



# CHRYSO CONCRETE SOLUTIONS



# SAINT GOBAIN GROUP



Ranked among the top 100 **global innovation players** over the last 10 years



Commitment: **carbon neutrality in 2050**



**World or European leader** in most of our business

# MAKING THE WORLD A BETTER HOME

Located in

**79** countries

Over

**1,60,000**

Employees representing more than 110 nationalities

Sales in 2024

**€46.6bn**

Around

**900**

Manufacturing facilities worldwide

## RECOGNIZED INNOVATION CAPABILITIES

**Over 100** development centers

**8 centers** Saint-Gobain Research (SGR) cross-business R&D

**Over 3,600** researchers



### Regional businesses

A unique portfolio of solutions for local construction trades



### Global businesses

High Performance Solutions for leading-edge applications in global markets



MOBILITY



LIFE SCIENCES



CONSTRUCTION INDUSTRY



CERAMICS



SURFACE SOLUTIONS



CONSTRUCTION CHEMICALS

# WE ARE CHRYSO®

Founded in 1942, CHRYSO is a Global Leader in Construction Chemicals.

We provide our customers – cement manufacturers, ready-mix concrete producers, precast manufacturers and construction companies – with our expertise in chemistry, formulation and knowledge of construction materials.

## • WE ARE AGILE & EFFICIENT •



- Expertise is shared and enriched within our business and technical communities
- Our innovation network extends beyond our Group:
  - Programmes with universities worldwide
  - Joint developments with customers
  - Projects with external laboratories
- We aim to support international customers in their development strategy

## • WE GO FOR OUTSTANDING INNOVATION •



- We are 100% dedicated to meeting the challenges of the Construction Industry
- We process our molecules, from designing & material in our own labs industrial scale production
- Our R&D specialists have a deep understanding of physico-chemical interactions
- Our technical experts have a comprehensive knowledge of materials applications

## • WE PROVIDE UNIQUE CUSTOMER SUPPORT •



- Strong proximity to our customers
- Tailor-made solutions matched to project specificities
- Specification support
- Customer training programmes
- Logistics solutions

## • WE ARE RESPONSIBLE •

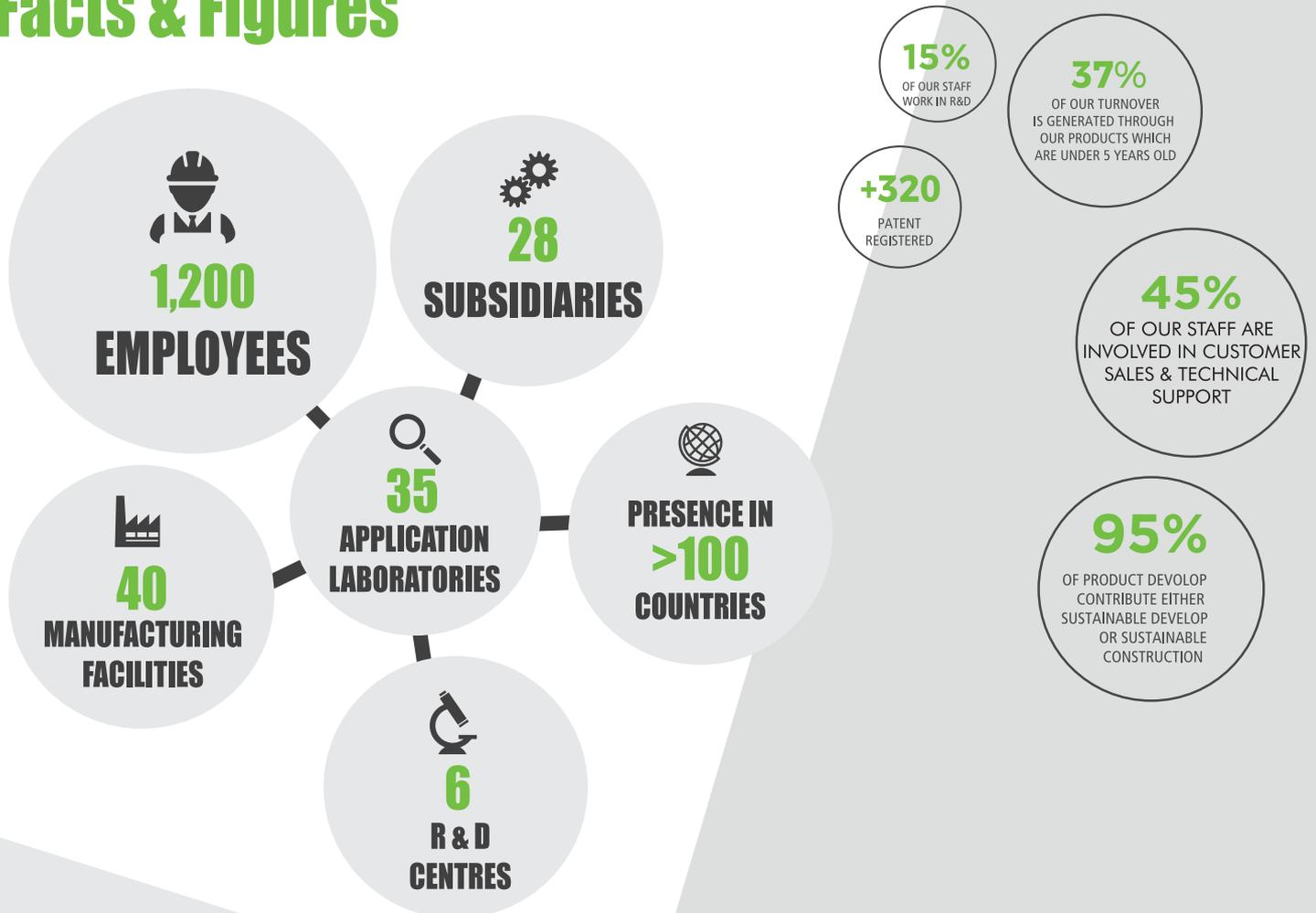


- Safety is a fundamental value of our Group culture
- Sustainable development is fully integrated into our management and industrial processes
- Green conception of our solutions participating to more responsible construction modes
- Performance and consistency of our products all over the world

# WE ARE A GLOBAL PLAYER

We have a deep understanding of each local market's technical and commercial requirements, and we pay close attention to meeting our customers' needs.

## Facts & Figures



## OUR VALUES

- Safety for all
- Entrepreneurship and innovation
- Customer and results driven
- Empowerment and decentralization
- Sense of human responsibilities and Equal opportunities

# CHRYSO INDIA

CHRYSO India is fully committed to maintain a leading position on technical Innovation of Construction chemicals.

Our modern production units, situated in the four corners of India provide national market coverage to our customers. Each of our units are designed, engineered and managed to optimize quality and meet our demanding sustainability KPIs. Third Party accredited and certified for Quality (ISO 9001), Environment (ISO 14001) and Safety (OHSAS 18001).

We have four physical laboratories supporting our regional markets across India, equipped with the latest state-of-the-art tools, we conduct extensive testing to ensure the most optimized formulations to meet our customer's precise requirements taking account intricacy of local raw materials and mix design.

Our Central Research Centre, Navi Mumbai, extensively equipped and manned by research specialists ensures CHRYSO India's commitment as a leading innovator in the launch of new technologies to meet local demands across the core business segments of Cement, Concrete and Construction Systems.



## INDIAN MANUFACTURING FOOTPRINTS

We ensure delivery in full & on time to our valued customer with 6 states of art manufacturing facilities across the country.

### PRODUCTION FACILITIES

ALWAR

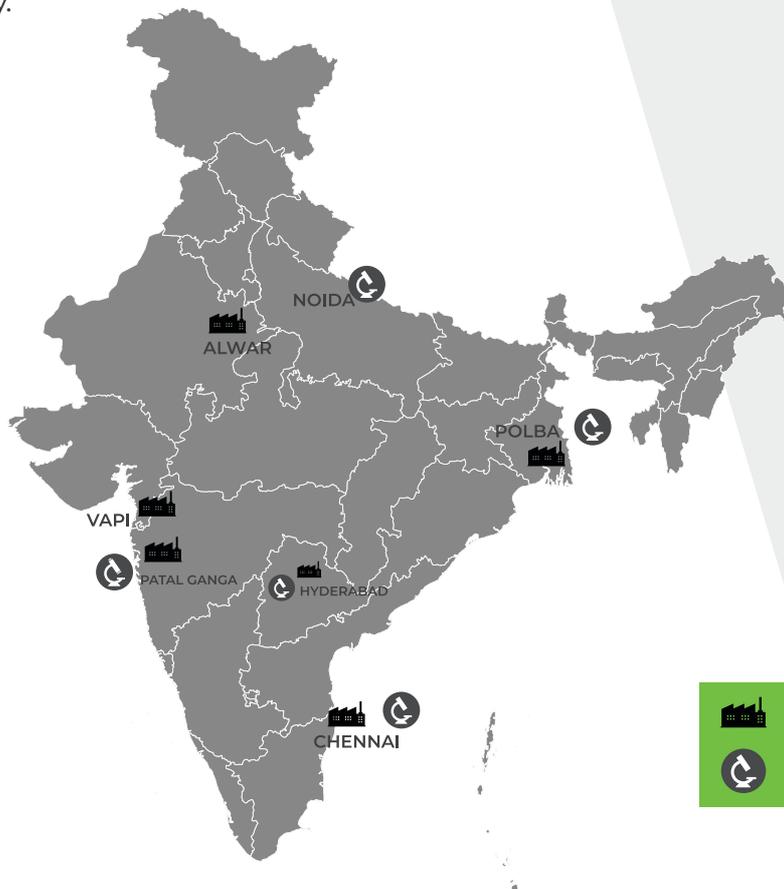
POLBA

VAPI

PATALGANGA

CHENNAI

HYDERABAD



### CENTRAL R&D

MUMBAI

### REGIONAL R&D

CHENNAI

NOIDA

POLBA

HYDERABAD

 Production Facilities

 R&D Centres

# CHRYSO CONCRETE SOLUTIONS

**CHRYSO offers World class admixture chemistries**, designed around specific needs of our customers, serviced by people that add real value to your organization. We have the solutions to build the future you imagine.

## + Chryso Admixture Technology

				
				
<b>FLEXIBILITY TO USE MULTI BRANDS OF CEMENT</b>	<b>EASY PLACABILITY WITH LESS STICKY CONCRETE</b>	<b>ROBUST &amp; VERSATILE TO CEMENT &amp; SAND VARIATION</b>	<b>ACHIEVES CONSISTENT CONCRETE QUALITY WITH POOR AGGREGATES</b>	<b>DESIGN OF GREENER CONCRETE</b>
<ul style="list-style-type: none"><li>+ Cement supply flexibility – Allow client to use more brand of cements</li><li>+ Consistent concrete production every day without rejection leads to saving of overall cost for client</li></ul>	<ul style="list-style-type: none"><li>+ Low Energy – Enhanced Placeability and Pumpability</li><li>+ Flawless &amp; very smooth finish</li><li>+ Low viscosity yet cohesive &amp; homogeneous concrete mix</li></ul>	<ul style="list-style-type: none"><li>+ Use of multiple brands of cement inspite of cement chemistry variation</li><li>+ Use of various quality of sand inspite of fines variation</li><li>+ Less impact of admixture dosage variation</li><li>+ Easy day to day consistent concrete production &amp; placement</li></ul>	<ul style="list-style-type: none"><li>+ Use of a wider range of aggregates</li><li>+ Cost savings by use of low grade aggregates</li><li>+ Admixture solution for high fines &amp; clay content aggregates</li></ul>	<ul style="list-style-type: none"><li>+ Cost saving &amp; carbon footprint reduction</li><li>+ Allows Portland cement content reduction</li><li>+ Allows to increase supplementary Cementitious like (slag or fly ash) with enhancement in performance</li><li>+ Early and ultimate strength achieved – Enhanced finish and durability.</li></ul>

# SCOPE

BUILDINGS & FACTORIES

ROAD & BRIDGES

POWER PLANTS

RMC

METROS



# + FOCUS ON THE OFFER

## CHRYSO® DELTA



225 kg drum



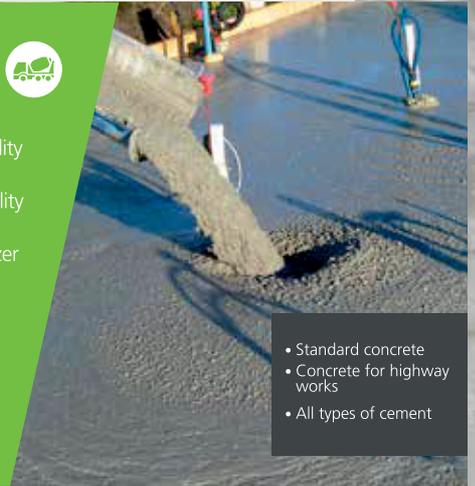
1000 Kg IBC



10/15/20 MT Tankers

- Maintains a balanced between water reduction & workability retention.
- Can achieve consistent quality of concrete even with bad quality crushed sand.
- Acts as a bridge between old & new generation concrete plasticizer and superplasticizer.
- Suitable for OPC as well as PPC mix
- Compatible with Fly ash, GGBS...etc.
- Help for early deshuttering.

Concrete classes and types: M-10 to M-50 grade



- Standard concrete
- Concrete for highway works
- All types of cement

## CHRYSO® PREMIA



225 Kg drum



1000 Kg IBC



10/20 MT Tankers

- A robust solution for pre-stressed, precast concrete.
- Simple & rapid filling of moulds even in complex structures. Thanks to Fill Free technology.
- A great tool to avoid Thixotropy in concrete during placement.
- High early & long compressive strength.
- Excellent surface finish capability.
- Suitable for OPC as well as PPC mix
- Compatible with Fly ash, GGBS etc.
- Production of good high flow as well as SCC is possible with fair surface finish.

Concrete classes and types: M 40 & above



- HPC - VHPC - UHPC
- Prestressed concrete
- Self-compacting concrete
- Wetcast
- Reinforced concrete
- All types of cement

## CHRYSO® OPTIMA



225 Kg drum



1000 Kg IBC



10/15/20 MT Tankers

- Suitable for OPC as well as PPC mix & Compatible with Fly ash, GGBS etc.
- Higher workability viz. more than 3 Hrs retention can be achieved.
- Longer steady workability enables transporting concrete at long distance.
- Excellent surface finish achieved along with high flow & Self Compacting Concrete.
- Less Thixotropy enables easy high rise pumping of concrete mix, even with crush sand.
- Fill Free technology enable to easily place concrete through congested reinforcement.
- Unique LSS technology helps in consistent concrete production with cement chemistry variation.

Concrete classes and types: M-40 to M-80 grade



- Hot weather concreting
- Pumped concrete
- Architectural concrete
- Concrete for heavily reinforced structures
- Deep foundations
- HPC - VHPC
- Prestressed concrete
- All types of cement



READY-MIX CONCRETE



PRECAST



JOBSITES

## CHRYSO®RMC / HP / HS



250 Kg drum



1000 Kg IBC



10/20 MT Tankers

- Moderate water reduction capability helps in production of low grade of concrete.
- Customize formulations enables good workability retention like 3 hrs possible
- Low impact in very bad clay contaminated crush sand content mixes.
- Useful in structural concrete & PQC where ingredients quality is good.

Concrete classes and types: M-10 to M-40 grade



- RMC
- Jobsite

## CHRYSO®TARD



225 Kg drum



1000 Kg IBC



10/20 MT Tankers

- Concrete to achieve variable retention period over wide range of concrete grade production
- RMC sector with different grade of concrete where different retention periods to be achieved in cost optimized manner.
- Capable to boost ultimate strength.



- Fresh concrete bonding
- Mass concrete
- Diaphragm walls
- Piles
- All types of cement

## CHRYSO®CURE



200 L drum



1000 L IBC

- Protects concrete surface from evaporation through loss of water.
- Specific & challenging solution for hot weather concreting.
- Prevent concrete surface cracking at early ages by reflecting day light.

- CHRYSO® Cure ST1 is a water / wax based efficient curing agent with white pigment
- CHRYSO® Cure AC is a water / Acrylic based efficient curing agent with / without white pigment
- CHRYSO® Cure AL is a solvent / Emulsion based efficient Aluminized curing agent



- Floors, concrete slabs, roads and concrete roadworks
- Concrete and mortars
- Trowel finishing and smoothing of poured surfaces
- All cement-based parts
- Precast walls



READY-MIX CONCRETE



PRECAST



JOBSITES

## CHRYSO® DEM OLEO



- Offers a good range of mineral oil or emulsion based agents that enable easy demolding & protects sticking of any concrete substrate after demolding.
- The CHRYSO® Dem Oleo is a solution for fair concrete surface :
  - Compatible for all types of form work like plywood, steel etc.
  - Leaves very minuscule dust on concrete element or form work.
  - Protect the aesthetic concrete surface with no oil strain .
  - Offers long life of form work.



200 L drum



1000 L IBC



- Steam-cured or non-steam cured concrete
- Shuttered concrete
- Prestressed concrete
- All precast parts
- All types of formwork
- Construction sites

## CHRYSO® QUAD

Optimizing Concrete with Challenging Aggregates



- Ensures superior concrete performance even with gap- graded sand or sand with high clay content.
- Improves concrete quality and rheology even with locally available challenging sand or crushed rock fines/ recycled aggregates.
- Reduces environmental impact by promoting sustainable sourcing and lowering the overall carbon footprint.
- Provide flexibility at batching plant by allowing use of a wider range of available materials while maintaining batch to batch concrete quality.
- Chryso local team are equipped to support with QUAD technology for all kind of Challenging fine aggregates.



200 L drum



1000 L IBC



- All Cement Types
- Ready Mix Concrete
- Manufactured Sand
- Sands with High Fines

# CHRYSO® SOLUTION

## FOR ALL YOUR CHALLENGES

YOUR CHALLENGES	CHRYSO® SOLUTION
Concrete Pumping to heights is difficult-high pump pressure?	Use CHRYSO®Optima with fill free technology for ease pumping
High clay content crush sand often increases the dosage of admixture & it's use becomes expensive.	CHRYSO®Optima is most suitable while using crushed sand with high clay
Workability retention is an issue?	Use CHRYSO®Delta & Optima to enhance workability retention upto 4 hours without setting delay
Mix is too sticky & difficult to place?	CHRYSO®Premia helps to deshutter early by achieving early strength
Struggling to achieve early deshuttering?	CHRYSO®Optima (for high grade) and Chryso®Delta Helps to deshutter early by achieving early strength.
Can't use different brands of cement due to abnormal variation of concrete performance with same admixture.	Use LSS technology based CHRYSO®Optima & CHRYSO®Delta to get consistent performance with different brand of cement.
Struggling for good surface finish of concrete?	Use premium quality demoulding oil CHRYSO®Demoleo to Improve the surface finish.
Water curing is an issue?	Use wide range of curing agent like Acrylic base CHRYSO®Cure AC or wax based XCHRYSO®Cure or Resin based CHRYSO®Cure AI
Struggling to use various sources of Crushed sand due to inconsistent fines & poor quality?	CHRYSO®Premia with special clay inhibiting polymers.
Workability retention vs high early strength gain is an issue?	Use CHRYSO®Premia with polymers & turbocast technology to boost high early strength.
Want to protect steel formwork?	Use premium quality demoulding agent CHRYSO®Dem Ole before concreting.
Work cycle is getting delayed due to prolonged demoulding of elements?	Use CHRYSO®Premia for high early strength so that the recycling of moulds becomes faster thereby increasing productivity.



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