FUTURE IN ACTION
COMMITTED TO NET-ZERO CO₂
CEMEX is a leading vertically integrated heavy building materials company focused on four core businesses—Cement, Ready-Mix Concrete, Aggregates, and Urbanization Solutions.

CEMEX started doing business in 1906 and has grown from a local player to one of the top global companies in the industry. With more than 46,000 employees worldwide, CEMEX is strategically positioned in the Americas, Europe, Middle East, Asia, and Africa.

Our high-quality products and innovative solutions across the construction value chain aim to exceed our customers’ expectations and sustainably meet society’s growing needs.

We seek to provide a superior customer experience as the foundation for long-lasting partnerships. To this end, we continuously tailor our products and solutions to suit our customers’ specific needs and ensure their satisfaction. This is not only our best competitive advantage, but also essential to our global business strategy.

As of December 31, 2021.

**OUR CORE BUSINESSES**

**Cement** - A binding agent when mixed with aggregates and water, produces either ready-mix concrete or mortar.

**Ready-Mix Concrete** - A combination of cement, aggregates, admixtures, and water.

**Aggregates** - Inert granular materials, such as stone, sand, and gravel, which are only obtained land-based sources or by dredging marine deposits.

**Urbanization Solutions** - Complementary solutions to solve the most pressing needs for cities: net-zero and sustainability, circular solutions, and resilient buildings and infrastructure.

**CEMENT**
- 63 cement and grinding plants
- **REMARKABLE**

**READY-MIX CONCRETE**
- 1,351 plants

**AGGREGATES**
- 253 quarries
- 137 million tons annual sales volume

**TERMINALS**
- 269 land distribution centers
- 67 marine terminals
CEMEX has more than 20 years of presence in the UAE offering Cementitious, Ready-mix, Paving and Urbanization solutions.

- Ready mix installed capacity: 3 Mm3 per year (Dubai: 2 Mm3, Abu Dhabi: 1 Mm3)
- Cementitious installed Capacity: 1.6 Mmt per year
- Paving: 1.0 Mm3 per year

Regional presence in Emirates

- Dubai - Al Quoz RMX (Topmix)
- Dubai - Jebel Ali RMX (Topmix)
- Dubai Jebel Ali Cement (Falcon)
- Abu Dhabi Mussafah RMX (Supermix)
- Abu Dhabi Al Mafraq RMX (Supermix)

Established in UAE since 1998

- 500 number of employees in UAE
- 110 Truck mixers
- 20 Mobile pumps
- 9 Concrete plants
- 1 Grinding mill
- 3 Pugmills - Mobile Plants

In UAE since 1998. Ready-mix 3 Mm3 capacity, Cementitious: 1.6 Mmt per year, Paving 1.0 Mm3
Climate change is the biggest challenge facing humanity, and Future in Action must be at the core of everything we do.

Not only because it creates value, but more importantly, because it is the right thing to do.
Our purpose is to build a better future

A sustainable future that addresses humanity’s most pressing issue: climate change

• The cement industry is the source of about 5–8% of the world’s CO₂ emissions*.

• As one of the world’s largest building solutions providers, we are committed to leading on the path to a low carbon economy.

• Future in Action is our program focused on developing low-carbon products, solutions, and processes to become a net-zero CO₂ company.

*According to the Global Cement and Concrete Association (GCCA)
Sustainable Products & Solutions

An extensive family of sustainable products that includes the first net-zero CO₂ concrete, low carbon cements and concretes as well as aggregates and admixtures available worldwide.

Vertua concrete CO₂ reduction
- Classic: 30%
- Plus: 50%
- Ultra Zero: 70%

Vertua cement CO₂ reduction
- Classic: Classic 15%
- Plus: Plus 25%
- Ultra: Ultra 40%
CEMEX - Vertua Cement

Classic
Advantages & Benefits

- Reduced Embodied CO2.
- Excellent Workability.
- Low Water Demand.
- Generates Less Heat of Hydration at a low rate than Ordinary Portland Cement.
- Better Durability.
- Applicable for all types of high strength concrete.
- Resistance to corrosion and weather attack.
Applications & Usage

- For general purpose

- **Structural & Non-structural Concrete Applications**
  - Cast-in-place Concrete structures, foundations & pavements.
  - Pre-cast, pre-stressed, post-tensioned concrete elements and all types of manufactured concrete products.

- **Mortars & Grouts**
  - Screed, shotcrete, pavers, bricks, plasters, stucco, blocks, and all types of masonry applications.
  - Cementitious grouts, non-shrink grouts, render, among others.
CEMEX VERTUA CEMENT

PROVIDES SIGNIFICANTLY BETTER DURABILITY CRITERIA
MORTAR COMPRESSIVE STRENGTH

CONCRETE COMPRESSIVE STRENGTH

GIVES HIGHER LONG TERM
COMPRESSIVE STRENGTH

COMPRESSIVE STRENGTH EXCEEDS
STANDARD REQUIREMENTS

CEMEX VERTUA CEMENT
EMISSION KG CO2/Ton ORDINARY CEMENT vs VERTUA CEMENT

CO2 Emission > 16%

Ordinary Portland Cement
Vertua Cement

CEMEX VERTUA CEMENT

PROVIDES %16 CO2 REDUCTION VS. ORDINARY CEMENT

818.9
689.6
Subject: No Objection for Use of Cement Material in Concrete Mixes under Dubai Sustainable Concrete Baseline (Dubai Building Code 2021) / Circular 176

Further to your request to use Portland-composite cement in concrete mixes; kindly note that CEMEX VERTUA CEMENT (described below) manufactured by Cemex Falcon, complying with standard specifications (BS EN 197-1 CEM II/A-P), may be used in concrete mixes under Dubai Building Code – Section F - Annex F.11 and DM Circular 176, Attachment T – Dubai Sustainable Concrete Baseline subject to the below conditions:

- Cemex Falcon shall verify the compliance of the material against the requirements of BS EN 197-1 CEM II/A-P through DCL or an EAC accredited laboratory once the production starts locally, prior to initial supply of the material.
- The cement factory shall periodically carry out the necessary tests as per their internal quality control procedures to ensure compliance of the raw materials and final product with the relevant standards.
- It is the responsibility of the ready-mixed concrete supplier, contractor and consultant to ensure that the performance of concrete mixes using this material meets project specifications requirements with respect to fresh and hardened concrete properties (workability, strength, durability...).

The material has been added to DM Concrete Calculator on GaBi Envision platform; companies that have valid subscription to the calculator may start adding the material to their mixes and evaluating them accordingly.

Should the source of the natural material changes, the company shall notify Dubai Municipality of the new source and provide us with all relevant tests and reports for our review and verification. A revised NOC will be issued accordingly.

The material has been added to DM Concrete Calculator on GaBi Envision platform; companies that have valid subscription to the calculator may start adding the material to their mixes and evaluating them accordingly.

Material Description

Material Name: Cemex Vertua Cement
Manufacturer: Cemex Falcon LLC
Source of Material: Cemex Falcon, Dubai, UAE
Standard Specifications: BS EN 197-1 CEM II/A-P

Material: Portland-composite, CEMEX VERTUA CEMENT (described below) manufactured by Cemex Falcon, complying with standard specifications (BS EN 197-1 CEM II/A-P) through DCL or an EAC accredited laboratory once the production starts locally, prior to initial supply of the material. It is the responsibility of the ready-mixed concrete supplier, contractor and consultant to ensure that the performance of concrete mixes using this material meets project specifications requirements with respect to fresh and hardened concrete properties (workability, strength, durability...).

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Dubai RMX Market estimated at 7 million m³/year. If fully converted to products like classic, the impact would neutralize 210,000 cars on the road or be the equivalent to planting 15.4 million trees per year.
Since August 2021, we saved 12,469 passenger vehicles driven for one year, 7,289 homes' energy use for one year, and 956,869 tree seedlings grow for 10 years. As per the calculator of USA EPA.
Concrete has higher albedo than asphalt in both new & weathered conditions

The average luminance of concrete is 1.77 times higher than asphalt

Asphalt requires 24-40% more poles for same lumens as concrete

E.g.
Asphalt requires 400w light compared to 250w light for concrete for same luminance

Asphalt parking lots can cost 53% PER YEAR more in electrical energy than concrete parking lots (FL Power & Light)

In most cases, the difference in initial cost can be recuperated in 2 to 5 years with energy savings

(1) Pictures taken in Springfield, IL in February at 9:00 pm, within 5 minutes of each other on the same camera settings. Lots are same size & have the same number of light poles
(2) Influence of Pavement Reflectance on Lighting for Parking Lots, W. Adrian & R. Jobanputra, PCA R&D Serial # 2458, 2005
Concrete’s higher albedo reflects significantly more sunlight than asphalt.

LEED Sustainable Site Credit 7.1
Provide 50% of hard surface with Surface Reflectance Index (SRI) of 29 or higher
PCC SRI  351 - 1 Credit
AC SRI  01 – 0 Credit
100% of hardscape with SRI > 29 allows for an additional “Exemplary Performance” point

Concrete’s surface temperature is approximately 22°F lower than asphalt. Lowering a City’s temperature reduces smog and decreases utility bills.

Decreases levels of pollution (CO2, NOx, SOx, PM, VOC, smog)

Temperature reduction allows for savings in refrigeration and cooling.
CEMEX Egypt

Low CO2 Products
Cement Market

- 20 Competitors
- Competitive Market
- Annual Consumption 55 M Tons
  - Products
    - CEM II
    - CEM III
    - CEM IV
Projects with Blended Cement

- National Cancer Institute
- Assiut New Barrage
- Assiut Power Plant
- Tunnels
Objective

Transform our products into blended cements having lower Carbon footprint offering better product to our customers
Switching to Blended Cement

1. Material Survey
2. In House Lab Analysis
3. Testing with External Institutions
4. Internal Testimonials
5. External Testimonials
6. Sales Team Training
7. Marketing
8. Launching
CEM I Versus Blended Cement?
### Compressive Strength

#### CEM I 42.5

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#### CEM II/B

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#### CEM IV

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**Strength Progression with Time**
Durability
Durability

Sulphate Attack @ 180 Days

- CEM I: 6%
- CEM IV/A: 5%
- CEM II/B: 3%
- CEM II/B: 1%
- CEM IV/A: 0%

CEM II & CEM IV show better resistance to Chloride & Sulphate Attacks

Chloride Attack @ 180 Days

- CEM I: 14%
- CEM IV/A: 14%
- CEM II/B: 12%
- CEM IV/A: 12%

CEM II & CEM IV show better resistance to Chloride & Sulphate Attacks
Achievements
Achievements

Clinker Factor
- 2017: 87%
- 2018: 85%
- 2019: 78%
- 2020: 73%
- 2021: 67%
- 2022: 67%

Vertua Blended Cement %
- 2017: 8%
- 2018: 18%
- 2019: 78%
- 2020: 98%
- 2021: 95%
- 2022: 97%
Since Jan 2021, we saved 383,196 kg CO2 equivalent to:

- Passenger vehicles driven for one year (383,196 kg CO2)
- Wind turbines running for a year (405)
- Tree seedlings grow for 10 years (29,224,980 kg CO2)

As per the calculator of USA EPA
What are our 2030 targets?

Kg CO2 per ton cementitious

- 28%
- 50%
- 54%

1990: 752 kg CO2 per ton cementitious
2016: 806 kg CO2 per ton cementitious
2021: 545 kg CO2 per ton cementitious
2022: 506 kg CO2 per ton cementitious
2023: 462 kg CO2 per ton cementitious
2024: 434 kg CO2 per ton cementitious
2025: 374 kg CO2 per ton cementitious
2030: 345 kg CO2 per ton cementitious
Challenges
Challenges

✔ Awareness

✔ Word “Blended Cement”
  ✔ Color

✔ Consultant Approval

✔ Over-Designed Mixes

✔ Asphalt Usage