

**FUTURE
IN
ACTION**
COMMITTED TO NET-ZERO CO₂

CEMEX at Glance

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.

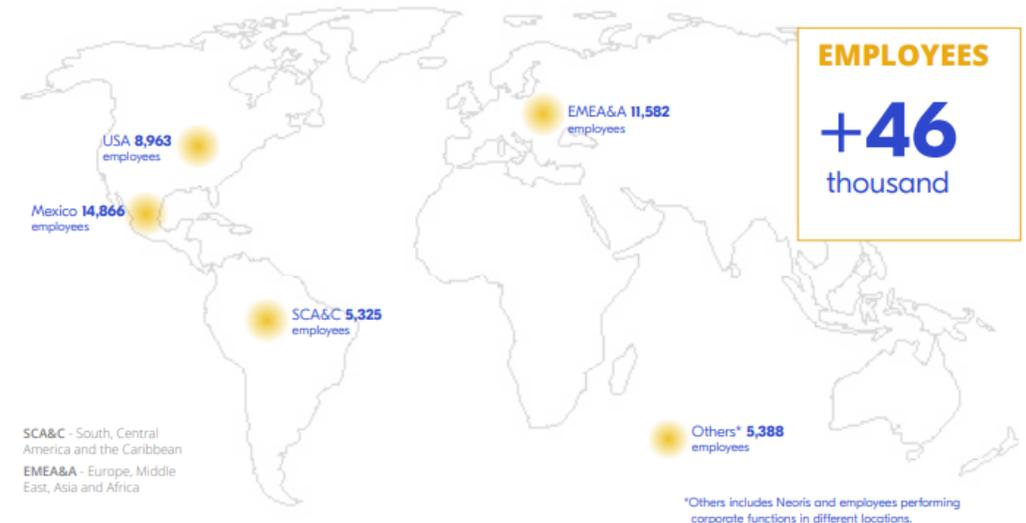
OUR CORE BUSINESSES

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

89
million metric tons installed production capacity

READY-MIX CONCRETE

1,351
plants

49
million m³ annual sales volume

AGGREGATES

253
quarries

137
million tons annual sales volume

TERMINALS

269
land distribution centers

67
marine terminals

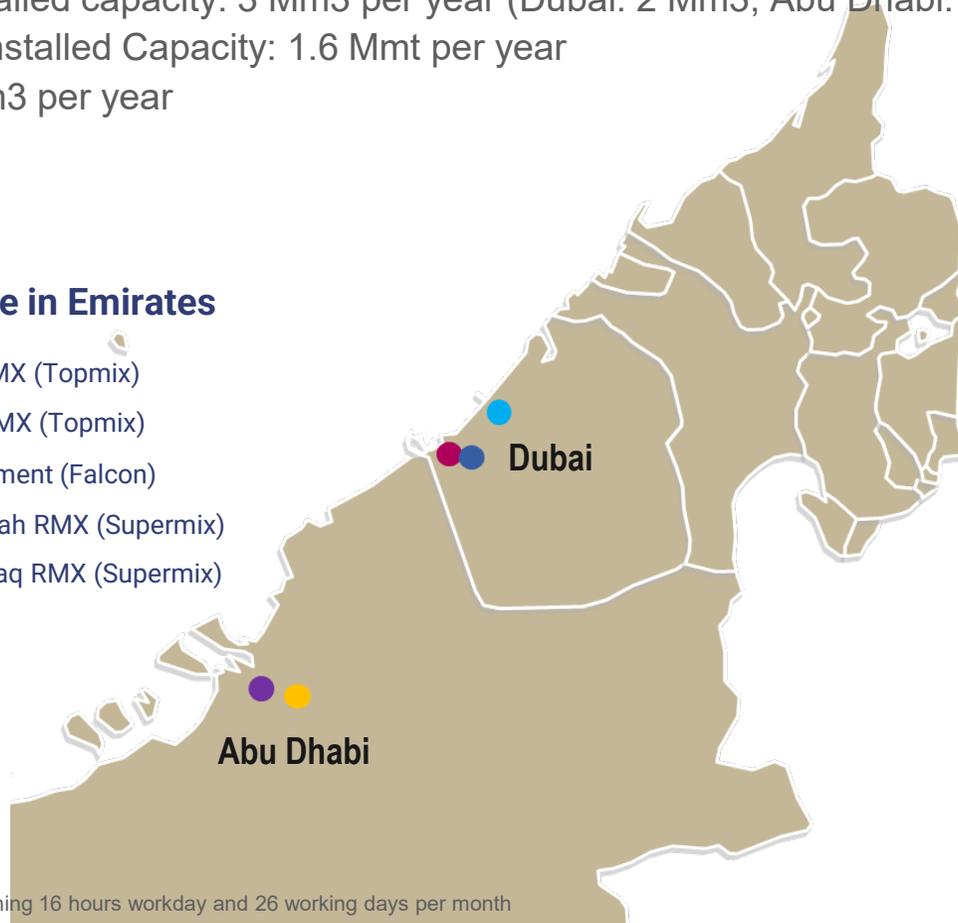
CEMEX In The Emirates

CEMEX has more than 20 years of presence in the UAE offering Cementitious, Ready-mix, Paving and Urbanization solutions.

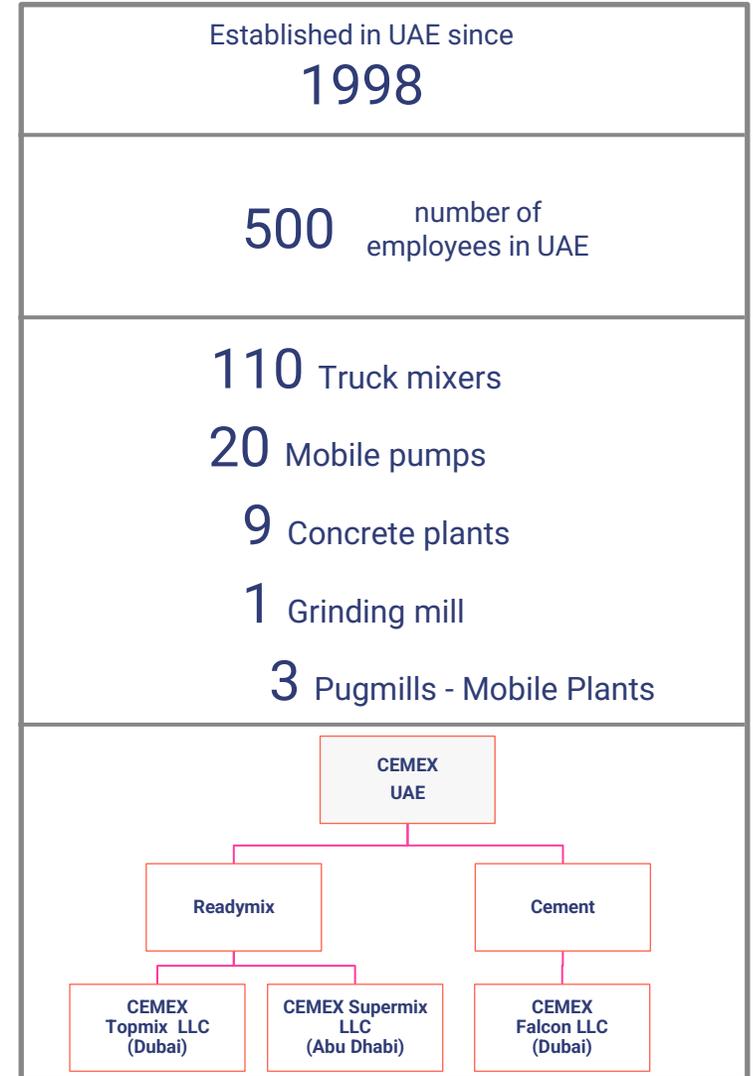
- ✓ Ready mix installed capacity: 3 Mm³ per year (Dubai: 2 Mm³, Abu Dhabi: 1 Mm³)
- ✓ Cementitious installed Capacity: 1.6 Mmt per year
- ✓ Paving: 1.0 Mm³ per year

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)



note: RMX capacity considers assuming 16 hours workday and 26 working days per month



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.

The "Future in Action" logo features the words "FUTURE", "IN", and "ACTION" stacked vertically. "FUTURE" is preceded by a blue-to-purple gradient bar, "IN" is preceded by a green-to-yellow gradient bar, and "ACTION" is preceded by a purple-to-pink gradient bar. The text is in a bold, white, sans-serif font.

**FUTURE
IN
ACTION**

COMMITTED TO NET-ZERO CO₂



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)*



Building a better future

**FUTURE
IN
ACTION**

COMMITTED TO NET-ZERO CO₂



Sustainable Products & Solutions

Vertua[®]

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



Vertua cement CO₂ reduction



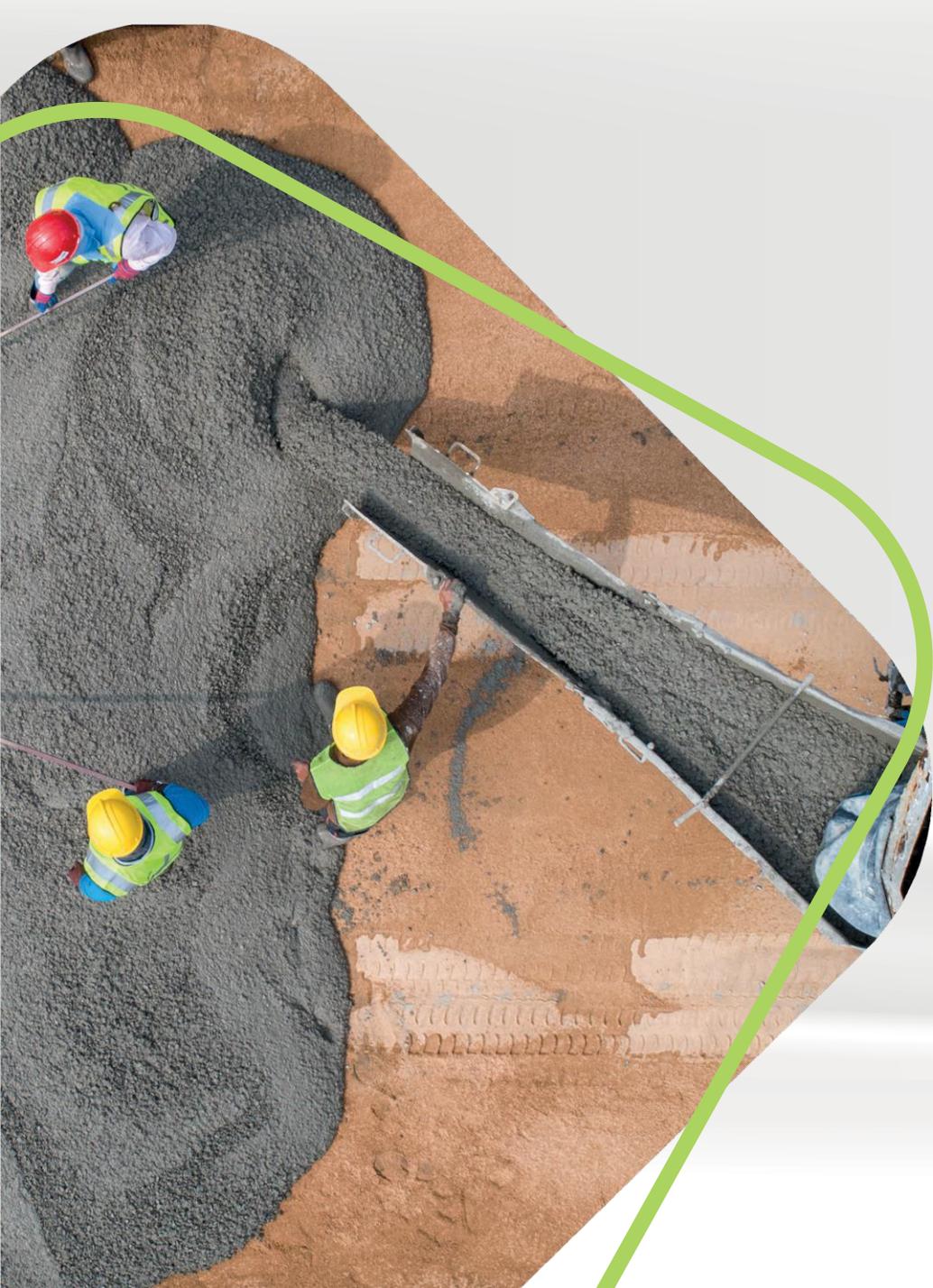
CEMEX – Vertua Cement *Classic*

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.

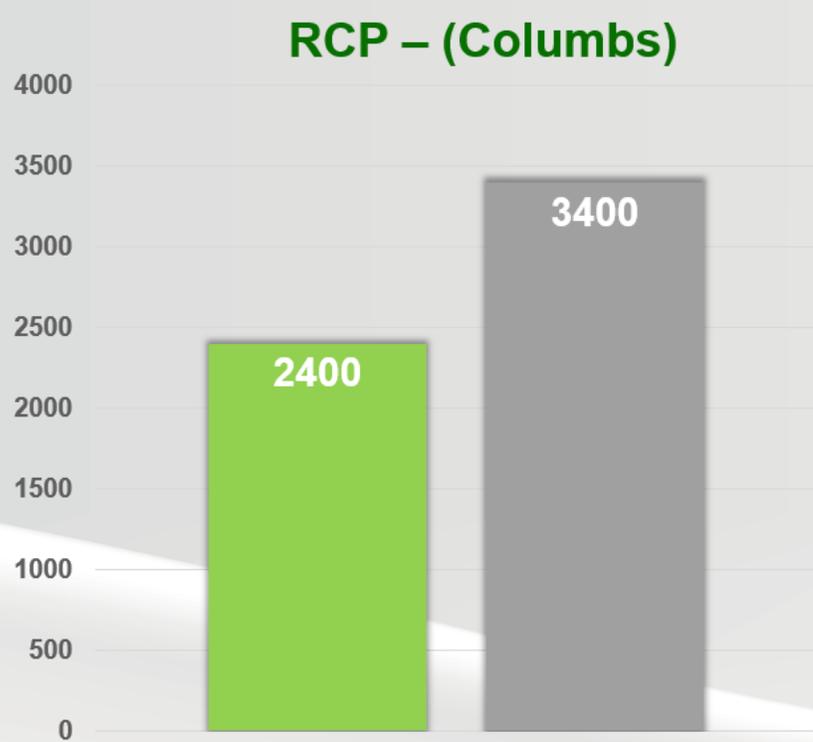




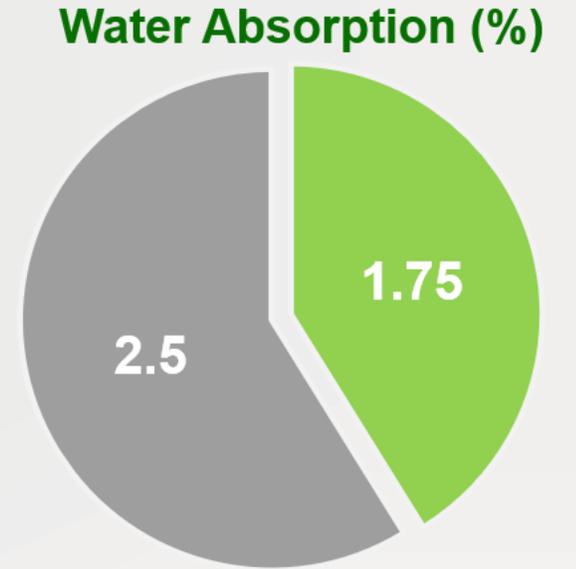
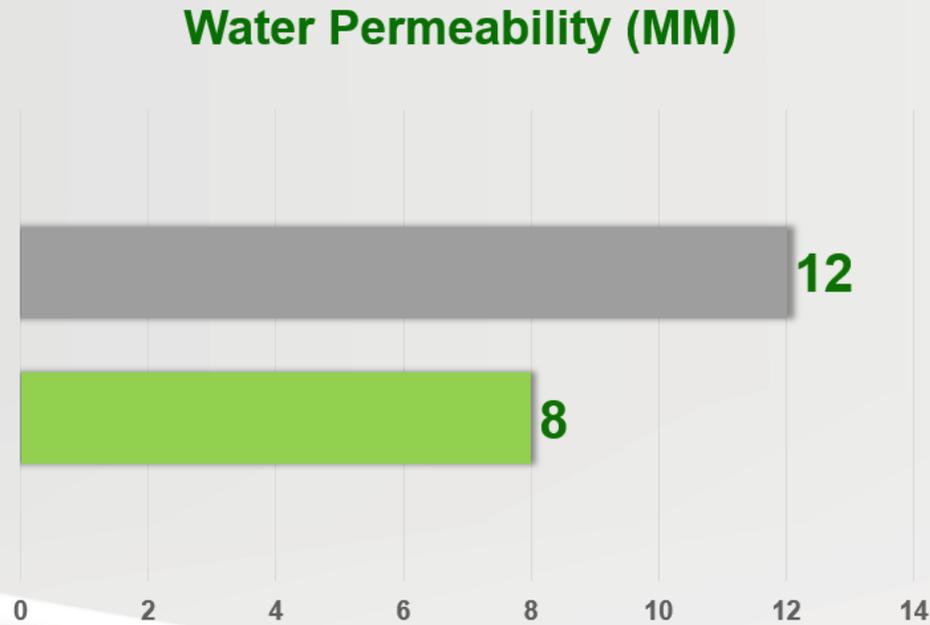
Applications & Usage

- 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.

DURABILITY



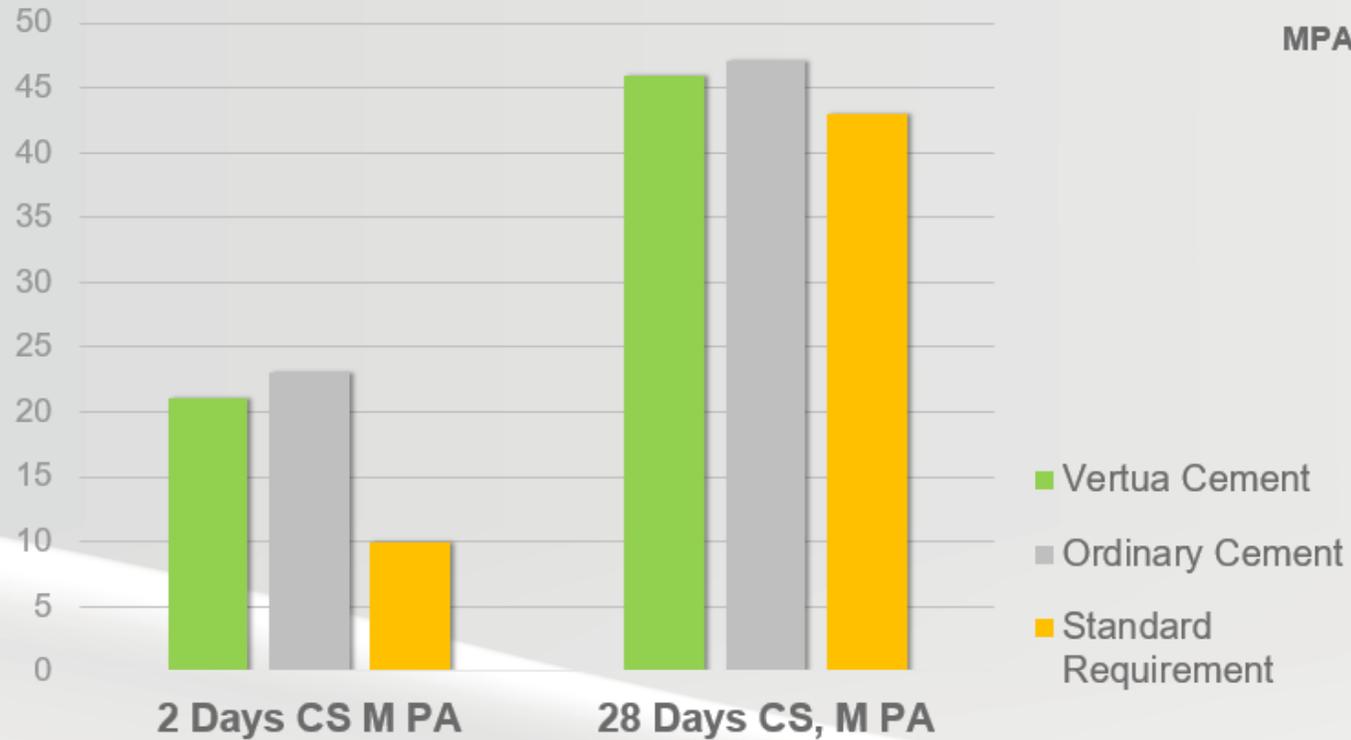
■ Ordinary Cement ■ Vertua Cement



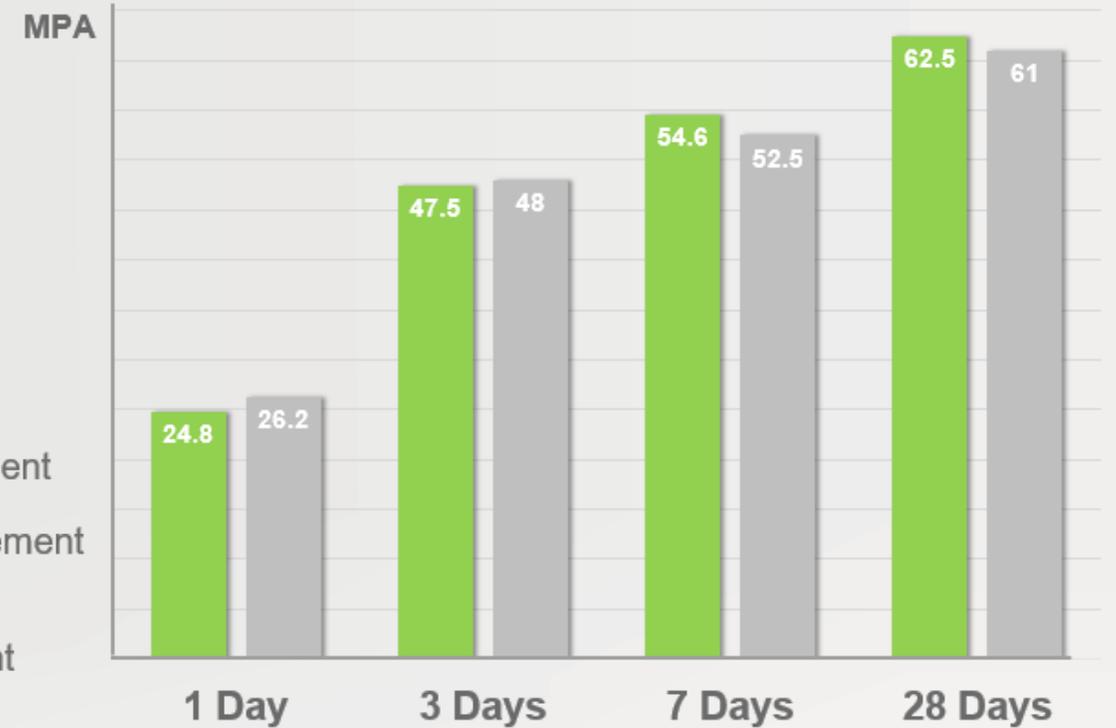
**CEMEX VERTUA
CEMENT**

**PROVIDES SIGNIFICANTLY
BETTER DURABILITY CRITERIA**

MORTAR COMPRESSIVE STRENGTH



CONCRETE COMPRESSIVE STRENGTH



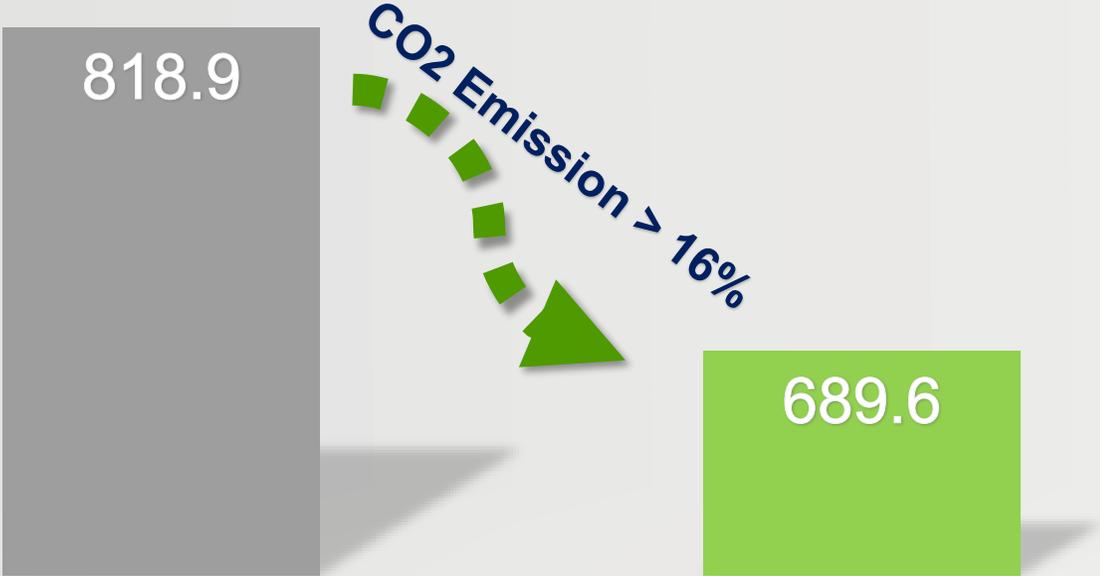
CEMEX VERTUA CEMENT

COMPRESSIVE STRENGTH EXCEEDS
STANDARD REQUIREMENTS



GIVES HIGHER LONG TERM
COMPRESSIVE STRENGTH

EMISSION KG CO2/Ton ORDINARY CEMENT vs VERTUA CEMENT



■ Ordinary Portland Cement ■ Vertua Cement

CEMEX VERTUA CEMENT

PROVIDES %16 CO2 REDUCTION VS. ORDINARY CEMENT

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:(وصف المادة)

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

وللمزيد من الاستفسارات بهذا الشأن يمكن للمعنيين لديكم التواصل مع المهندس / إيهاب محمد على الهاتف رقم ٢٠٦٣١٩٧-٠٤ أو البريد الإلكتروني IMBASSIOUNI@dm.gov.ae

وتفضلوا بقبول فائق الاحترام والتقدير،،

عن / م. عائشة احمد الملا
مدير قسم البحوث وأنظمة البناء



في حال تغيير مصدر المواد الخام، يجب على الشركة اخطار بلدية دبي وتقديم جميع الاختبارات والتقارير الفنية الخاصة بالمواد الخام لمراجعتها وتقييمها، وبناء عليها يتم تعديل رسالة عدم الممانعة.

تم إضافة المادة للحاسبة الخرسانية على منصة GaBi Envision ويمكن للشركات المشتركة في الحاسبة البدء بإضافتها للخلطات الخرسانية وتقييمها.

Subject: No Objection for Use of Cement Material in Concrete Mixes under Dubai Sustainable Concrete Baseline (Dubai Building Code ٢٠٢١) / Circular ٢٢٥

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 ٢٢٥, Attachment ٢ - 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 EIAC 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...).

المرجع: ١٥٢٦٥٠٤-٢٢/٢٢-٢٠٢٢ DM

التاريخ: ٢٨/٠٢/٢٠٢٢

المحترمين،،

السادة / شركة سيمكس الصقر (ش.ذ.م.م)

رقم الرخصة: ٥٠٨٩٨٢

رقم المعاملة: ٢٧٩٣٦٩-٢٠١

دبي - الإمارات العربية المتحدة

تحية طيبة وبعد،،،

الموضوع: لا مانع من استخدام مواد اسمنتية في الخلطات الخرسانية ضمن متطلبات خط أساس دبي للخرسانة المستدامة (تعميم ٢٢٥ / كود دبي للبناء ٢٠٢١)

بالإشارة إلى طلبكم بشأن استخدام الاسمنت البورتلاندي المركب (Portland-composite Cement) في الخلطات الخرسانية يرجى العلم انه لا مانع لدينا من استخدام الاسمنت CEMEX VERTUA CEMENT الموضحة تفاصيله ادناه والمصنعة من قبل مصنع سيمكس الصقر والمطابقة للمواصفة القياسية (BS EN 197-1 CEM II/A-P) وذلك في الخلطات الخرسانية وفقا لكود دبي للبناء ٢٠٢١ - الجزء F- ملحق F.11 والتعميم رقم ٢٢٥ (المرفق ٢ - خط اساس دبي للخرسانة المستدامة) مع الالتزام بالشروط المذكورة ادناه

- ان تقوم الشركة بالتأكد من مطابقة الاسمنت لمتطلبات المواصفة القياسية (BS EN 197-1 CEM II/A-P) عن طريق مختبر دبي المركزي او المختبرات المعتمدة من مركز الامارات العالمي للاعتماد (EIAC) وذلك عند البدء بإنتاج المواد محليا وقبل البدء بتوريدها للسوق المحلي.
- ان من مسؤولية مصنع الاسمنت اجراء الاختبارات الدورية اللازمة على المواد للتأكد من مطابقتها لمتطلبات المواصفة القياسية وذلك بناء على اجراءات ضبط الجودة المتبعة لدى المصنع.
- ان من مسؤولية مورد الخرسانة الجاهزة والمقاول والاستشاري التأكد من مطابقة خصائص الخلطات الخرسانية المستخدم فيها هذه المواد (fresh and hardened) لمواصفات (concrete properties including workability, strength, durability...)

المشاريع المورد لها.

VERTUA CO2 REDUCTION CALCULATOR



Vertua[®] | classic
Low carbon by design

100

↓ 36%

↓ 3

↑ 220

Vertua[®] | plus
Low carbon by design

100

↓ 51%

↓ 4

↑ 329

Vertua[®] | ultra
Low carbon by design

100

↓ 78%

↓ 6

↑ 482

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.



Vertua[®]

Low carbon by design

Since August 2021, we saved

5 7 8 6 9 0 0 0

KG CO2

EQUIVALENT TO

12,469



Passenger vehicles driven for one year

7,289



Homes' energy use for one year

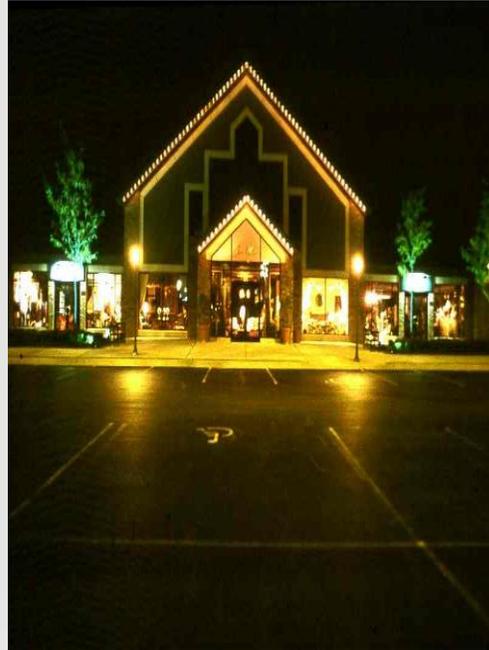
956,869



Tree seedlings grow for 10 years

As per the calculator of USA EPA

Savings in Energy Cost & Safety



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 concrete²

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)

(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 Pavements

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

Concrete Reduces Ambient Temperature up to 12°C

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, NO_x, SO_x, PM, VOC, smog)



Concrete Pavements

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

Tough Market



Projects with Blended Cement



National Cancer Institute



Tunnels



Assiut Power Plant



Assiut New Barrage

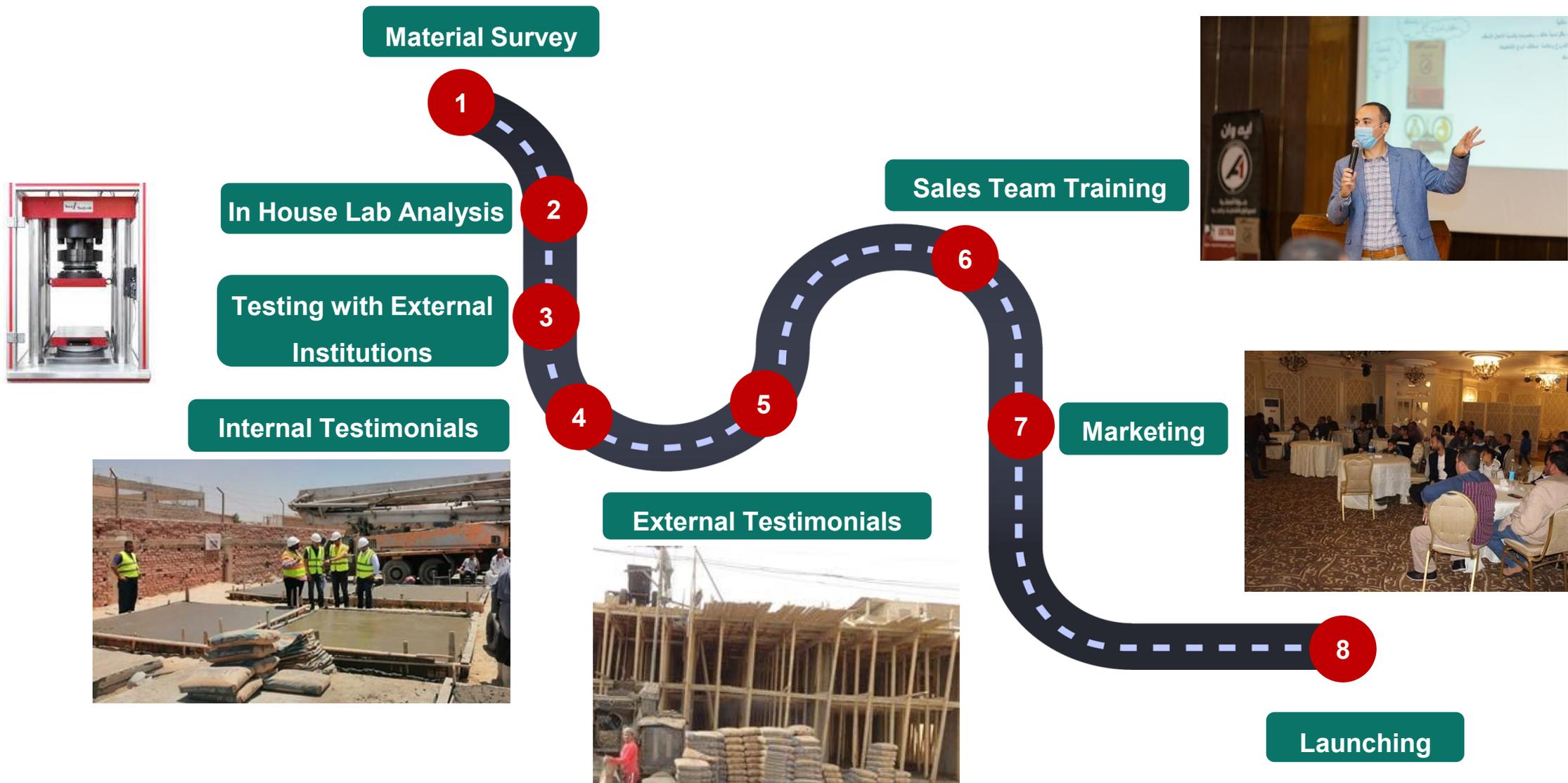




Objective

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

Switching to Blended Cement





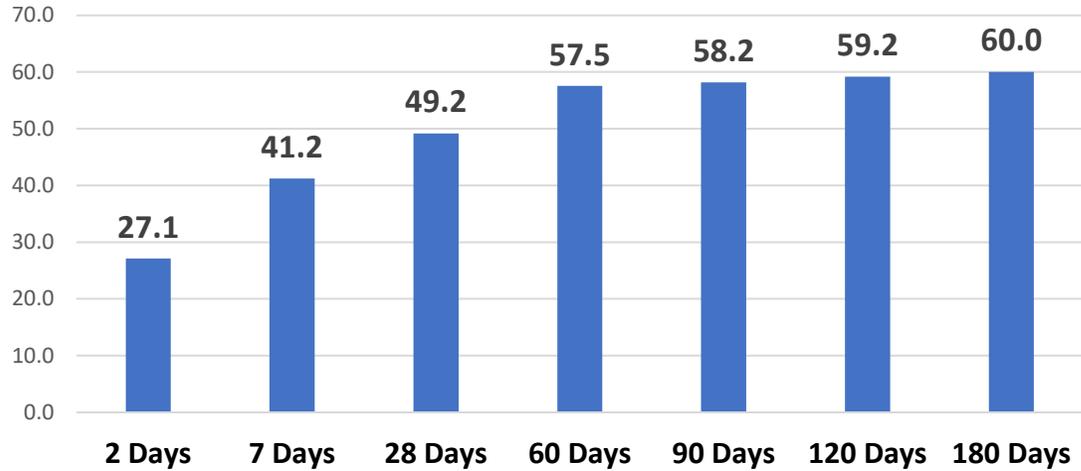
CEM I Versus Blended Cement ?



Compressive Strength



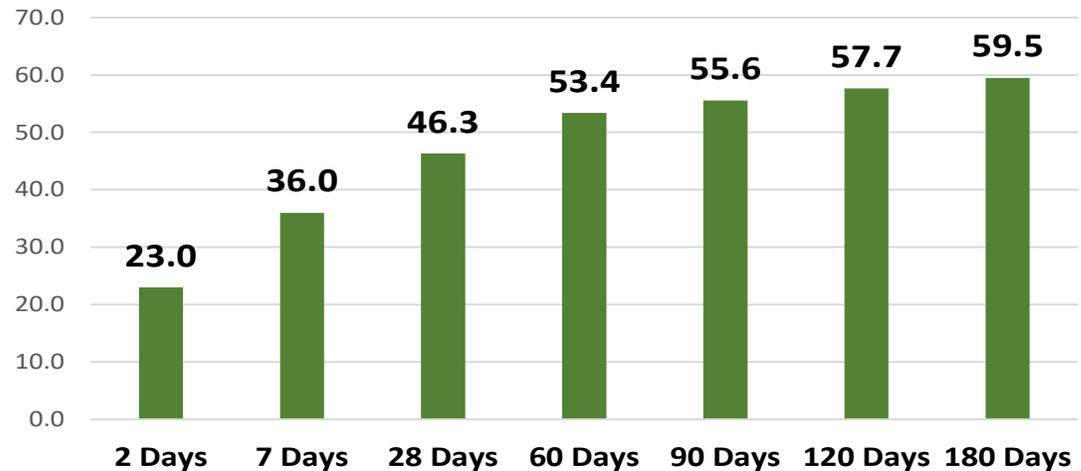
CEM I 42.5



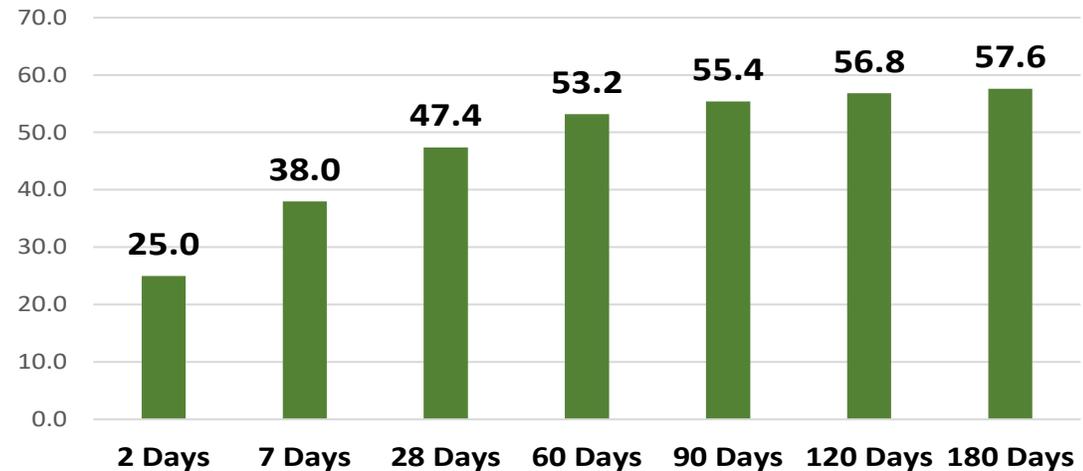
Strength Progression with Time



CEM II/B



CEM IV



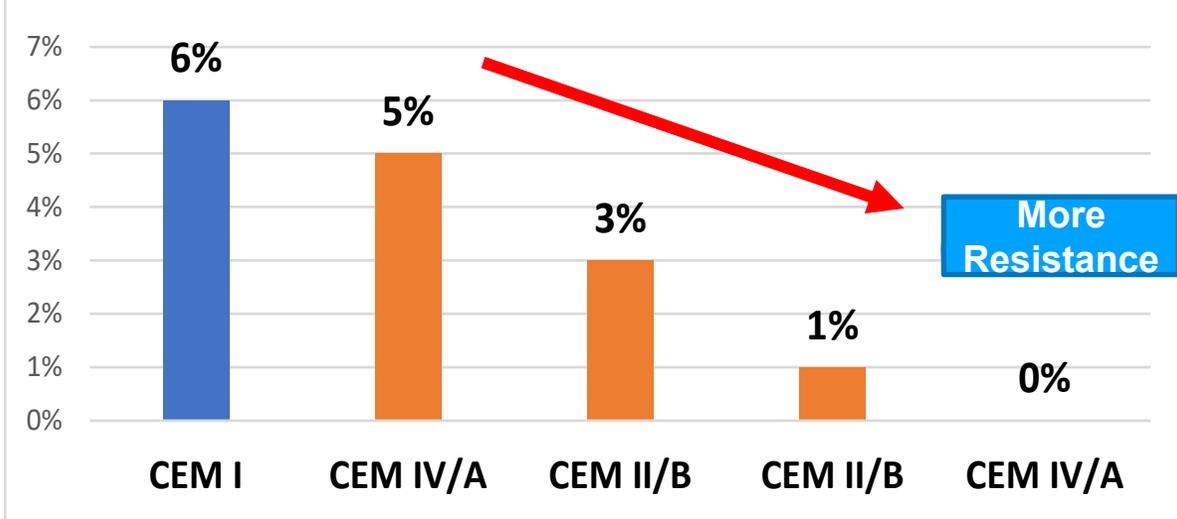
Durability



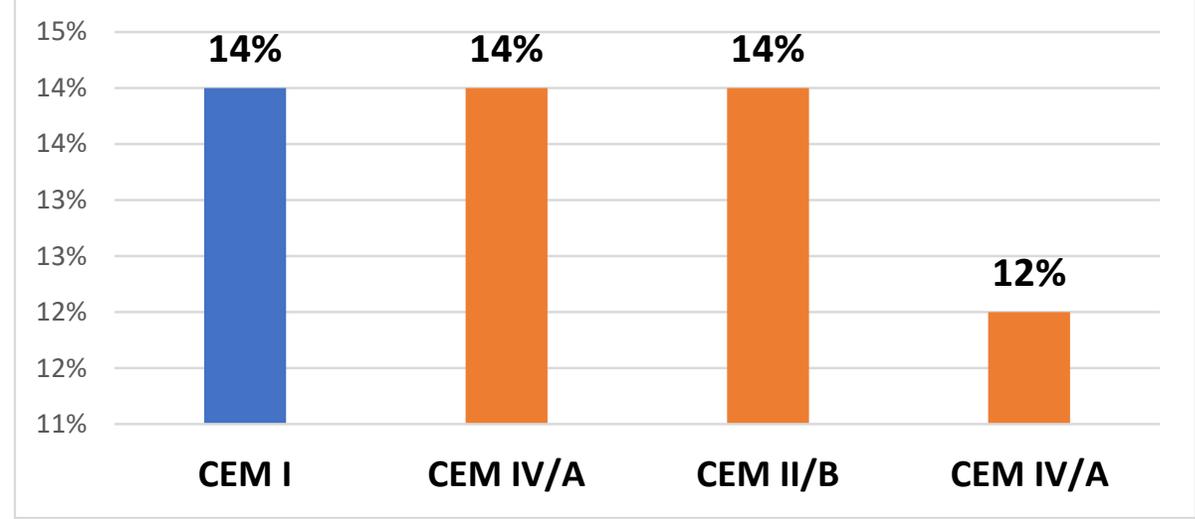
Durability



Sulphate Attack @ 180 Days



Chloride Attack @ 180 Days



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

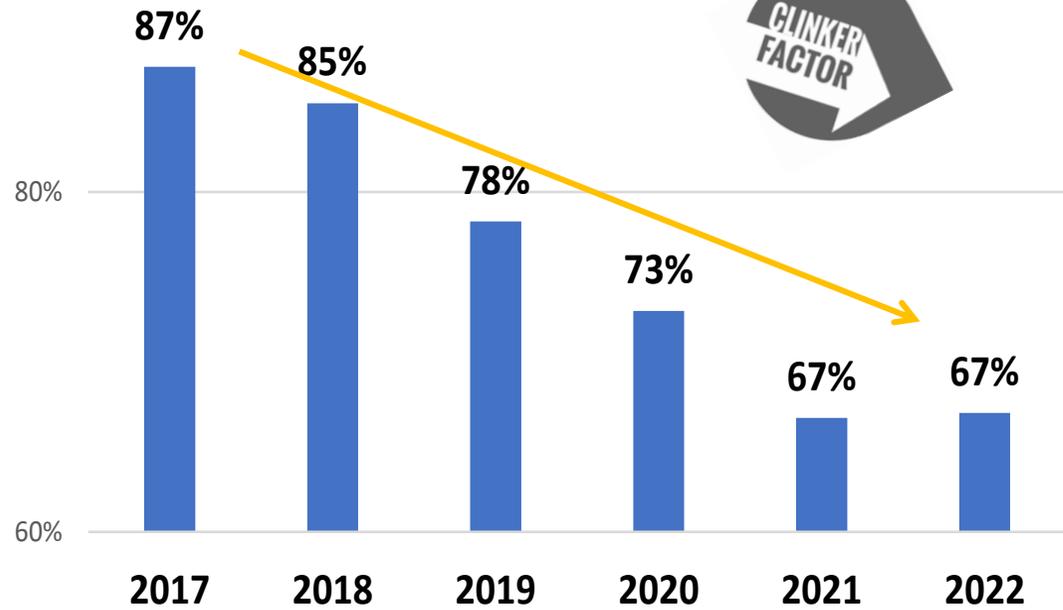
Achievements



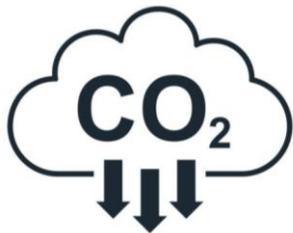
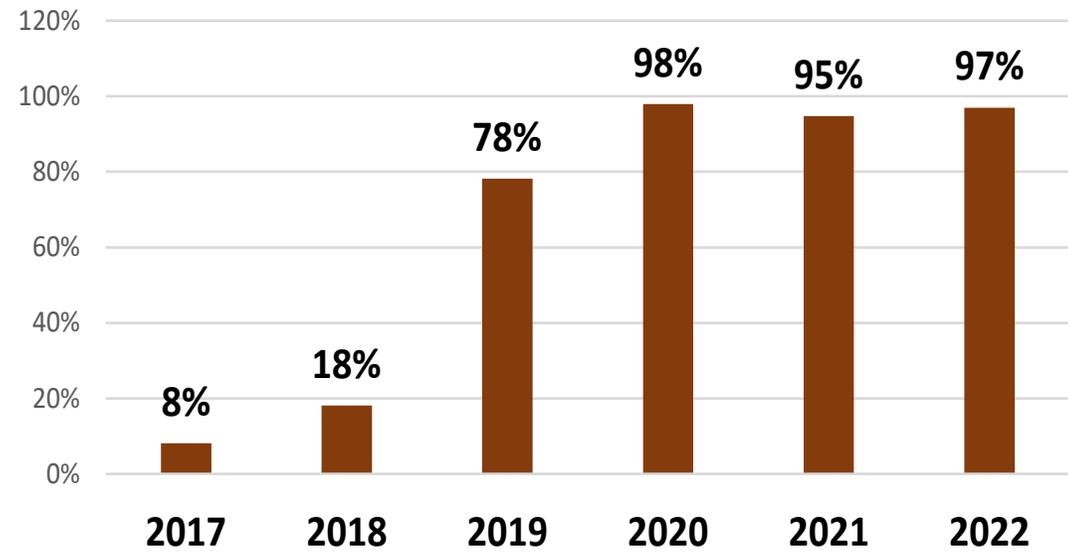
Achievements



Clinker Factor



Vertua Blended Cement %





Since Jan
2021, we
saved

1 7 6 7 4 4 3 5 4 0

KG CO2

EQUIVALENT TO

383,196



Passenger
vehicles driven
for one year

405



Wind turbines
running for a
year

29,224,980



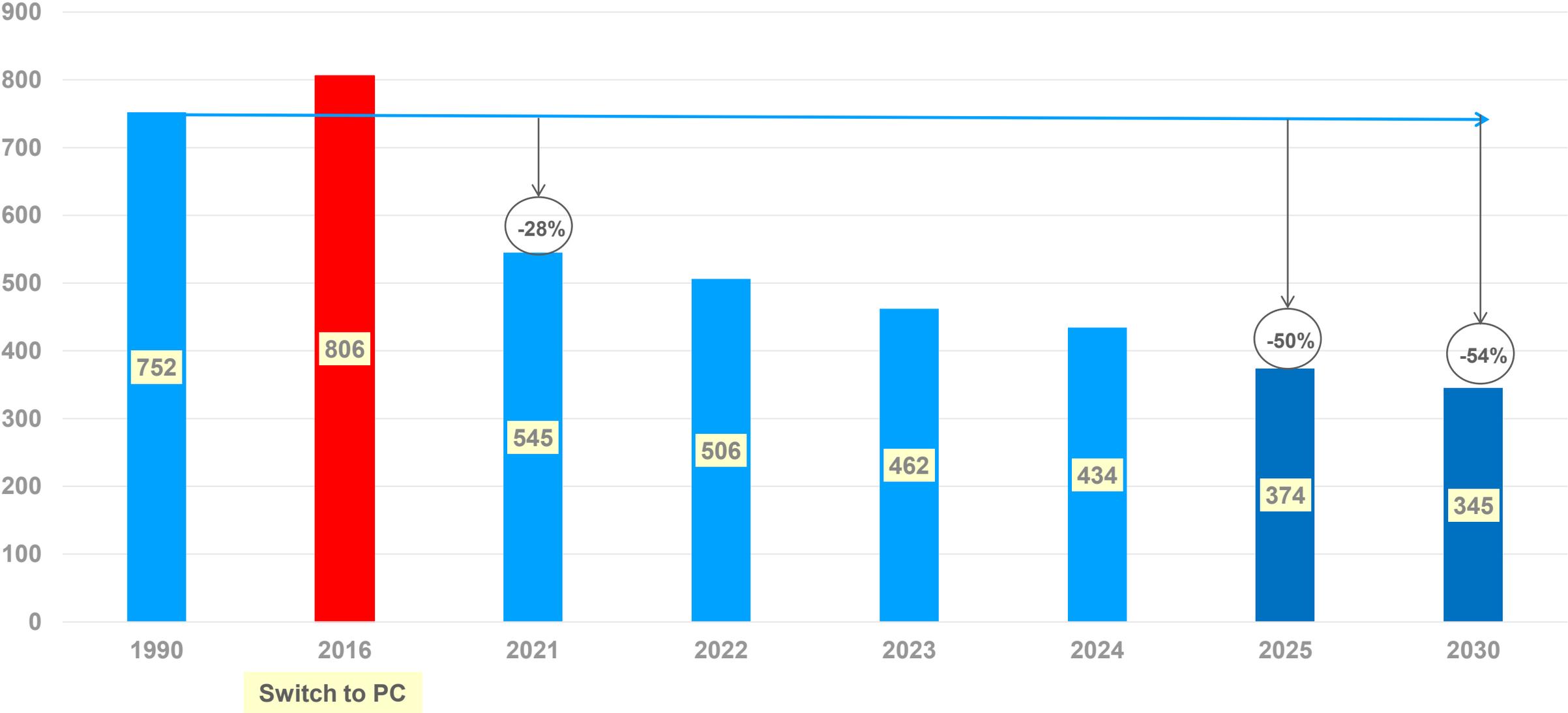
Tree seedlings
grow for 10
years

As per the calculator of USA EPA



What are our 2030 targets?

Kg CO2 per ton cementitious



Challenges



Challenges



- ✓ Awareness
- ✓ Word “ Blended Cement”
 - ✓ Color
- ✓ Consultant Approval
- ✓ Over-Designed Mixes
- ✓ Asphalt Usage



Vertua[®]
Low carbon by design



VERTUA UAE Cement
CEMEX's low-carbon cement 