



BUILD TOGETHER

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New Generation High Range Water Reducers

The FlowGrade[®], UpGrade[®] and CastGrade[®] range of High Range Water Reducers are based on a series of new polycarboxylate molecules specifically designed to disperse cement particles by both electrostatic repulsive forces and the steric hindrance effect. The use of these new molecules can provide outstanding cement dispersion as well as excellent flexibility to adjust slump life, strength development and

very large water reductions along with the various properties required by the concrete application. Through the process of designing a variety of polycarboxylate molecules and their subsequent formulation with other chemical compounds, families of high-performance admixtures have been successfully developed to serve to distinct market segments within the concrete industry.



The FlowGrade[®] Series

The FlowGrade[®] series of products have been engineered for self-compacting concrete applications, empowering concrete to provide higher consistency and excellent slump retention properties for tall walls, highly congested concrete units and complex shaped formworks.



The UpGrade[®] Series

The UpGrade[®] products have been designed for applications involving ready mix and self-compacting concrete if provide the requirements. They hold the ability to deliver essential points such as high consistency, significant early and final strength growth. Moreover, they exhibit exceptional slump retention capabilities, enabling convenient transportation from the concrete batching plant to the designated job site.



The CastGrade[®] Series

The CastGrade[®] series of superplasticizers have been specifically engineered for utilization in the production of precast elements, which are employed to enable quite low water-to-binder ratios and/or incredibly high consistency. Consequently, these products are exceptionally well-suited for precast applications where demanded high early and final strength, fast demoulding, or optimization of heat curing.

Benefits

- The FlowGrade[®], UpGrade[®] and CastGrade[®] have been engineered to achieve optimal performance within ready mix, site batch and precast market segments.
- Reduced water/binder ratios for strength and durability.
- Enhanced delivery times and eliminated retempering by water or admixture (re-dosage) by long-lasting workability retention for ready mix applications if provide the requirements.
- Improved concrete surface finish characteristics.
- Accelerated curing for early demoulding and/or making it possible to reduce heat curing by achievement of desired early compressive strength in precast applications.

Products For Architectural Concrete

The appearance of concrete is increasingly important to architects, designers and specifiers. Pieri® product range addresses the strength, performance and aesthetics of concrete with a line of surface treatments and colourants. Pieri is one of the leading architectural products offering in Europe. Pieri is a leading provider of surface applied products for beauty and productivity including concrete surface retarders, release agents, curing agents, sealers and stains. The Pieri® range of release agent's lead the field in terms of safety, environmental impact, ease of application and surface finish.

Pieri® Decobio Range products are environmentally sustainable and safe. They are based on vegetable oil materials and are highly suited to precast and in-situ concreting use – giving blemish free positive release being totally biodegradable and non-hazardous to the operative or the environment. The release agent range also includes **Pieri® Aquarol**, which are water-based products. These products are completely safe to use. They are designed for all applications where achieving a superb surface finish is paramount and is therefore ideal for architectural concrete applications.

Pieri has specialised in surface retarders for over 30 years and has a product to suit all needs from construction joints to high quality architectural exposed aggregate surfaces. The range includes **Pieri® DRC , Pieri® Top and Pieri® Decagel**. Architectural concrete, either internal or external, is intended to provide a definite contribution to the visual character of a structure. If a structure has been well designed and is pleasing to look at it is of benefit to keep it that way. The Pieri® range of cleaning and protection products is intended for just that purpose. The range includes water repellents, surface treatments and cleaning products.

The **Pieri®** product range cater for all sections of the concrete industry such as the **Pieri® Tool** protection materials for plant and equipment as well as products for floors **Pieri® Protec** range. From the precaster to the contractor, prefabricated to in-situ concrete, the **Pieri® Formliner** range is indispensable in providing a choice of architectural decorative textured finishes. There are over 100 designs from standard to purpose made specials, available made from flexible elastomeric polyurethane from 10 to 100 uses.



BUILD TOGETHER

Fields of **Application**



Ready Mix Concrete

The water reduction, slump retention, strength development, workability and rheological properties of concrete can be improved through MidGrade[®], SuperGrade[®], UpGrade[®] and FlowGrade[®] range of admixtures. Setting times of concrete can be regulated to retard or accelerate by R-Tard[®] and SetGrade[®] respectively depending on weather conditions. Durability of concrete can be improved by AerGrade[®]. Early water loss of concrete can be prevented by CureGrade[®] products.



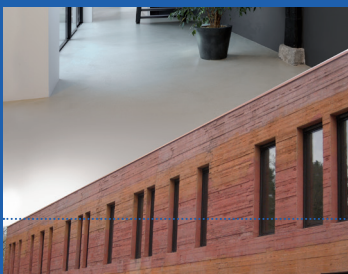
Precast Concrete

High early strength for early demoulding and reduction of energy cost can be provided by CastGrade[®] range of admixtures. Concrete paving and block productions can be facilitated by TechGrade[®] and BlockGrade[®] series. The Pieri[®] release agents, surface retarders, pigments and protection products can be used for precast concrete production.



Infrastructure

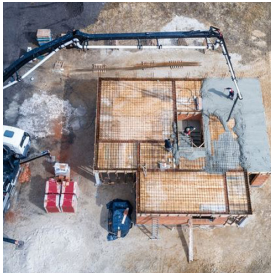
To provide fast and consistent setting characteristics in tunnelling and mining applications in addition to soil and slope stabilization, ShotGrade[®] series are convenient. To improve fresh and hardened concrete properties, MidGrade[®], SuperGrade[®], UpGrade[®] and FlowGrade[®] range of concrete admixtures can be used. To improve durability and increase productivity, wire mesh can be replaced with RheoForce[®] X macro synthetic fibres for shotcrete applications. Thus, reduction of project time can be achieved, working environment can be improved and total amount of concrete can be optimized by decreasing the rebound.



Decorative Solutions

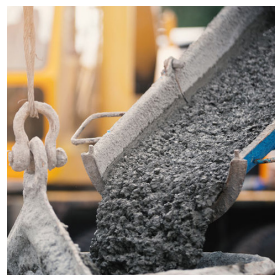
To allow the mould to be separated from the concrete more easily and to produce smooth surfaced concrete Pieri[®] Aquarol mould release agents can be used. To protect concrete, Pieri[®] Protec and Pieri[®] Hydroxi can be preferred. For aesthetic concrete panels, Pieri[®] DRC 6 products can be used.

Product Series



MidGrade® Series

Multi-purpose water reducer admixtures for daily concrete applications. Improves the fresh and hardened properties of concrete by reducing the amount of water required to achieve a desired workability in plastic concrete. Enhances the workability of concrete while maintaining a constant water/binder ratio at a specific concrete grade.



SuperGrade® Series

High range water reducer/superplasticizer concrete admixtures. Enhances concrete workability and makes it possible to achieve the same level of workability with less water, resulting in significant improvements in strength.



UpGrade® Series

New generation high range water reducer/superplasticizer concrete admixtures. Superplasticizer admixtures are specifically formulated for applications requiring longer slump retention, increased early and final strengths, and enhanced durability. These admixtures find extensive use in larger projects, especially when congested reinforcement demands higher workability.



FlowGrade® Series

New generation high range water reducer/superplasticizer concrete admixtures. Tailored for producing flowable and/or Self-Compacted Concrete [SCC] with a low water/binder ratio. It extends slump-flow life while ensuring extreme workability. Disperses cement particles efficiently and decreases substantially water content of concrete while improves placing. Enhances impermeability and durability.



CastGrade® Series

New generation high range water reducer/superplasticizer concrete admixtures. Specifically formulated for producing precast concrete elements, enabling the attainment of higher early strengths. These admixtures are employed to reduce demoulding time and facilitate steam curing in the precast industry.



ReGrade[®] Series

Plasticizer admixtures enhance the on-site consistency of concrete.



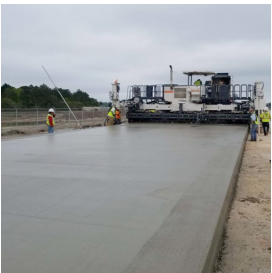
SetGrade[®] Series

Setting / Hardening accelerator admixtures. Setting accelerators are designed to decrease concrete setting times, particularly needed in cold weather conditions. Hardening accelerators are used to have higher early strengths of mortar and concrete especially in precast applications.



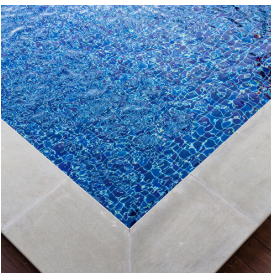
R-Tard[®] Series

Set-retarding admixtures. Designed to extend concrete setting times, especially required in hot weather conditions



AerGrade[®] Series

Air-entraining agents. Enhances concrete durability by uniformly dispersing entrained air in to concrete at correct dimensions.



PelGrade[®] Series

Concrete admixtures to improve waterproofing. Liquid concrete admixture that serves as both highly efficient plasticizer and/or waterproofing agent.

Product Series



BlockGrade® Series

Semi dry concrete admixtures. For producing more dense concrete pavers and blocks with semi-dry, no-slump by facilitating compaction in the mixture and enables the production of a higher strength and durable elements. Decreases compaction period and optimize production time.



TechGrade® Series

Semi dry concrete admixtures. Specially formulated admixtures for producing concrete pavers and blocks with semi-dry, no-slump. These admixtures increase the unit weight of the semi-dry concrete, leading to higher initial and final strengths.



CureGrade® Series

Concrete curing compound. Liquid applied curing compound to protect concrete from rapid water loss during the early stages of curing period.



RheoForce® Series

Synthetic micro and macro fibres. RheoForce S, non-structural microfibers, offer to prevent early-age plastic shrinkage cracks. RheoForce X, structural synthetic macro fibres, make it possible to enhance concrete toughness, impact and abrasion resistance as an alternative to steel mesh and steel fibre reinforcement. Since RheoForce X reinforces concrete in three-dimensional form, it controls the propagation of micro cracking concrete. Since there is not corrosion risk, it provides long term durability. It is easier adding to the concrete mix comparing to other alternatives.



ShotGrade® Series

Set accelerator admixtures for shotcrete. Tailored for shotcrete applications. These admixtures enhance early strength development and minimize sprayed concrete rebound in tunnelling, mining, and soil or slope stabilization. They improve the early strength development while minimizing the loss of final strength.

Ready Mix Concrete Admixtures

New Generation Superplasticizers

Product	Definition	Dosage	Application Field
FlowGrade® 385	Based on new generation modified synthetic carboxylated polymers. Superior flow and workability retention properties.	600 g – 2000 g per 100 kg binder	Designed to produce both conventional high slump concrete and Self Compacting Concrete (SCC) at low water/binder ratios without segregation and loss of strength with unique extended workability

High Performance Superplasticizers

Product	Definition	Dosage	Application Field
UpGrade® 101	New generation superplasticizer concrete admixture	800 g – 1500 g per 100 kg binder	Specifically designed to produce ready-mix concrete.
UpGrade® 102	New generation high range water reducer concrete admixture	600 g – 1500 g per 100 kg binder	Specifically designed for the production of ready-mix concrete to improve workability of concrete.
UpGrade® 103	New generation superplasticizer concrete admixture requiring extended slump life	600 g – 1500 g per 100 kg binder	Designed to improve the slump retaining properties of high workability concretes for ready-mix applications.
UpGrade® 105	New generation superplasticizer concrete admixture requiring extended slump life	600 g – 1500 g per 100 kg binder	Formulated for ready-mix concrete applications required both slump retaining and high workability.
UpGrade® 110	New generation superplasticizer concrete admixture specifically designed for ready mix concrete production	600 g – 2000 g per 100 kg binder	Utilized to achieve higher strengths for ready mix concrete with high workability and long slump life properties.
UpGrade® 140	New generation superplasticizer concrete admixture offering the latest innovations in concrete admixture technology	600 g – 2000 g per 100 kg binder	Designed to produce higher slump concrete at low water/binder ratios without segregation & loss of strength.

Superplasticizers

Product	Definition	Dosage	Application Field
SuperGrade® 05	Superplasticizer concrete admixture	800 g – 1500 g per 100 kg binder	For ready mix concrete production at higher slump
SuperGrade® 554	High range water reducer and superplasticizer concrete admixture	800 g – 1500 g per 100 kg binder	For ready mix concrete production at higher slump and/or lower water content.
SuperGrade® 16	High range water reducer concrete admixture	1000 g – 1500 g per 100 kg binder	Used for ready mix concrete production at higher slump and/or lower water content
SuperGrade® 18	High range water reducer and superplasticizer concrete admixture	800 g – 2000 g per 100 kg binder	To improve workability of concrete in ready mix applications while reducing water content.
SuperGrade® 33S	Superplasticizer concrete admixture designed for use in high temperatures	600 g – 2000 g per 100 kg binder	For ready mixed concrete and site batch plants to produce high slump concrete at lower water/binder ratios, also providing slump retention in hot weather conditions.
SuperGrade® 34	Superplasticizer concrete admixture	800 g – 2000 g per 100 kg binder	For ready mixed concrete and site batch plants to produce high quality concrete with superior workability for durable structures. The same workability with lower water content resulting in significantly improved strengths.
SuperGrade® 19	A high grade superplasticizer concrete admixture designed to cover a wide range of concrete applications	600 g – 2000 g per 100 kg binder	Developed for ready mix concrete and site batch plants to be poured large and/or in difficult shape by imparting superior workability, whilst maintaining slump retention properties, esp. in hot weather conditions.

Products

Mid-Range Water Reducers/Plasticizers

Product	Definition	Dosage	Application Field
MidGrade® 420 ME	Multi-purpose water reducer and plasticizer concrete admixture	500 g – 1200 g per 100 kg bind	For ready mix concrete production to reduce water content and to increase consistency in concrete mixtures. It can be used with a wide dosage range.
MidGrade® 12	Multi-purpose water reducer and plasticizer concrete admixture	400 g – 1200 g per 100 kg binder	For ready-mix applications to reduce water content and increase compressive strength. It can be used with a wide dosage range.

Admixtures for Precast Concrete New Generation Superplasticizers

Product	Definition	Dosage	Application Field
CastGrade® 575 T	New generation superplasticizer precast concrete admixture based on modified synthetic carboxylated polymers	500 g – 2000 g per 100 kg binder	For precast concrete element production where high levels of workability at low water/binder ratios for high early (12-24 hours) and final compressive strength are needed.
CastGrade® 575 TP	New generation high range water reducer precast concrete admixture designed for white cement used applications	500 g – 2000 g per 100 kg binder	Used at precast concrete elements produced with white cement where high levels of workability, high early (12-24 hours) and final compressive strengths at low water/binder ratios are needed.
CastGrade® 775 M	New generation superplasticizer precast concrete admixture for producing special concrete.	300 g – 2000 g per 100 kg binder	Especially designed to produce Ultra High Performance Concrete [UHPC] elements while convenient to be used at various precast applications.

Semi Dry Concrete Admixtures

Product	Definition	Dosage	Application Field
TechGrade® 220	Semi dry concrete admixture to be used in all zero or low slump concrete to increase workability and placement while retaining cohesiveness and to provide for more complete hydration of the cement.	500 g – 1500 g per 100 kg binder	It is intended for use in normal weight and light weight concrete block mixes, block paving, kerbstones, edgings, concrete pipe, concrete tile and brick production.
BlockGrade® A	Semi dry concrete admixture increases the early and final strength of concrete. It is designed to provide better compaction by improving the workability and placement of concrete.	700 g – 1000 g per 100 kg binder	It can be used for production of normal weight and light weight concrete block mixes, block paving, kerbstones, edgings, concrete pipe, concrete tile and brick. It can only be used for concrete without reinforcement.
BlockGrade® M	Semi dry concrete admixture increases the final strength of concrete. Designed to improve workability and placement of semi dry concrete resulting better compaction.	200 g – 500 g per 100 kg binder	It can be used for production of normal weight and light weight concrete block mixes, block paving, kerbstones, edgings, concrete pipe, concrete tile and brick.

Admixtures for Tunnel and Mining Applications

Product	Definition	Dosage	Application Field
ShotGrade® SA 70	High performance, alkali-free set accelerator for shotcrete applications.	8 – 11 kg per 100 kg binder	For all shotcrete applications such as tunnels, mining, rock, soil and slope stabilization. Formulated to reduce the rebound and provide high early strength, improve productivity by shortening the time of setting without compromising long-term strength.
ShotGrade® WR 130	High range water reducer and superplasticizer concrete admixture for shotcrete applications.	600 g – 2000 g per 100 kg binder	For all shotcrete applications where desired to lower the water/binder ratio while maintaining workability.

Supporting Products

Redosing Concrete Admixtures

Product	Definition	Dosage	Application Field
ReGrade® 01	Plasticizer admixture, added on site to improve consistency of concrete.	200 g – 600 g per 100 kg binder	Compatible with UpGrade Series to increase slump values by dispensing to low consistency concrete on site especially in hot weather conditions.
ReGrade® 12	Plasticizer admixture, added on site to improve consistency of concrete.	400 g – 800 g per 100 kg binder	Compatible with MidGrade and SuperGrade Series to eliminate slump loss, also improving pumpability and placing behaviour of the concrete especially in hot weather conditions

Air Entraining Concrete Admixtures

Product	Definition	Dosage	Application Field
AerGrade® 3	Air entraining agent. Increases the durability of the concrete by entraining air distributed homogeneously in the right dimensions.	60 g – 200 g per 100 kg binder	For dams, concrete roads, runways, aprons and harbours. Increases the durability of the concrete against freeze-thaw cycles by distributing entrained air uniformly.

Setting and Hardening Accelerators

Product	Definition	Dosage	Application Field
SetGrade® 580	Set accelerating admixture to reduce concrete setting times.	1 kg – 3 kg per 100 kg binder	For shortening the setting time of concrete especially in cold weather conditions and reducing the demoulding time.
SetGrade® CL 525	Set accelerator for concrete without reinforcement.	800 g – 2500 g per 100 kg binder	Preferred to use in unreinforced concrete to increase the early strength in cold climates.
SetGrade® 05	Hardening accelerator for concrete	500 g – 1500 g per 100 kg binder	To improve the early strengths of mortar and concrete without negatively influencing final strengths.

Set Retarders

Product	Definition	Dosage	Application Field
R-Tard® 77	Ready-to-use plasticizer and set retarder concrete admixture.	200 g – 1500 g per 100 kg binder	To prolong concrete setting times especially in hot weather conditions.

Waterproofing Admixtures

Product	Definition	Dosage	Application Field
PelGrade® 7	Water reducing concrete admixtures to improve waterproofing	500 g per 100 kg binder	Suggested to improve waterproofing in places where higher impermeability and durable concrete production is required.

Viscosity Modifying Agents

Product	Definition	Dosage	Application Field
V Grade® 3M	Viscosity modifying concrete admixture	10 g – 1000 g per 100 kg binder	To improve stability and segregation resistance of concrete by increasing internal cohesion of fresh concrete mixtures.

Shrinkage Reducing Admixtures

Product	Definition	Dosage	Application Field
FloorGrade SRA 200®	Shrinkage reducing admixture.	2,5 L – 7,5 L/m³	Reduces drying shrinkage and can be used to increase joint spacings providing for flatter, more durable and lower maintenance in-door floors.

Products

Fibres for Concrete and Mortar

Product	Definition	Dosage	Application Field
RheoForce® X	Macro synthetic structural fibres with high strength, high modulus	Varies based on project requirements.	Replaced with wire mesh and steel fibres in slab on grade (SOG) applications by enhancing toughness, impact and fatigue resistance to concrete.
RheoForce® S	Micro synthetic fibre for concrete and mortar	Varies based on project requirements.	For any substructure or infrastructure application where decreased cracking and improved to desired durability by reducing surface cracks caused by plastic shrinkage in concrete and mortar.

Curing Agents

Product	Definition	Dosage	Application Field
CureGrade® 9 WX	Curing compound for mortar and concrete.	175 – 250 g/m ²	To eliminate the effects of water loss because of evaporation on the fresh concrete surface, especially in hot weather conditions.

Architectural Concrete Products

Surface Retarders

Product	Definition	Dosage	Application Field
Pieri® DRC 6	Architectural surface retarder to be applied on formwork.	8 – 12 m ² /litre	To obtain architectural quality exposed aggregate finishes.
RheoTop® 7	Solvent free, one component, spray-applied, liquid surface retarder.	5 – 10 m ² /kg	Retards the setting time of the cement paste and used to produce an exposed aggregate concrete surface.

Surface Protection Products

Product	Definition	Dosage	Application Field
Pieri®Hydroxi 2000	Siloxane based water repellent, protects all concrete and mortar surfaces from the harmful effects of water and atmospheric pollution.	3 – 5 m ² /litre	Recommended for all types of exposed aggregate concrete, acid etched concrete, rough formwork; also hydraulic coating, mortar, natural stone, bricks, etc.

Mould Release Agents

Product	Definition	Dosage	Application Field
Pieri® LM 100	Release agent for concrete	50 m ² /litre	For precast and jobsite applications where a smooth surface, no bug holes, without spot desired.
Pieri®Aquarol SX 41	Synthetic release agent emulsion for precast	30 – 60 m ² /litre	For precast concrete for the production of synthetic or elastomers molds, shuttering, floor slabs, cell type floors, beams, façade panels, supporting walls, etc.
Pieri®Aquarol TT 31	Release emulsion for precast concrete.	30 – 60 m ² /litre	For precast concrete poured in synthetic moulds: paving slabs, kerbings, façade panels, decorative concrete.
ReCast® MRA 01	Mould Release Agent	25 – 40 m ² /litre	For easy separation of the moulds from concrete by preventing adhesion that may occur between formwork and concrete and provides a high-quality smooth concrete surface.

WHO WE ARE ?

Rheocon Construction Materials® has been established to share the wealth of experience we have gained working on projects in various countries, climates and projects worldwide.

Our team members have spent over 25 years in key roles at national and multinational construction chemical companies offer solutions to construction industry, contributing their expertise in R&D, QC, Production, Technical Service, Marketing, and Sales.

Our primary focus is providing comprehensive construction solutions to our valued customers, including on-site visits, expert consultancy, training, and determined technical support. We combine our high-quality products with our deep industry knowledge to meet the specific needs of the construction industry.

Rheocon Construction Materials® serves at various segments, including Ready-Mix, Precast, and Infrastructure. We extend our services across Europe, Middle East, Africa, Central Asia and America.



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