings are used, which results in a requirement of huge quantity of timber for packing. But Doka provided a unique solution i.e. the sheeting was carried on H20 beams backed by steel walings with short wooden packers set only at the walings and secured by cup square bolts of appropriate length. This solution saved a considerable amount of timber.

Frami Xlife conveniences the lifeline of Jammu & Kashmir

Afcons has taken an EPC contract to upgrade the landslide and accident prone two-lane NH-1A highway, the lifeline of Jammu & Kashmir, to a modern four-laned highway with divided carriage-ways that facilitates safe and speedy travel.

To construct the retaining walls for the road, Doka has supplied framed formwork Frami Xlife.

The project has many technical challenges including building new tunnels, underpasses and 20 km of new road alignments and 17 km of service roads, all in mountainous terrain. These challenges increase hugely due to unfavourable weather conditions, expensive labour and tight construction schedule. In order to construct the new roads, the cut-and-fill had been employed resulting in the construction of large number of retaining walls of variable height and length. Amid such conditions, Afcons was looking for a formwork solution that can be manually handled, requires less labour and is flexible enough to be used for walls of different shapes and sizes and most importantly, has very less erection time. Framed formwork Frami Xlife was the obvious choice, which not only helped in overcoming these problems but also proved to be highly cost-effective due to the large number of repeat use cycles.

◀ **High number of repetitions can be achieved, thanks to the Xlife sheet and galvanised hollow-section steel frames.**

M. M. Payak, General Manager (Projects), Afcons Infrastructure Limited

The professional

“The craneless system provided by Doka is quite handy and useful for usage in difficult terrain. We have achieved high levels of productivity while using Doka formwork systems.”

▲ **Same set of formwork can be used for retaining walls of different sizes.**

High-speed casting

The Honam High Speed Railway is being built by Samsung Construction as part of Korea's efforts to establish a wide-range transportation network and promote regional development.

Kim Hyoung-Gyu, Site Manager, Taeah Construction

The professional

"My crew had no prior experience with Doka, so we thought it might be a slight challenge for us to assemble the system. However, the workers soon got used to the system and we were able to considerably shorten our construction schedule. Once assembled, the formwork allows us to cast all sections in a fast and safe way."

Doka Korea is supporting the subcontractor Taeah Construction with high-performing formwork systems.

Designed for a maximum speed of 350 km/h, this high-speed railway connects the cities of Osong, Gongju, Iksan, Jeongup and Gwaangju. This ground-breaking infrastructure project will allow people to travel the whole length and breadth of the country in just half a day. Doka Korea supplied three sets of tailor-made large-area formwork Top 50 for a 1,440 m long viaduct, which it divided into 36 casting sections. The specially designed box girder is being cast in two steps: On day 1, the bottom slab and sidewalls are cast. For this, the site crew assembled a total of 1,164 m² of large-area formwork Top 50 on site. On day 2, the box girder can be completed with its deck slab.

The large-area formwork Top 50 system is a customisable 'construction kit' formwork system designed to accomplish many very different tasks. The shape, size, tie-hole pattern and formfacing of the elements can be adapted to suit any requirement, and to even the most challenging geometries.

The facts

JOBSITE
Honam High Speed Railway

LOCATION Chungnam, Korea

CUSTOMER
Taeah Construction

LENGTH OF VIADUCT 1,440 m

NUMBER OF CASTING SEGMENTS 36

CONSTRUCTION TIME
36 months

USED BY High-speed trains travelling at up to 350 km/h

PRODUCTS IN USE Large-area formwork Top 50

The solution!

Doka Korea supplied three sets of tailor-made large-area formwork Top 50. In total, 1,164 m² of large-area formwork Top 50 was assembled on-site to cast the box girder of this 1,440 m long viaduct in 36 casting steps.

▶ The box-girder structure is being cast using made-to-measure large-area formwork Top 50.

◀ **Special suspension shoes adapted the protection screen Xclimb 60 to the curved slabs.**

The facts

JOBSITE Boulevard Vue
LOCATION Singapore
CUSTOMER China Construction (South Pacific)
NUMBER OF STOREYS 28
CONSTRUCTION TIME 20 months
USE Luxury residential building
PRODUCTS IN USE
Protection screen Xclimb 60, Dokaflex 1-2-4, load-bearing tower Staxo 40

High-end formwork for deluxe apartments

The 28-storey 'Boulevard Vue' development in Singapore comprises luxury condominiums which are being built by the contractor China Construction (South Pacific). Doka Singapore planned and delivered a high-performing formwork solution.

Each storey of the project features one complete 418 m² luxury apartment. Two duplex penthouses, each of 1,000 m², occupy the top four levels. From the formwork-engineering point of view, the high-raised, unusually shaped beam slabs with staircase & lift-core walls were the major challenge on this site. The developer of this high-end condominium wanted a safe, top-quality system and so opted for a formwork solution from Doka.

Flexible handset formwork
Doka Singapore planned and delivered the fast, versatile handset formwork system Dokaflex 1-2-4 for the unusual shaped concrete slabs. A highly ergonomic shoring system was required for the building edges, and so Doka supplied its load-bearing tower Staxo 40.

Highly effective edge protection
To give maximum protection to the site crew operating the slab formwork, Doka proposed its protection screen Xclimb 60. The full-area enclosure around the uppermost levels of the building enables all work to be carried out in complete safety, protected from all climatic influences. A challenge Doka had to meet was the unusual shape of the slabs, with many curves. The solution was found in specially designed suspension shoes for the protection screen Xclimb 60.

The solution!

The hydraulically climbed protection screen Xclimb 60 protects the site crew that is operating the handset Dokaflex 1-2-4 slab formwork. In order to adapt it to the curved slab, special suspension shoes were developed. The ergonomic load-bearing tower Staxo 40 is in use at the building edges.

Du Ti Ping,
Senior Project Manager

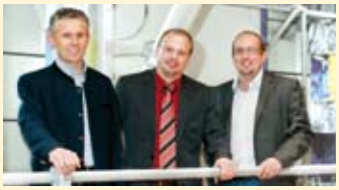
The professional

"Doka's formwork systems greatly improved both our productivity and also the sustainable construction environment. They were safe and easy to handle. This is definitely the right way to deal with a market situation where labour is tight. That's what I call 'smart building'!"

In brief

News, dates, media, awards

▲ Cooling tower formwork SK175 is a fully mechanized, self climbing large area formwork system.



▲ Each project team of `Business Development´ brings together many years formwork experience.

▲ India-specific information about Doka can be browsed on this new website.

NATURAL DRAUGHT COOLING TOWER

Doka India has won its first NDCT project for the 2 x 800 MW Sri Damodaram Sanjeevaiah thermal power plant in India. Tata Projects wanted a competent formwork system to work within a tight construction schedule. With its decades of experience on widely differing construction jobs all over the world, Doka was the obvious choice. Doka will be supplying cooling tower formwork SK175, which stands out for its minimal manpower requirements, as there is no need for any manual (i.e. hand-shifted) repositioning of the formwork and by allowing a 1.5 m high casting section to be poured every day, it also makes for very swift construction progress.

EXPERTISE ON EQUAL TERMS

The Doka experts from the new 'Business Development' unit support construction firms and local Doka organizations when it comes to building the world's tallest buildings, longest bridges and most challenging tunnel and powerstation structures. Each project team, comprising the local sales organization and experts from the Business Development unit, brings together many years' formwork experience in this particular construction segment.

DOKA INDIA CLOSER TO CUSTOMERS

Doka India has recently launched its more dynamic and vibrant website "www.doka.in" as it continues to move closer to its customers. The website will host detailed information on its products and services and will update the latest happenings on Doka India's projects. Customers can also visit the website to find out about past projects detailed in the "Reference projects" section.

News: Doka India will be participating in bC India 2013 to be held from 5th to 8th Feb 2013. Be sure to visit us at booth number H1-A12/A18.

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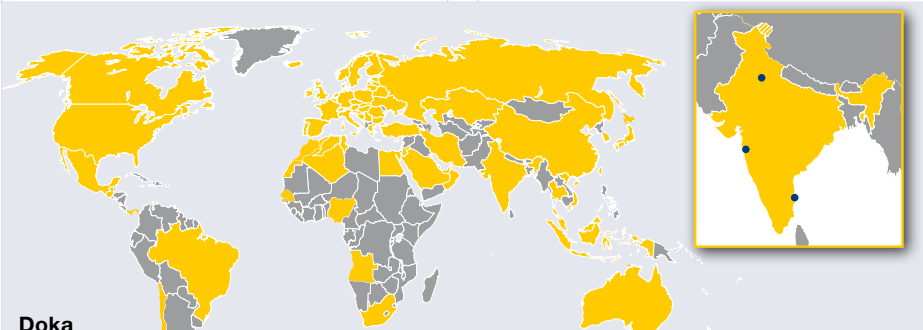

Doka branches worldwide

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In some cases the site photos show the situation during formwork assembly and are therefore not always complete from the point of view of safety.