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CEMEX México

Sector: Construction

Región: Mexico

Best Practice:



CEMEX is a global building materials company that provides high-quality products and reliable services to customers and communities in more than 50 countries. CEMEX has a remarkable track record of benefiting those it serves through innovative construction solutions, efficiency improvements, and efforts to promote a sustainable future.

Given the importance of challenges related to sustainability that society faces, CEMEX, through its laboratories and research and development center in Switzerland, have managed to integrate sustainability into its business strategy which includes Mexico. With the help of CEMEX's Sustainability Model, sustainable practices have been incorporated into daily operations and decision-making processes around the world. The CEMEX model enables us to concentrate efforts and resources on the issues of greatest relevance to the company and the greatest concern of its stakeholders.

CEMEX's sustainability model is the result of a detailed collaboration process that involves a dialogue with different internal and external stakeholders which aims to address the most relevant challenges of society where the company can make a positive contribution, and this takes place in Mexico and other parts of the world.

With the strategic objectives organized around the economic, environmental, social and governance pillars, CEMEX's sustainability model is founded on 13 main priorities that seek to integrate sustainability into every aspect of the business, with the objective of creating value to all stakeholders.

CEMEX has goals for 2030 to contribute to the achievement of the United Nations sustainable development goals, and amongst its priority objectives (where it will be able to offer the greatest contribution) are:

- 8. Decent work and economic growth
- 9. Industry, innovation and infrastructure
- 11. Sustainable cities and communities
- 13. Climate action
- 15. Life of terrestrial ecosystems

In addition to this, due to the interconnection that exists between the objectives, the company's actions are also linked to the following:

- 1. End of poverty
- 3. Health and wellness
- 4. Quality education
- 5. Gender equality
- 12. Responsible consumption and production
- 17. Partnerships to achieve the objectives

CEMEX aims to have at least 50% of sales from products with sustainable attributes and to reduce net CO2 emissions to 35% by 2030.

Increasing urbanization makes the challenge of ensuring that cities grow in an inclusive, safe, resilient and sustainable way more complexed. To contribute positively and in line with its objectives, CEMEX México creates sustainable products and services for construction, such as cement, aggregates and ready-mix concrete. Within the pre-mixed concretes there are three families of sustainable concretes:

Vertua®, a family of concretes, made to measure that generate a reduction in carbon emissions (CO₂) compared to a reference concrete. Concreto Profesional® ECO is a family of concretes, manufactured with recycled raw material, waste or by-products from other industries. Concreto Profesional® ECO Agua are concretes with substitution of drinking water, both the one used as raw material, and the water used for the production process. Concreto Profesional® ECO Circular are concretes with substitution of cement or aggregates by waste materials from other industries, such as fly ash; crushed concrete, tire and PET. Pervia® concrete is a product that allows the passage of water product of rain and irrigation, through its structure, with the main objective of recharging aquifers, as well as the possibility of collecting and reusing it. The system works in conjunction with the design of bases, which will allow the collection of water.

Users of CEMEX products and services are considered within the entire life cycle of buildings, from investors and project developers, designers, engineers and architects, builders and the occupants / users of all these projects. Furthermore, our specific Ingenia ECO and ECO Circular are a clear example of how our actions are linked to other SDGs such as SDG 12, through the reintegration of waste into the production cycle.

Mentality

CEMEX has based the development of its Sustainable Concretes on the Life Cycle Analysis (LCA) for several years, with the objective to determine the environmental footprints of the concretes and thus be able to generate proposals to make the processes more efficient from extraction of raw material to the delivery of concrete to customers. Under this analysis, various actions have been incorporated focused on recycling, hybrid transportation, use of alternative fuels, use of clean energy, determination of environmental and water footprints, voluntary publication of Environmental Declarations (EPD, for its acronym in English) and Health Product (HPD).

Analysis focused on critical points Vertua® and Concreto Profesional® ECO base their performance on an initial evaluation of the environmental impacts generated by the Life Cycle Analysis, which leads to communicate the reduction of impacts with scientific support. Vertua® has been developed to reduce CO₂ emissions from 30% compared to conventional concrete and up to carbon neutral. The CO₂ that a cubic meter of Vertua® concrete reduces is equivalent to the CO₂ absorbed by 5 trees in one year. ECO Professional Concrete® minimizes the environmental footprint of concrete, promoting circularity and contributing to the care of the planet. ECO Professional® Concrete allows the replacement of 100% of drinking water and allows the replacement of up to 30% of non-renewable raw material.

Integration of Sustainability Concrete has characteristics of versatility and robustness to continue building and developing the infrastructure and building that humanity requires. Having sustainable concrete that neutralizes its impact on the environment also helps development. Every year CEMEX publishes in detail all the actions that it carries out across the board in favor of sustainable development, in accordance with the Global Reporting Initiative (GRI) standards.

Principle 1: Reliability



CEMEX has a CO₂ emissions calculation tool called CEMEX CO₂ footprint tool, which bases its calculations on the GHG protocol of the Global Cement and Concrete Association, and on the ISO 14067-14040 and PAS2050 standards. CO₂ Footprint calculations according to these standards are necessary to meet the requirements of a carbon neutral product system by a chosen certifier.

For ECO Professional Concrete®, a certificate is issued with the content of recycled material included in the concrete, the quantities are extracted from an automated system (SAP) that records the actual loads of each dosed material and does not allow any manipulation. The quantity shown on the certificate is that which is extracted from the actual load at the time the recycled material is dosed into the concrete. This information is delivered physically or electronically to the customer, at the end of the total or partial supply at the customer's request.

The CEMEX Tool uses a life cycle analysis from cradle to construction (A1> A4) at the product level, which means that transport to the customer is also measured. The tool is certified by the third entity, DNV (Det Norske Veritas) according to the latest standards.

Principle 2: Relevance



It is known that the cement and construction industry contributes significantly to the generation of greenhouse gas emissions worldwide, and that ready-mix concrete is the most widely used construction material in the world. For Vertua® concretes, the benefits shown in the technical sheets highlight the efforts made to neutralize all the CO2 emissions that the concrete generates, and that CEMEX has established that by 2050 all the concretes produced must be carbon neutral, which evidences the differentiation that is being made with other companies and industries to achieve that goal.

Concrete is the most widely used construction material in the world and by 2050 CEMEX seeks to make it carbon neutral.

Principle 3: Clarity



Certificates of both CO2 emission reduction and recycled content are only issued for Vertua® and Professional Concrete® ECO concretes respectively; in other words, only the concrete ones that are offered and sold in this way will be able to show their characteristics of reducing emissions and resources. These certificates have the precise and exact information of the concrete supplied.

The percentages of reduction of CO2 as recycled content depend on the type of concrete, raw material used and the design of the mix, so the percentage and exact figures are communicated to the client prior to the supply of the requested concrete, which are also recorded in the certificate delivered. To be considered Vertua, the minimum CO2 reduction is 30% compared to conventional concrete and this reduction can be taken up to more than 70% with employment actions of different types of cement, raw material, mix design, additives and mixing process, manufacturing.

The remaining percentage can be neutralized through tools such as CO2 offsets.

Vertua® concretes reduce CO2 emissions between 30 and 100% compared to conventional concrete. ECO Professional® Concrete allows the replacement of up to 100% potable water and up to 30% recycled solid raw material.

Principle 4: Transparency



There is additional information on the CEMEX website, where the information is handled in a language that is easy for users to understand. In the certificates delivered, a comparison is also made of the CO2 reductions and recycled materials in easily understandable equivalents for the target audience, as an equivalent quantity of trees to absorb the CO2 avoided by the supplied quantity of Vertua® concrete.

In the case of ECO Professional Concrete®, it shows the equivalent in quantity of recycled material that is avoided in a sanitary landfill depending on the material and, in the case of water, the amount of drinking water used by number of families, or number of tires equivalent, etc. The recycled content or the reduction of CO2 emissions are communicated to the customer prior to supply, through the quotation.

The certificates issued by Vertua® and Concreto Profesional® ECO show the reduction of CO2 emissions and the percentage of substitution of recycled material.

Principle 5: Accessibility



Because the ready-mixed concrete is transported to the site of use, it does not have a packaging or physical element that allows the information related to the product to be displayed. However, the foregoing, all the information related to its mechanical, physical and sustainability properties is arranged in Technical Sheets, which also show the benefits, uses, recommendations and any relevant observations.

The Technical Data Sheets of the Vertua and Concreto Profesional® ECO concretes are available in electronic formats and means that ensure their consultation at any time and place.

Principle 6: Three dimensions of Sustainability



CEMEX has been recognized as the best company in the Price and Quotation Index (IPC) of the Mexican Stock Exchange (BMV), which highlights its practices in the 3 pillars of sustainability: Corporate Governance, Social Responsibility and the Environment.

Social

CEMEX, through its social impact strategy, seeks to improve the quality of life and well-being of its stakeholders. For this reason, the specific Vertua® and Concreto Profesional® ECO have Product Health Declarations (HPD). CEMEX has been distinguished as the company with the best strategy in Corporate Social Responsibility by the Mexican Stock Exchange, Best Practices in Social Responsibility and Socially Responsible Company (ESR) by the Mexican Center for Philanthropy (CEMEFI), among others. CO2 emissions offsets are the product of social projects in the countries where such offsetting is offered. For example, in Mexico social projects are promoted such as the availability of efficient firewood-based concrete stoves in vulnerable communities that generally use stoves or cooktops, reducing emissions to the interior and exterior of homes, thereby improving the health of the inhabitants. We also have projects for the rational use of natural resources in the communities, replacing the overexploitation of resources with productive projects of greater added value for the subsistence of communities. Likewise, by taking advantage of resources (waste) that did not have a previous value and the integration of collection and treatment businesses to our value chain, we strengthen local economic development.

Environmental

The reduction of CO2 emissions until reaching carbon neutrality in each cubic meter of concrete, directly addresses the environmental dimension, reducing the impact of Global Warming, as well as other results of the Life Cycle Analysis carried out such as Soil Acidification and water, Eutrophication Potential, Potential for the formation of tropospheric ozone, among others. Vertua® and Concreto Profesional® ECO concretes have Environmental Product Declarations (EPD) verified by a third-party entity that directly address the environmental dimension.

Economical

Reduces dependence on primary and finite resources and allows valuing articles and products that did not have a value. The economic offer of non-renewable natural products continues to be more attractive than that of recycled raw materials, in this way we seek to reverse this trend by promoting the use of recycled materials in manufacturing. In addition to this, some of these types of concrete can generate an economic benefit for our clients, by reducing the energy used in ventilation of sites, it is important to remember that most of the energy use of buildings comes from the use phase, due to increased built-in insulation.

Principle 7: Behavior Change and Long-Term Repercussions



The technical sheets for Vertua® and Concrete Professional® ECO concretes seek to convey the message of environmental benefits clearly for any user, not just technical experts in the construction industry. This facilitates understanding of the impacts of the product translated into everyday aspects, generating awareness and a change in behavior. With these messages, an empathy with the client is created, generating a long-term relationship.

The CO₂ that a cubic meter of Vertua® concrete reduces is equivalent to the CO₂ absorbed by 5 trees in one year. The amount of drinking water that is replaced in one cubic meter of Concreto Profesional® ECO AGUA is equivalent to the daily consumption of 1 person.

Principle 8: Innovative Approach and Utilization of Multiple Channels



Due to the nature of concrete, communication related to environmental performance and impact reductions achieved through innovations in its formulation is complex; Therefore, the information is made available to users on our website, and the Mobile Application "Soluciones en Concreto".

In the channels of access to the information that we have available, you can find the Technical Sheets. The information is also presented through public webinars, conferences and talks in Schools or Institutes, as well as in Fairs, Congresses and Seminars.

Vertua® and Concreto Profesional® ECO have information available through the mobile application "Soluciones en Concreto" anywhere.

Principle 9: Collaboration



The manufacture of Professional Concrete® ECO is possible thanks to the collaboration with other industries, by identifying the waste they have in their production processes and finding the opportunity to value these by-products or residues. With this Professional Concrete® ECO there is a collaboration with the food industry, as well as other productive industries.

The recycled raw material comes mainly from the collaboration of the food and bottled water industry, as well as the industry that processes and disposes of urban waste.

Principle 10: Comparability



CEMEX has Environmental Product Declarations (EPDs), which have been prepared with the GCCA EPD tool developed by Quantis and verified by Studio Fieschi. The International EPD® System, which provides the framework for developing and publishing EPD based on ISO 14025 and EN 15804 standards, gives final approval of the tool's compliance with the standards. These EPDs are verified by the Athena Sustainable Materials Institute in Canada and published by the National Ready Mix Concrete Association in the United States of America.

These tools allow the user to compare conventional or traditional CEMEX concretes, allowing the user to know the percentage of reduction in CO₂ emissions, the amount of recycled material used or the amount of natural material that is no longer used and, consequently ; facilitate decision-making based on scientific information endorsed by third parties.

CEMEX has Environmental and Health Product Declarations that allow for comparability between our different types of concretes, as well as with other companies that also have EPD. Having these guarantees transparency to our stakeholders.



Figure 1. Certificate delivered for Vertua concrete.

Figure 2. Environmental Product Declaration (EPD) published by the National Readymix Concrete Association (NRMCA).



Figures 3.a, b and c. Technical Sheets of Vertua Concrete, ECO Professional Concrete, and Concrete Solutions Mobile Application.

Key learnings

- Click to edit Master text styles

This case study provides a real-life example of how consumer information on plastic packaging can be aligned with the fundamental principles of the [Guidelines for Providing Product Sustainability Information](#) (UN Environment & ITC 2017). The One Planet network does not endorse any of the products or claims presented in this case study in any way or for any purpose.



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