



WIND TURBINE SOLUTIONS

COMPREHENSIVE RANGE
OF SOLUTIONS FOR
TODAY'S CONCRETE
CHALLENGES

Wind turbine Solutions



Saint-Gobain Construction Chemicals brings together the **Chryso** and **GCP** brands.

Offering a wide range of expertise, **Chryso, a specialist in construction chemicals**, develops innovative solutions to address today's and tomorrow's construction challenges.

GCP, a world-renowned expert in waterproofing systems and ultra-high-performance grouts and mortars, completes our offering entirely dedicated to the construction of wind turbines:

Foundations, precast structures, masts, submerged caissons, etc. - **our solutions cover most wind farm construction requirements.**

Our offering is completed by **tailor-made services** ranging from the customisation of our admixtures, to in-depth durability tests, right through to real-time monitoring during transport and the pouring of your concretes.

We partner with our customers throughout the cement and concrete lifecycle enabling them **to achieve their technical, business and sustainable objectives.**





CONTENT

ONSHORE WIND TURBINES.....	3
OFFSHORE WIND TURBINES.....	7
REFERENCES.....	11

Onshore Wind Turbine Solutions





CONTENT

FLANGE RING GROUTING.....	5
CONCRETE AND HYBRID TOWER ASSEMBLY.....	5
PRECAST PLANT.....	5
PROTECTION.....	6
FOUNDATIONS.....	6
LOCALSOURCING.....	6

01

Flange ring grouting

BETEC® offers C80/95 and C110/115 grouts for wind tower foundations and flanges. These grouts provide early high strength, optimized flow, and improved de-aeration for superior load-bearing surfaces.

BETEC® grouts enhance job site handling and application time, with fast strength build-up allowing construction to continue within a day, weather permitting.

OUR SOLUTIONS

Specialty grouts:

BETEC® Wind HS • BETEC® Wind UHS



OUR SERVICES

- + Quality and expertise
- + Technical service for job site support

02

Concrete and hybrid tower assembly

BETEC® provides a full range of grouts for assembling concrete and hybrid wind towers with precast segments. BETEC® grouts offer optimized flow, early high strength, and superior load-bearing surfaces, ensuring top performance and job site progress.

All BETEC® products are CE2+ certified and comply with DAfStb Guidelines. For horizontal & vertical joints, C80/95 and C110/115 grouts are available, tested for fatigue per Model Code 90, Model Code 2012, and EN 1992-2 Part 2.

OUR SOLUTIONS

Specialty grouts:

BETEC® Wind V • BETEC® Wind H
• BETEC® Wind HS • BETEC® Wind UHS



OUR SERVICES

- + Quality and Expertise
- + Technical service for job site support

03

Precast Plant

Superplasticisers ensure excellent finishing, easy placement, and optimal productivity for precast elements. Early strengths are guaranteed for transportation with the use of accelerators.

Durability is enhanced with our latest generation fibers and corrosion inhibitors. High-quality surface and aesthetics are ensured with our release agents.

Our last generation superplasticisers bring you solutions for low carbon concrete and circular economy.

OUR SOLUTIONS

Plasticisers & Superplasticisers:

CHRYSO®Premia • CHRYSO®AdvaCast
• CHRYSO®TurboCast • EnviroMix®

Mould release agents:

CHRYSO®Dem Oleo • PIERI® Clarol • PIERI® Decobio

Curing agents:

CHRYSO®Cure • PIERI® EasyCure

Corrosion inhibitors:

CHRYSO®CI • DCI®

Fibres:

Adfil®Fibres



OUR SERVICES

- + Mix design support
- + Spraying equipment
- + Durability studies
- + Intelligent real-time concrete monitoring solution CHRYSO®Maturix

04

Protection

Carbonation, due to CO₂ and humidity, reduces concrete alkalinity and can corrode steel reinforcement.

To avoid this slumbering threat to the structural integrity of exposed concrete structures, Omnitek Paint EC, an acrylic, flexible paint with 85m Sd CO₂ resistance, can be used on the outside surface.

OUR SOLUTIONS

Protection agent:
Omnitek® Paint EC RAL 7032
(Other colours available by request)



OUR SERVICES

- + Technical expertise
- + On-site technical support and training

05

Foundations

The construction of wind turbine foundations requires large quantities of concrete and steel.

STRUX® macro-fibres reduce steel reinforcement and carbon weight while our micro-fibres and curing agents minimize cracking from plastic shrinkage.

CHRYSO®Tard retarders control core temperature, enhancing durability.

CHRYSO®Optima superplasticisers improve performance, lifespan, pumpability, and workability retention.

VERIFI® Technology ensures concrete rheology control during transit.

OUR SOLUTIONS

Plasticisers & Superplasticisers:
CHRYSO®Optima • CHRYSO®Omega • MIRA®;
CHRYSO®Quad • EnviroMix®;

Retarders:
DARATARD® • CHRYSO®Tard

Fibres:
Adfil®Durus EasyFinish • Adfil®STRUX

Shrinkage reducing agents:
CHRYSO®Serenis • ECLIPSE®

Curing agents:
CHRYSO®Cure



OUR SERVICES

- + Technical expertise
- + Definition of a tailored mix design
- + Concrete rheology in transit: VERIFI®

06

Local Sourcing

CHRYSO®Quad plasticisers allow concrete producers to source aggregates and sands closer to production facilities without compromising quality.

They enable the use of complex aggregates, such as high clay sands, recycled aggregates, and manufactured sands with varying fines. This technology supports local supply streams and promotes circular economy solutions.

OUR SOLUTIONS

Plasticisers :
CHRYSO®Quad • CLARENA®

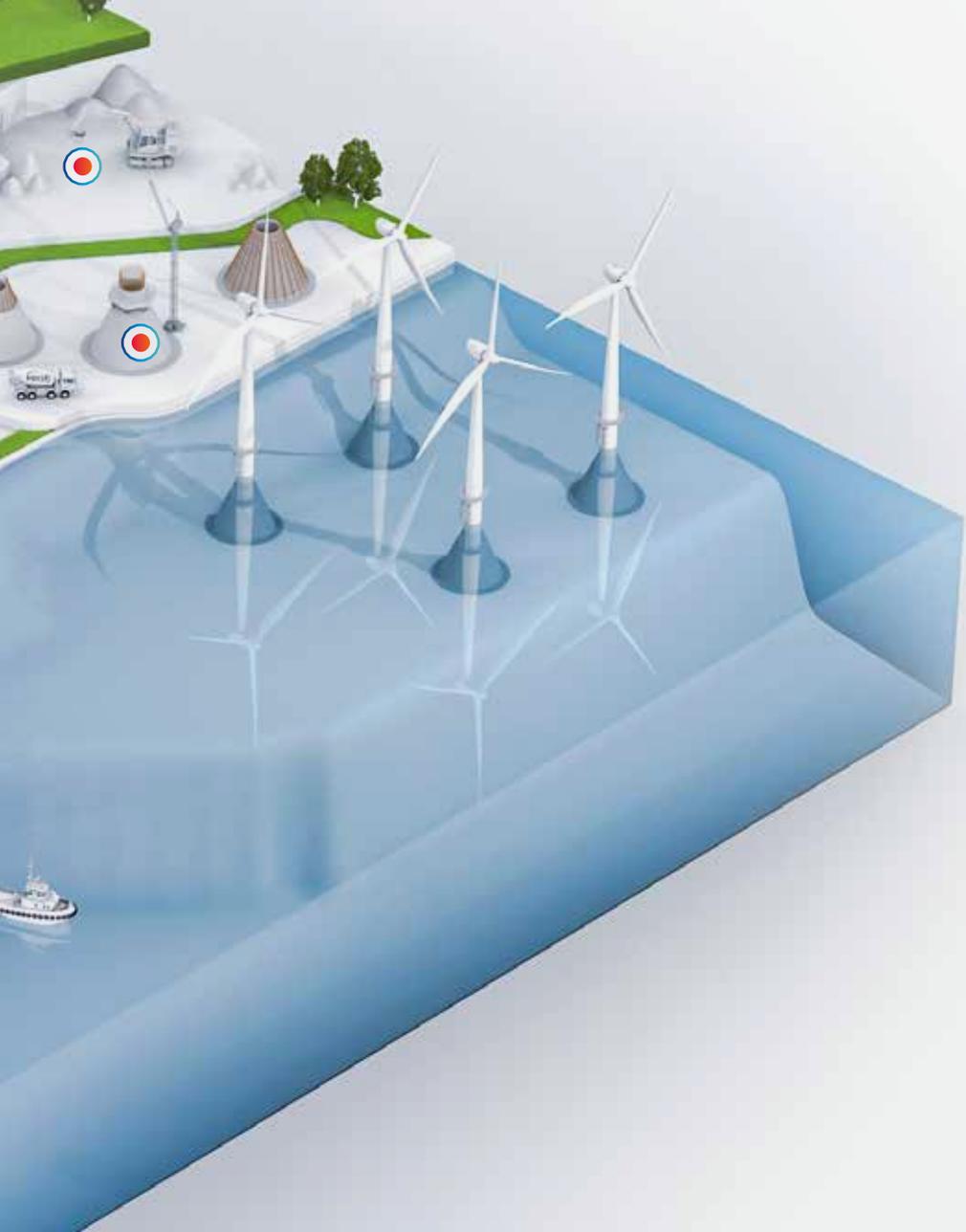


OUR SERVICES

- + CHRYSO®Quad Lab App
- + Regional labs for customer-driven innovation with material characterization capabilities and mix optimization know-how
- + CO₂ savings quantification tool: Enviromix®Impact App

Offshore Wind Turbine Solutions





CONTENT

MASS CONCRETING.....	9
GRAVITY FOUNDATIONS.....	9
PRECAST PLANT.....	9
LOCAL SOURCING.....	10

01

Mass Concreting

Building floating concrete caissons requires high flowability, workability retention, and marine durability.

CHRYSO offers macro and micro-fibres for reinforcement and corrosion reduction.

CHRYSO®Optima 1000 superplasticizers provide extended workability and cohesiveness.

The EnviroMix® range supports low-carbon concrete production.

CHRYSO®Maturix ensure concrete rheology during transport to guarantee the best quality.

OUR SOLUTIONS

Superplasticisers:

CHRYSO®Optima 1000 • EnviroMix®

Retarders:

CHRYSO®Tard • DARATARD® • CHRYSO®Equalis

Fibres:

Adfil®Durus EasyFinish • Adfil®STRUX

Corrosion inhibitors:

DCI® • CHRYSO®CI

Waterproofing admixtures:

CHRYSO®CWA

Accelerators:

CHRYSO®Xel



OUR SERVICES

- + Intelligent real-time concrete monitoring solution CHRYSO®Maturix
- + Concrete rheology in transit: VERIFI®

02

Gravity Foundations

The complexity of gravity foundations presents challenges from concrete pouring to lifespan.

CHRYSO offers macro and micro-fibres to reinforce structures and reduce corrosion risk.

CHRYSO®Optima 1000 superplasticizers ensure extended workability, cohesiveness, and placeability.

The EnviroMix® range produces low-carbon concrete with new-generation binders.

With decades of experience, CHRYSO provides admixtures like DCI® and CHRYSO®Maturix technology for monitoring hydration and optimizing stripping times.

OUR SOLUTIONS

Plasticisers & Superplasticisers:

CHRYSO®Optima 1000 • EnviroMix® • CHRYSO®Quad

Retarders:

CHRYSO®Tard • DARATARD® • CHRYSO®Equalis

Fibres:

Adfil®Durus EasyFinish • Adfil®STRUX

Corrosion inhibitors:

DCI® • CHRYSO®CI

Waterproofing admixtures:

CHRYSO®CWA

Accelerators:

CHRYSO®Xel



OUR SERVICES

- + Definition of a tailored mix design
- + Carbon content optimization
- + Durability testing
- + On-site technical support and training

03

Precast Plant

Our superplasticisers ensure excellent finishing, easy placement, and optimal productivity for precast elements. Early strengths are guaranteed for transportation with our accelerators. Durability is enhanced with our latest generation fibers and corrosion inhibitors. High-quality surface and aesthetics are ensured with our release agents.

Our last generation superplasticisers bring you solutions for low carbon concrete and circular economy.

OUR SOLUTIONS

Admixtures:

CHRYSO®Premia • CHRYSO®AdvaCast
• CHRYSO®TurboCast • EnviroMix®

Mould release agents:

CHRYSO®Dem Oleo • PIERI® Clarol • PIERI® Decobio

Curing agents:

CHRYSO®Cure • PIERI® EasyCure

Corrosion inhibitors:

CHRYSO®CI • DCI®

Fibres:

Adfil®Fibres



OUR SERVICES

- + Mix design support
- + Spraying equipment
- + Durability studies
- + Intelligent real-time concrete monitoring solution CHRYSO®Maturix

Local Sourcing

CHRYSO®Quad plasticisers allow concrete producers to source aggregates and sands closer to production facilities without compromising quality.

They enable the use of complex aggregates, such as high clay sands, recycled aggregates, and manufactured sands with varying fines. This technology supports local supply streams and promotes circular economy solutions.

OUR SOLUTIONS

Plasticisers:
CHRYSO®Quad • CLARENA®



OUR SERVICES

- + Technical expertise
- + On-site technical support and training



Prieska Project

SOUTH AFRICA

SOLUTIONS

- CHRYSO®Premia 360
- CHRYSO® Quad 20
- CHRYSO®Dem Bio 10



Floatgen Project

FRANCE

SOLUTIONS

- CHRYSO®Optima 145
- Durability study and concrete mix-design



Fecamp Offshore Wind Farm

FRANCE

SOLUTIONS

- CHRYSO®Premia
- CHRYSO®Turbocast
- CHRYSO®Quad
- EnviroMix®
- CHRYSO®Dem Bio
- CHRYSO®CI





Balaoi and Caunayan Wind Farm

PAGUDPUD, PHILIPPINES

SOLUTIONS

- CHRYSO®Omega - tailor made admixture



©Max Bögl Wind AG, Reinhard Mederer

Bögl Project

GERMANY

SOLUTIONS

- BETEC®Wind HS

References







**STRONGER
TOGETHER**
SAINT-GOBAIN CONSTRUCTION CHEMICALS

Chryso Southern Africa

Gauteng Head Office • 26 Malcolm Moodie Crescent
Jet Park • 1469 • Johannesburg • +27(0)11 395 9700
za.chryso.com

Chryso Eastern Africa

Kibhare Centre • Mombasa Road
Nairobi • Kenya • +254 725 041 526
ke.chryso.com

