Our solutions

The transition to a low carbon concrete mix-design is one of the main levers to meet the challenges of sustainable construction. To facilitate this change, Chryso innovates with EnviroMix®, a global offer of admixtures and services to reduce your concrete carbon footprint.

Chryso's technical experts facilitate the use of new/various binders to achieve the targeted performance of your low carbon concrete.

EnviroMx®

Plasticizers and superplasticizers that leverage a variety of factors (SCMs, cement quantity, etc.) to significantly reduce your concrete carbon footprint.

EMx®

Solutions that harness the performance of our most advanced ranges (Chryso®Optima 1000, Quad®, Chryso®Mira, etc.) while contributing to the reduction of CO_2 in your concrete.

EnviroMx® ULC

Admixtures designed for projects incorporating alternative/disruptive materials such as clinker-free, sulfoaluminate and alkali-activated cements for your ultra-low carbon concrete.

Visit the web page
for more information:

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EnviroMx®

When low carbon meets high performance

Challenges

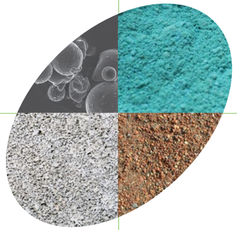
Environmental challenges urge us to reduce the carbon footprint of concrete. Various methods and materials are available to achieve these goals, with differing approaches according to geography, local contexts, regulations or materials availability.

SupplMentary Cementitious Materials (SCMs) originate either from natural sources or repurposed waste from other industries. In addressing the carbon impact of your concrete, new technical constraints must be factored in and managed with the right admixture solutions to achieve the performance you seek.

An overview of certain SCMs and their impact on concrete performance

Fly ash
- Reduced early strength
- Slow setting
- Air entrainer compatability
- Color variability

Limestone filler
- No intrinsic strength improvement
- Viscosity highly impacted beyond certain levels of use



Slag
- Slag variability
- Reduced early strength
- Slow setting

Calcined clay
- Rheology issues
- Reduced early strength
- Compatibility issues with standard admixtures
- Calcined clay variability

EnviroMix® benefits

Our innovative solutions to combine low-carbon and high-performance concrete

Workability retention

SCM compatibility

Placeability

Early strengths

Durability

Cost optimization

Job site references

High-speed rail line Italy

EnviroMix®

Project characteristics
- Raddoppio ferroviario Sud Italia Provincia Di Foggia
- Volume of concrete: 150.000 m³

EnviroMix®2323 benefits
- CEM III/A 42,5R cements instead of CEM IV/A 42,5R
- Around 18-20% less clinker content

EnviroMix®ULC

Project characteristics
- Chantier Séquence (Tours, France)
- Use of zero clinker cement (type H-UKR)

EnviroMix®ULC 5500 benefits
- Unique admixture solution designed exclusively for H-UKR cement.
- A CO_2 footprint of 110 to 140 kg CO_2 eq/m³ of concrete.

Residential building France

Ready-Mix plant USA

Quad® EMx

Project characteristics
- Ready-mix plant with access only to clay-contaminated sand
- Customer wanted to reach higher performance with this local sand while improving its CO_2 impact.

Quad®530 EMx benefits
- Optimized mix reducing embodied carbon by 4% with higher performance while using only clay-contaminated sand.
- Achieved +30% initial slump / 4% CO_2 reduction / higher compressive strengths

**detailed case studies available on chryso.com website*

Use of calcined clay cements

EnviroMix®C-Clay

EnviroMix® cClay

A new range of innovative, tailor-made admixtures to enable higher use of calcined clay cement in your concrete and reduce its CO_2 footprint.

To meet the growing demand for calcined clay cement, our R&D teams have studied **over 30 clays worldwide** to develop the most accurate solution for each configuration.

Digital tool to optimise your concrete mix design

NEW service

EnviroMix®Impact

EnviroMix®Impact is a tool (mobile application) developed to better understand the lever for CO_2 reduction within concrete and show the Carbon Footprint impact of the different changes that can occur in a concrete mix design.

EnviroMix® impact is a calculator that compares the carbon content of two different concrete mix designs. A report is generated with visual information detailing the breakdown of the carbon content of both concrete mix designs.