



## **DCP CONCRETE ADMIXTURES: TECHNOLOGY, SOLUTIONS AND PRODUCTS**

Operations in Europe, Africa, Middle East and Asia, with 15 manufacturing locations and a distribution network to over 25 countries

# About DCP

**Don Construction Products (DCP)** has accumulated over 85 years of experience in developing, manufacturing and marketing innovative construction materials. DCP has operations in Europe, Africa, Middle East and Asia, with 15 manufacturing locations and a distribution network to over 25 countries.



## DCP Timeline

- 1927 Company set up as Akis Chemicals Company Ltd., in Doncaster, UK.
- 1928 Company merged with Francois Chemicals Ltd.
- 1986 Management buyout and the company rebranded as Don Construction Chemicals.
- 1997 F. Ball and Co. Ltd., UK's leading manufacturer of flooring adhesives and floor preparation materials acquired Don Construction Chemicals and renamed the company as Don Construction Products (DCP).
- 2000 G.R.A.B. Resins of the UK, a 1995 F. Ball and Co. Ltd. acquisition, is integrated into DCP.
- 2005 DCP signed a license agreement with Ayla Construction Chemicals for the Middle East.
- 2010 DCP acquired Ayla Construction Chemicals in the Middle East.
- 2013 Backward integration into 2<sup>nd</sup> Generation Concrete Admixtures.
- 2014 Backward integration into 3<sup>rd</sup> and 4<sup>th</sup> Generation Concrete Admixtures.
- 2016 Backward integration into Polyurethane Polymerisation.

## DCP Commitments

-  **Expertise** DCP provides exceptional level of expertise and support services both at the office and on site.
-  **Quality** All products are produced to comply with the best relevant international standards.
-  **Full Range** DCP offers a comprehensive range of products covering a wide range of civil and aesthetic requirements of construction projects.

## Full Product Range

The focus of our full product range below caters to our 4 core business units: Concrete & Cement Technology, Underground Construction Technology, Construction Projects Materials Technology and Building Finishing Products.



Concrete Admixtures



Surface Treatments



Grouts & Anchors



Concrete Repair



Flooring Systems



Protective Coatings



Sealants & Joints



Waterproofing



Adhesives



Tile Adhesives & Grouts



Building Finishing Products



Structural Strengthening

## DCP's HSE Commitment

- Do everything reasonably practicable to prevent accidents, injuries and work related ill-health.
- Comply with, and where practicable, exceed all applicable legislation, adopted codes of practice and other requirements. Where none exist, set and adhere to stringent standards based on DCP's best practices.
- Actively involve and encourage all employees in the achievement of DCP's objectives.
- Appoint competent people to assist in meeting statutory duties including external HSE performance.

## DCP's Environment Commitment

Our commitment to the environment, including low CO<sub>2</sub> footprint and low dust emissions, enables us to operate production close to residential areas where the most stringent environmental regulations exist. We commit unreservedly to this directive since these residential areas are our homes and backyards.

# Concrete Technology

DCP Group has a total production capacity of 1.3 million litres (0.34 million gallons) of concrete admixtures per day, contributing to the supply of approximately 0.25 million m<sup>3</sup> (0.33 million yd<sup>3</sup>) of concrete produced daily.

## In-House Innovation

Equipped with the latest technology and know-how in concrete admixture formulation, DCP's product range adds several advantages to improving concrete properties and durability, as well as introducing new applications for concrete.

Using the latest technology in our production facilities, DCP produces its own main raw materials such as SNF and PC polymers used to produce the concrete admixtures. By having our own production facilities, DCP is able to focus on and promote innovation and collaboration to produce high quality products with the best formulations that meet our clients' needs.



3<sup>rd</sup> & 4<sup>th</sup> generation concrete admixtures main raw material, Polycarboxylic (PC) polymers, production in Qatar



2<sup>nd</sup> generation concrete admixtures main raw material, Sulphonated Naphthalene Formaldehyde (SNF) polymers, production in Jordan

## Applications of Admixtures

DCP has developed various concrete admixtures for use in different applications, including the following:

- Architectural and decorative concrete
- Concrete paving
- Fibre reinforced concrete
- Fluid-fill concrete
- Glass reinforced concrete
- High durability concrete
- High-early strength concrete
- High strength concrete
- Insulating concrete
- Low- and non-shrinkage concrete
- Mass concrete
- Normal weight concrete
- Pervious concrete
- Roller compacted concrete
- Self consolidating concrete
- Sprayed concrete (Shotcrete)



## Types of Admixtures



### High Performance Concrete Admixtures

Products developed to enhance the properties of concrete to ensure high durability:

- Water Reducers and Retarders (Hyperplast, Flocrete and Supaflo Range)
- Accelerators and Antifreeze (Flocrete Antifreeze and Proset Range)
- Air Entrainers and Foaming Agents (Cemairin Range)

### Special Performance Concrete Admixtures

Products developed by experts to solve challenging situations or applications that occur in the concrete industry:

- Corrosion Inhibitors (Flocrete CN Range)
- Shrinkage Reducing Admixtures (Flocrete SR Range)
- Integral Waterproofing Admixtures (Flocrete W Range)
- Viscosity Enhancers (Flocrete VE Range)

### Concrete Fibres

Products designed to act as secondary reinforcement, reduce the effects of plastic shrinkage, and improve the resistance of concrete:

- Steel Fibres
- Synthetic Micro-Fibres
- Synthetic Macro-Fibres
- Polypropylene Fibres

# Concrete Technology

**Hyperplast Range** high performance superplasticising admixtures based on polycarboxylic polymers with long chains specially designed to enable the water content of the concrete to perform more effectively. This effect can be used in high strength concrete and flowable concrete mixes, to achieve the highest concrete durability and performance.

## Riyadh Metro: 4.3 million m<sup>3</sup> (5.6 million yd<sup>3</sup>) of Concrete

- A rapid transit system that will be the backbone of Riyadh's public transport system with 6 metro lines and 85 stations that cover a total of 176 km (109 mi) of the city. It will be integrated with an 85 km (53 mi) three-line bus rapid transit network.
- **Early Strength Concrete**  
Precast Segments  
DCP was able to achieve the project requirement of 17 MPa (2,466 psi) strength at 12 hours.
- **Product Used:** Hyperplast PC353



Saudi Arabia



Jordan

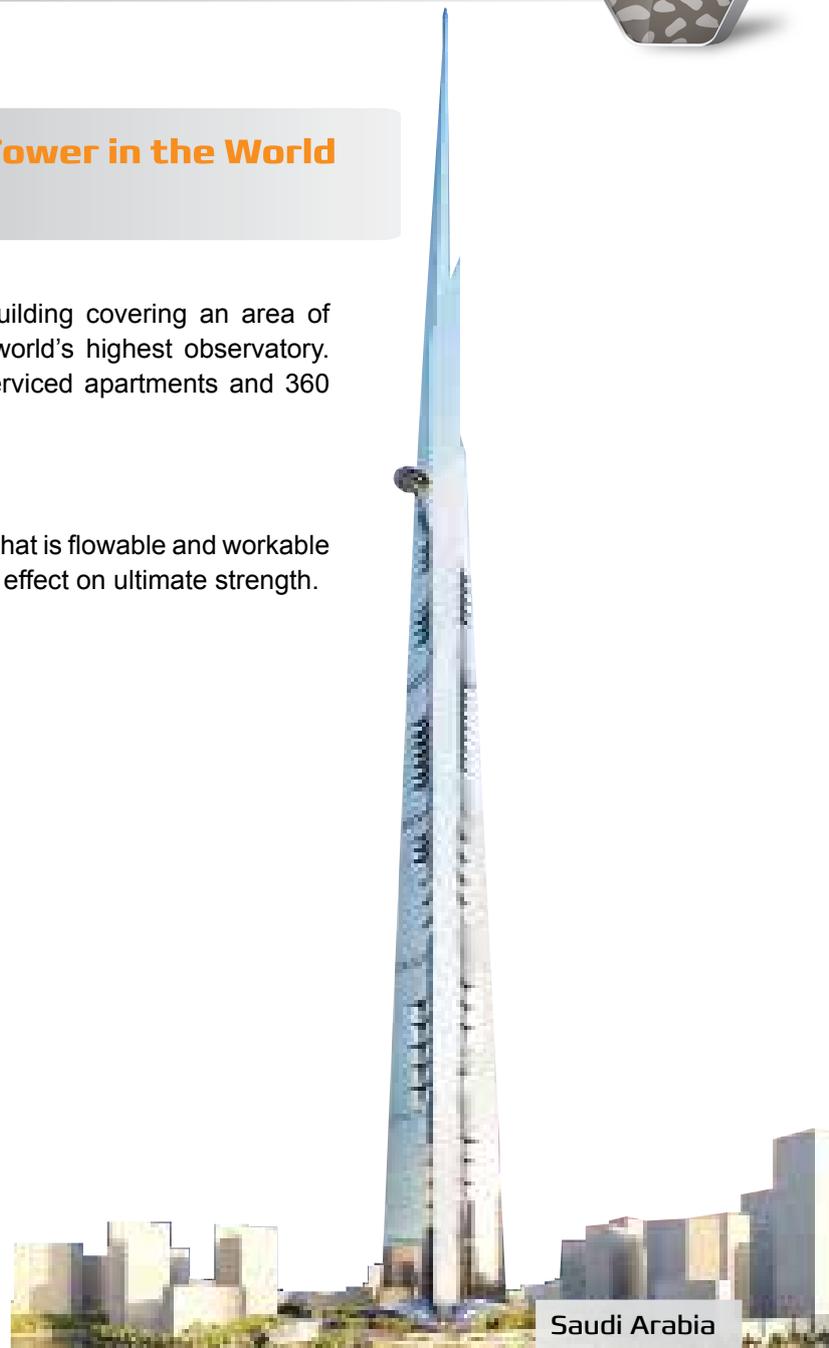
## Royal Jordanian Airlines Headquarters: Self Consolidating Concrete (SCC)

- The corporate headquarters has a unique architectural design that resembles the aerodynamics of a plane with electromechanical and finishing works. It is comprised of two buildings constructed over 9,000 m<sup>2</sup> (2.22 ac) of land reflecting a mixture of modern and traditional Jordanian culture.
- **DCP** was able to achieve the strict criteria and requirement of SCC concrete for the project. This was due to the congested steel and large column sections that are casted in the structure.
- **Product Used:** Hyperplast PC260
- **Admixture Quantity:** 450,000 ltr (118,877 US gal)



## Jeddah (Kingdom) Tower: Tallest Tower in the World 1,007 m (3,304 ft)

- The one-kilometer tall tower will be a mixed-use building covering an area of 245,000 m<sup>2</sup> (60.54 ac) and will accommodate the world's highest observatory. It will include offices, a Four Seasons hotel, 121 serviced apartments and 360 residential apartments.
- **High Performance Concrete**  
Pile Foundation 60 MPa (8,702 psi)  
**DCP** was able to produce high performance concrete that is flowable and workable for 8 hours with minimal effect on setting time and no effect on ultimate strength.
- **Piles Depth:** up to 125 m (410 ft)
- **Product Used:** Hyperplast **PC600**
- **Admixture Quantity:** 400,000 ltr (105,669 US gal)



Saudi Arabia

## Capital Fort: Tallest Building in Bulgaria 126 m (413 ft)

- The project consists of a classical 126 m (413 ft) high-rise tower and 40 m (131 ft) low-rise building with spatial composition built over a retail and entertainment service area called the "Podium" and underground parking with 750 parking places.
- **Product Used:** Hyperplast **PC200**



Bulgaria

Courtesy of capitalfort.com



expertise



quality



full range

# Concrete Technology

## National Arena of Romania: 108,000 m<sup>3</sup> (141,258 yd<sup>3</sup>) of Concrete

- The **UEFA** Elite Stadium holds 55,634 people with 2,100 parking spaces. The stadium includes a retractable roof that can be opened or closed in 15 minutes.
- **Product Used:** Hyperplast **PC200**



Romania

## Bismayah New City: 3 million litres (0.8 million US gal) of HRWR Admixture

- A city spread over 18.3 km<sup>2</sup> (4,522 ac) area accommodating around 600,000 occupants in 100,000 residential units. It will include schools, clinics and commercial, social and entertainment centers. A modern road network is being built to connect it to the highway.
- **Product Used:** Hyperplast **PC175**



Iraq

## Kattupalli Shipyard & Captive Port Complex: Early Strength Precast Concrete Segments

- A mega shipyard that will be the third major international destination for ship repairs in the region. The shipyard complex includes a Container Port and Modular Fabrication Facility. The terminal area covers 200,000 m<sup>2</sup> (49 ac) of land with a draft of up to 14 m (46 ft) and a waterfront exceeding 2.2 km (1.4 mi).
- **Product Used:** Supaflo **SPL KP**
- **Admixture Quantity:** 60,000 ltr (15,850 US gal)



India



**Flocrete Range** normal-range water reducing admixtures and retarders formulated from selected polymers specially designed to enable the water content of the concrete to perform more effectively. This effect can be used to improve workability, to increase ultimate strengths or to facilitate a reduction in the cement content while sustaining and improving mix properties. Retarding effect can be used in concrete where high cement content or high temperatures are involved or where extended setting time is required.

**Cemairin Range** air entrainers designed to relieve internal pressure in concrete when it freezes. They work to protect against freeze-thaw cycling by placing controlled microscopic air bubbles in concrete so that water can expand into them when it freezes.

### **Hamad International Airport: 400,000 m<sup>3</sup> (523,180 yd<sup>3</sup>) of Concrete Apron Slabs-Runways**

- Spread over an area of 22 km<sup>2</sup> (5,436 ac), the airport is able to handle 30 million passengers and serve over 360,000 flights annually. It is home to two of the longest commercial runways in the world.
- **Products used for Apron Slabs-Runway such as:**
  - Flocrete **R50**
  - Flocrete **SP33**
  - Cemairin **260**



Qatar



expertise



quality



full range



**Antifreeze & Proset Range** accelerating admixtures increase the rate of early strength development, especially in cold weather, reducing the time required for proper curing and speeding up the start of finishing operations. These admixtures result in freeze-resistant concrete, increase in early-strength level and decrease in construction time.

## Millennium Center



Bulgaria

■ Located on 7,000 m<sup>2</sup> (1.73 ac) of land space, the Millennium Center hosts an office building, 5-star hotel, luxurious residential building and a 5-level parking space.

### ■ Products Used:

- Flocrete Antifreeze 100
- Hyperplast PC210
- Hyperplast PC325



**DCP is dedicated to providing unparalleled customer service and support throughout every stage of the construction process. The DCP team works hand-in-hand with all parties to ensure the completion of the project with the utmost consideration and quality control.**

DCP offices all over the world have local sales and technical service teams ready to assist you. Our research and development centers work continuously to ensure we are using the latest technology to deliver the best quality of products and services to consumers. DCP offers:



- Properly equipped laboratories in every country to serve clients.
- Concrete mix designs and evaluations carried out in each country to ensure quality of products.



- Short lead-time for shipment dispatch from time of order.
- Understanding all business units from the client's point of view.

- Technical site support.
- Continuous training programs to expand staff and customer knowledge.

