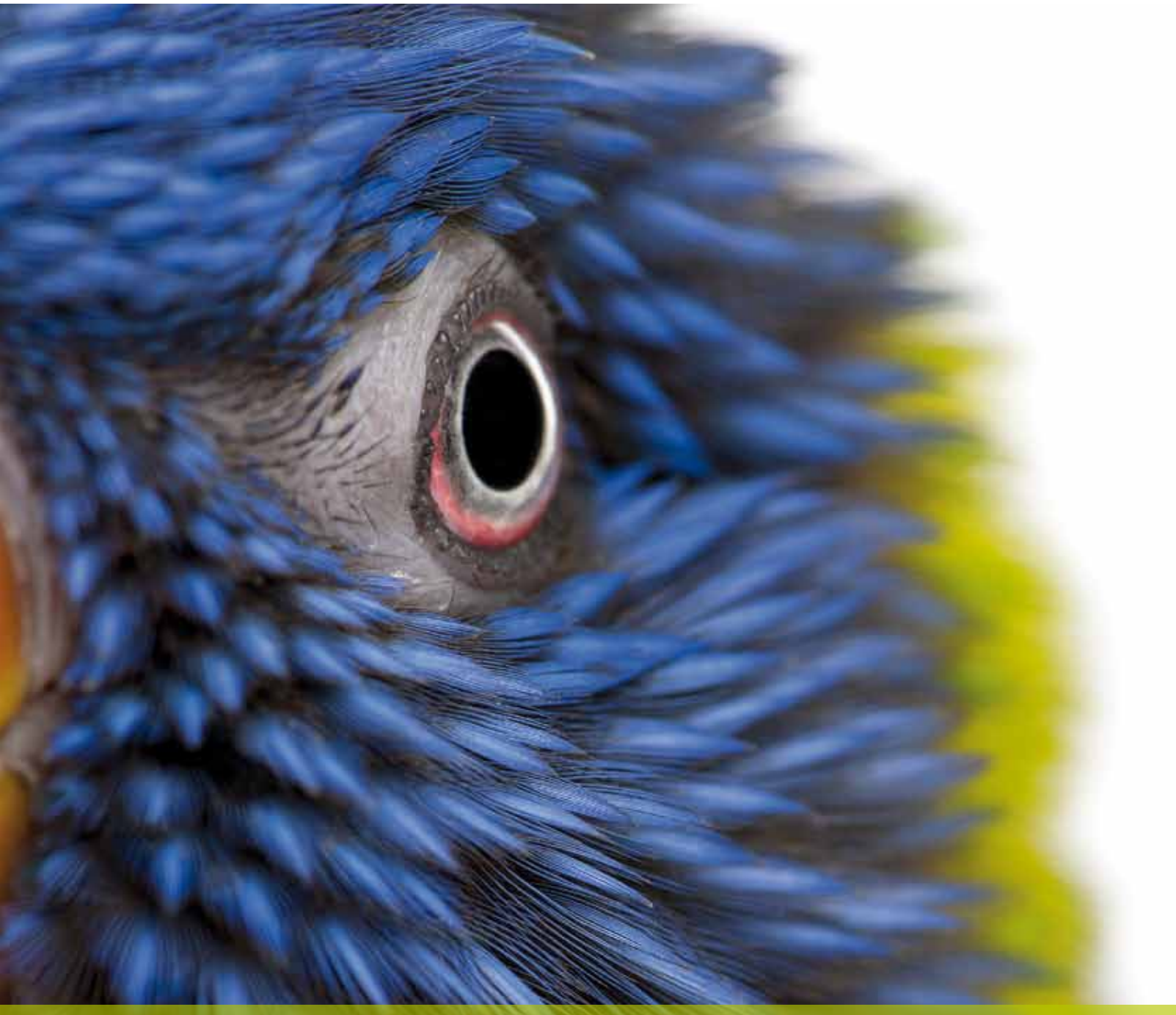
BERMOCOLL®

ELOTEX®



Experience the difference

AkzoNobel

REDISPERSIBLE POLYMER POWDERS



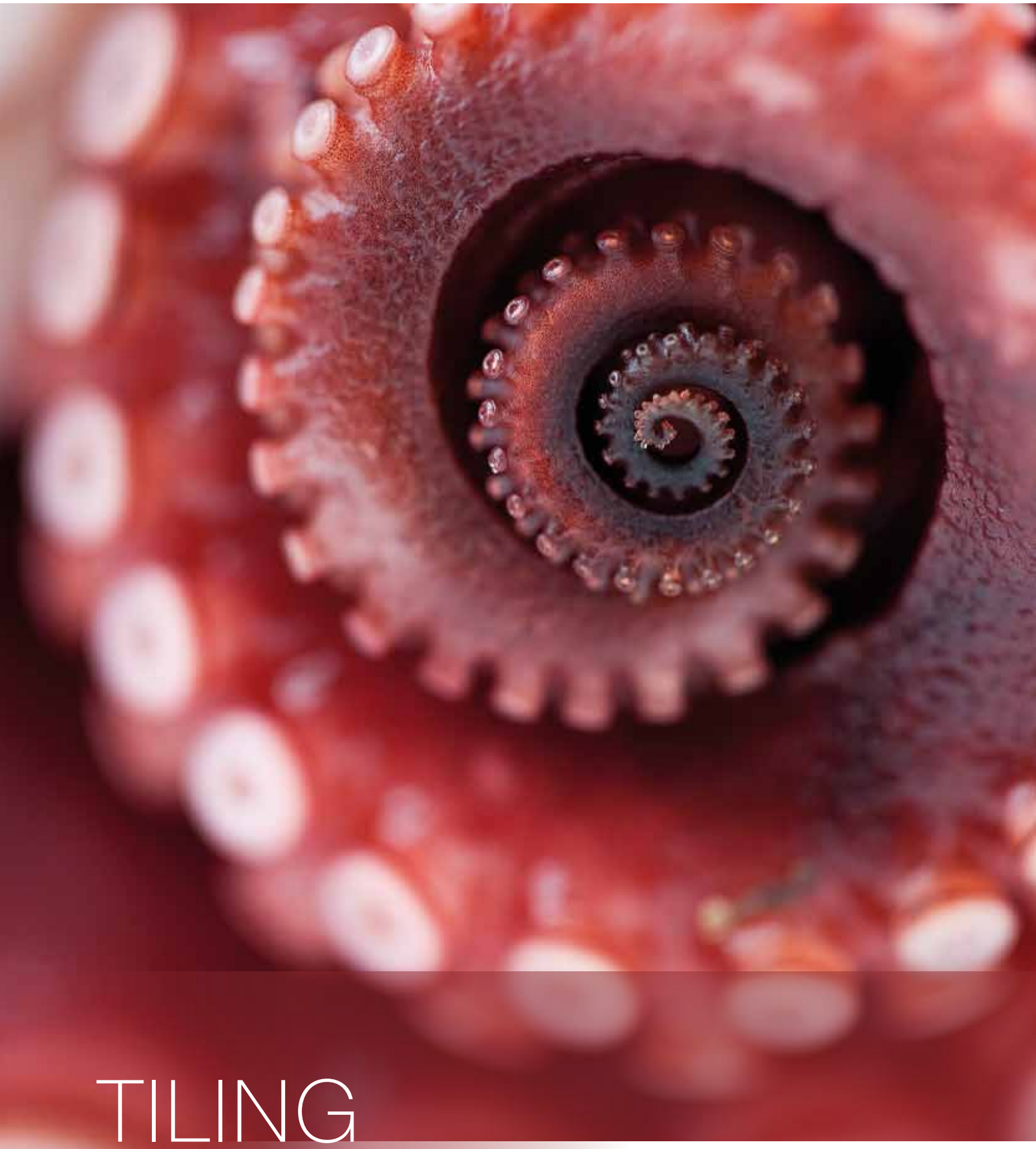
Our wide range of different polymer powder products is based on monomers such as vinyl acetate, vinyl versatate, ethylene and acrylate technology.

These monomers are used in a first stage to produce a liquid dispersion via water-based emulsion polymerization technology. In a second step, after further modification, the water-based dispersion is spray-dried to obtain a free-flowing redispersible polymer powder.

This redispersible polymer powder is then supplied mainly to the dry mortar industry where it is a key component in dry mix mortars. The concentration of redispersible polymer powder in drymix mortars can range from 0.30 to 40% depending on the application and final property requirements.

On mixing with water, the redispersible polymer powder immediately starts to disperse into its primary particles and positively influences the rheology of the mortar mix. In a second stage, moisture evaporation during the setting, the polymers forms a unique network within the mortar matrix (cohesive functionality) and adheres to the underlying substrate (adhesive functionality).

The rapid growth of today's construction technology and building materials industry requires the continuous development of high-performance mortars and redispersible polymer powders to meet the highest requirements in terms of workability, final properties and emission limits.



TILING

OUTSTANDING ADHESION



TILE ADHESIVE

Thin bed and medium thin bed applications are tile application techniques that have been in use for about 50 years. The adhesive mortar is applied onto the substrate using a notched trowel (notch size depends on tile size). Once a few square metres of mortar bed has been applied, the tiles are placed on the bed and carefully moved into the ideal location. Mortar bed layer thickness is about 2 to 15 mm depending on the product and tile size.

ELOTEX® redispersible polymer powders and BERMOCOLL® cellulose ethers are used in tile adhesives in conjunction with the cement (primary binder) and filler to provide optimal improvements and properties in tile adhesives.

ELOTEX® redispersible polymer powders bring a range of performance improvements such as enhanced workability, extended open time, improved anti-slump, improved adhesive strength on a wide variety of substrates. Moreover, the final ceramic tile adhesive (CTA) imparts improved deformation resistance.



GROUTS

Tile grouts seal the gaps between tiles and compensates for any unevenness. In addition, tile joints also perform an architectural and aesthetic function with their pattern and colouring. Grouts are applied to the tile surfaces in small quantities using a rubber grout float or rubber wiper and then worked into the tile joints. The tile joints should be of even depth, clean and dust-free. The time between finishing the joints and cleaning the tiles should be selected so that the grout can still be easily removed from the tile surface without washing it out of the joints. As a final step, after the grout has fully hardened, the tiles are wiped clean with a damp cloth.

ELOTEX® redispersible polymer powders brings excellent workability, high filling performance and outstanding sag resistance on wall tiles, easy joint smoothing and low stickiness in fresh mortar to your tile grouts. Furthermore ELOTEX® redispersible polymer powders brings you improved adhesive strength, especially on the tile side, improved deformation resistance through flexibility, excellent abrasion resistance, outstanding water repellency for hydrophobic grout, easy cleaning and no discolouration in hardened mortar.



FLOORING

QUALITY FLOORING



Elotex is one of the technology leaders in redispersible polymer powder design for the self-levelling flooring market and has developed a unique, internationally recognised expertise. Together with a strong commercial and technical presence, our application knowledge makes us the preferred development partner for our customers specialized in this area.

Although regional differences exist, the following different product groups can be identified:

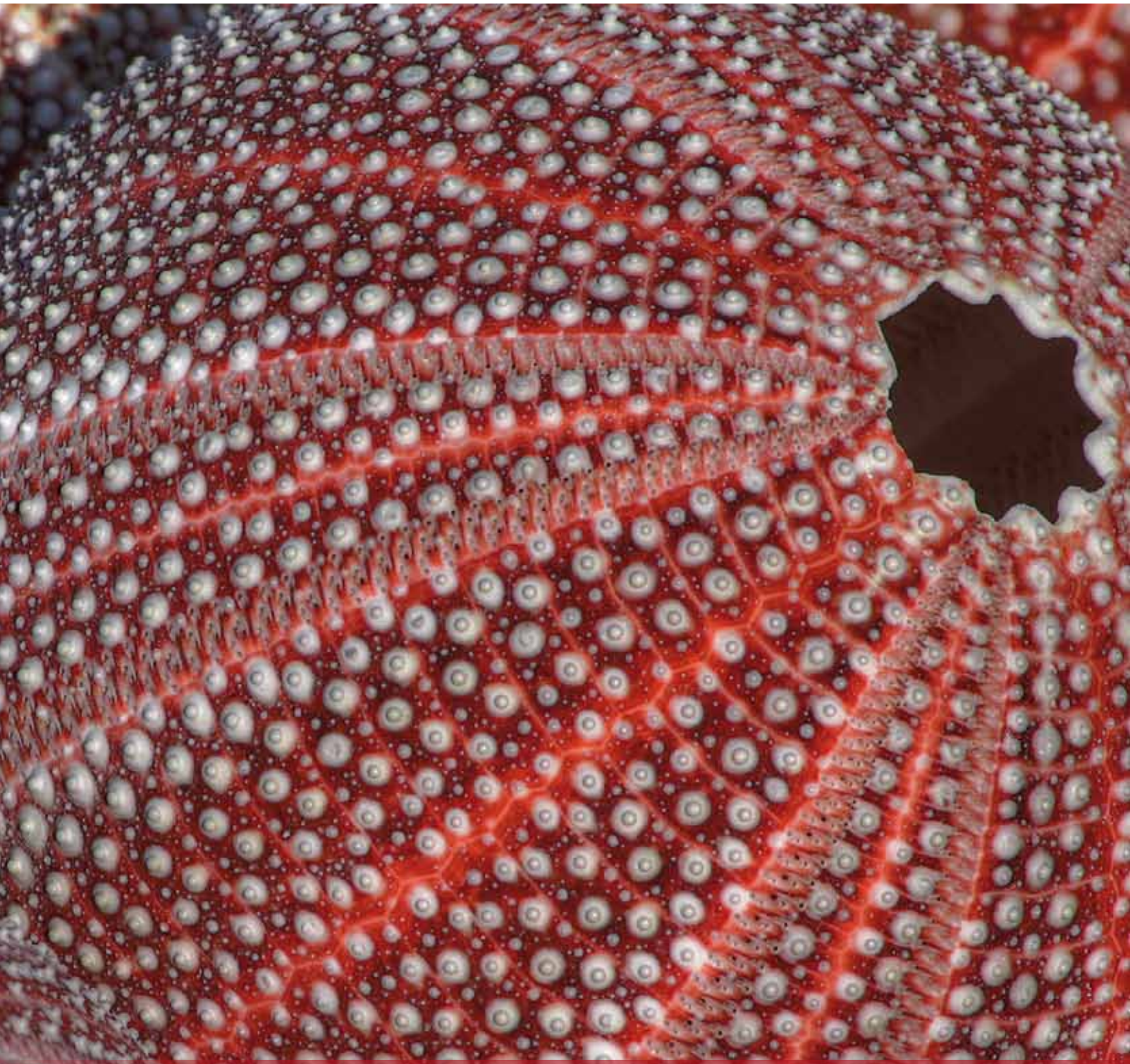
- Self-levelling smoothing compounds (SLC), layer thickness 0 – 10 mm
- Self-levelling underlayments (SLU), layer thickness 3 – 20 mm
- Self-levelling overlyments (SLO), layer thickness 3 – 20 mm
- Cementitious and calcium sulfate based screed, layer thickness 10 – 80 mm
- Cementitious industrial floors, layer thickness 5 – 60 mm



These flooring products are used to level the substrate and prepare the surface for installation of different types of floor covering or contemporary floor finishes. They can be hand or machine applied.

ELOTEX® redispersible polymer binders are used as organic co-binders in self-levelling flooring products and are therefore a key component to achieve the product requirements of both the fresh and hardened mortar. The typical dosage range is 0.5 to 6% (by weight of dry mortar).

By its specific formulation, an ELOTEX® redispersible polymer binder will first support the workability, rheology and applicability of the product. In a second stage, it enables to enhance most of the physical characteristics of the hardened material and especially the flexural strength, the tensile bond strength on various substrates as well as the surface aesthetics and abrasion resistance.



PLASTERING

DURABILITY, INSIDE AND OUTSIDE



PLASTERS

Cement or cement lime mortars are used for exterior and wet interior applications because of their higher strength and durability by moisture or water influence. Gypsum or gypsum-lime plasters are used for dry interior applications because of their improved workability, fire protection and humidity regulation. With the filler selection, type, density, particle size and sieve line, the workability, strength and final texture of the mortar is adjusted.

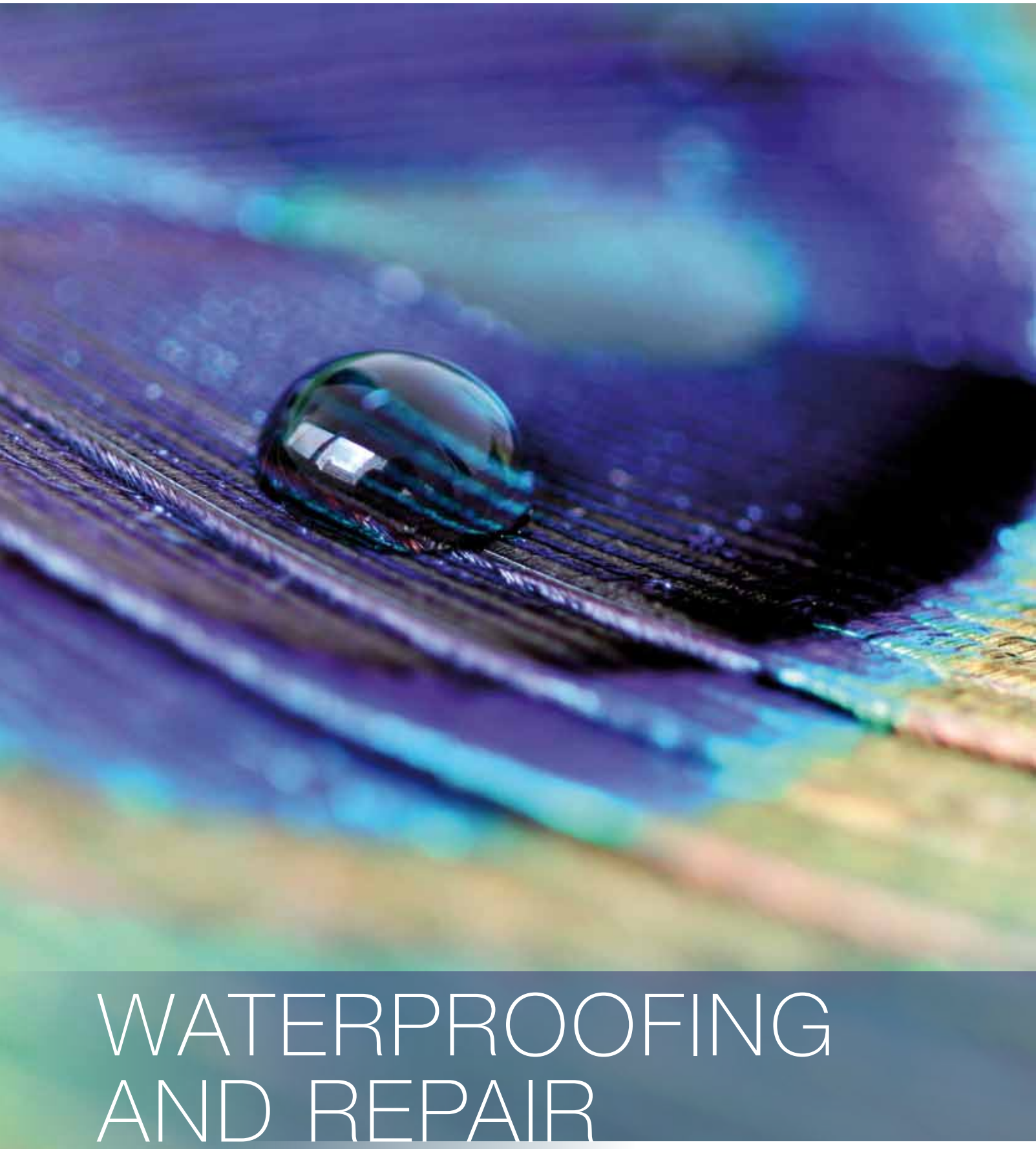
ELOTEX® redispersible polymer powders are used to improve the workability, adhesion, flexibility and surface resistance. Elotex offers also redispersible polymer powders with additional properties like hydrophobicity, thixotropicity, water resistance, improved adhesion and economical multipurpose grades.
With the demand for thinner mortar layers and improved workability, the need for special water retainers like BERMOCOLL® cellulose ether is essential. Depending on layer thickness, 1 mm to 20 mm, substrate porosity (brick / concrete wall) and climatic conditions (temperature / humidity) the cellulose ether use level can vary from around 1 wt% to around 0.1 wt% on dry formulation weight.



ETICS (External Thermal Insulation Composite System)

The insulation boards are fixed to the façade with a so-called adhesive mortar. For soft insulation materials or for renovation, dowels for additional mechanical fixing are often used. On top of the insulation board, a thin layer of composite mortar is applied with a reinforcement fibre mesh in it, which serves as reinforcement for higher impact resistance. Composite mortars are also frequently used as adhesive mortar to fix the insulation boards.Over the composite mortar a final decorative or finish mortar is applied. ETICS mortars are thin-layer applications.

The need for special water retainers like BERMOCOLL® cellulose ether is essential for the workability and mineral binder hydration. Depending on the layer thickness, the substrate porosity (wall / insulation board) and the climatic conditions (temperature / humidity), the cellulose ether amount can vary from around 0.2% to around 0.4% by dry formulation weight.
In the case of difficult substrates, low porosity (concrete wall, EPS, XPS, MW and PUR boards) flexible polymer binders like ELOTEX® redispersible polymer powders are used to improve the workability, adhesion, flexibility and surface impact resistance. The polymer powder amount for the adhesive and composite mortar ranges from about 2% to 6% by dry formulation weight.



WATERPROOFING AND REPAIR

HIGH WATER RESISTANCE AND ENDURANCE



WATERPROOFING

Waterproofing sealants in powder form are available as rigid, semi-flible and even crack-bridging materials. After mixing with water, waterproofing sealants are applied with a brush, roller, trowel or even by spraying. ELOTEX® products enable the formulation of waterproofing sealants in powder form, which have outstanding properties. These sealants are widely used to expand the lifetime of cellar walls, walls and floors in wet areas, e.g. kitchen and bathrooms, tiling of balconies and terraces, e.g. membranes below tiling, swimming pools, water tanks in accordance with local regulations, surface protection systems for buildings.

With respect to different local requirements and standards all over the world, a minimum thickness of dried sealant layers is obtained. In order to achieve higher certainty, double or triple layers are sometimes recommended. ELOTEX® products enable waterproofing membranes to provide:

- Outstanding adhesion to substrate and next layer
- Resistance towards hydrostatic pressure of water
- Increased flexibility in order to absorb shear forces as intermediate layer
- Crack bridging properties



REPAIR

Constructions designed for a long lifetime need maintenance in accordance with their type of use and environmental conditions. Heavy traffic load, severe climatic conditions and other impacts challenge all buildings on a daily basis. Sooner or later, renovation is necessary in order to maintain structural functionality and not least safety. Depending on the building and its site, a wide range of products are in the market to provide required properties in order to regain strength and a excellent surface appearance.

Regardless of the region of the world, ELOTEX® products used in dry mortar formulations that are designed for repair issues have the following properties. These are vital for a long-lasting repair performance:

- High compressive development due to reduced water/cement ratio
- Significant increase of flexural tensile strength
- Controlled shrinkage behaviour
- Outstanding adhesion to relevant substrates and final coatings
- Minimised efflorescence

THE RIGHT CHOICE



ELOTEX® REDISPERSIBLE POLYMER POWDERS

ELOTEX® redispersible polymer powders have a decisive influence on cement, lime or gypsum based finished dry mortar products. They greatly improve the mortar-specific qualities in the mortar matrix. Elotex supplies a comprehensive range of products, tailor-made to bring defined improvements in a wide range of mortars:

Entire ELOTEX® redispersible polymer powder range

- Improved adhesion, cohesion flexibility, abrasion resistance
- Optimised application properties (for example longer open time)
- Excellent rheology and consistency as well improved working properties

ELOTEX® FL products

- Optimal flow properties and excellent self-levelling with casein or synthetic superplasticizers

ELOTEX® FX products

- Improved elasticity and high plasticity

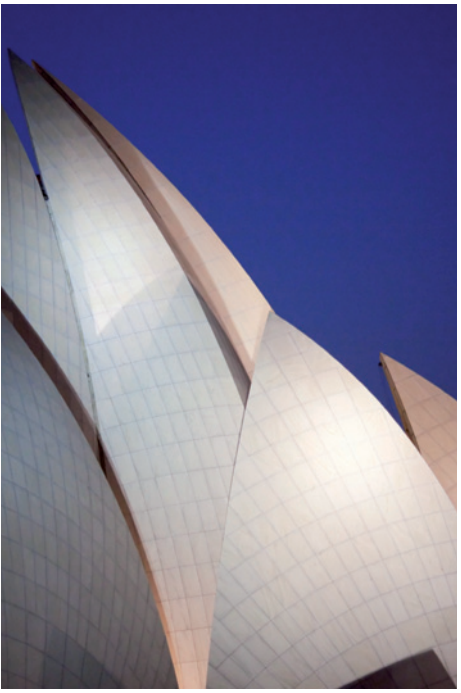
ELOTEX® ST products

- Outstanding sag resistance and improved slip behaviour

ELOTEX® HD products

- Increased hydrophobicity and water resistance as well as improved freeze-thaw cycle resistance

Due to the wide range of specialty polymer powders, we recommend you refer to our regional product selection guide or contact your local Elotex technical representative. Elotex are committed to producing low-emission products in accordance latest emissions standards. (e.g. EMICODE EC1 PLUS).



SPECIALTY ADDITIVES

ELOTEX® ELOSET – Viscosity modifier

- ELOTEX® ELOSET thickeners are chemically modified specialty starches based on maize and potatoes.

ELOTEX® SEAL – Water repellent

- ELOTEX® SEAL are free flowing silane based powder product for cement, lime and gypsum dry mortar products with requirements of high water repellency and low water adsorption.

ELOTEX® FLOWKIT – Levelling

- ELOTEX® FLOWKIT is a set of redispersible polymer powders with additional flow-enhancing properties based on the latest generation of polycarboxylate superplasticizer technology.

ELOTEX® ERA – Efflorescence reduction

- ELOTEX® ERA compounds are free flowing powders to reduce the well known primary and secondary efflorescence problem in coloured dry mortars.

ELOTEX® COPRA – Corrosion protection

- ELOTEX® COPRA is a oligomeric polysiloxane in powder form to reduce the corrosion of steel reinforcing bars.

ELOTEX® SHAPE – Shrinkage reduction

- ELOTEX® SHAPE is a highly efficient shrinkage reducing additive in powder form, specially developed to reduce plastic and drying shrinkage of mortars.

Always a step ahead in innovation

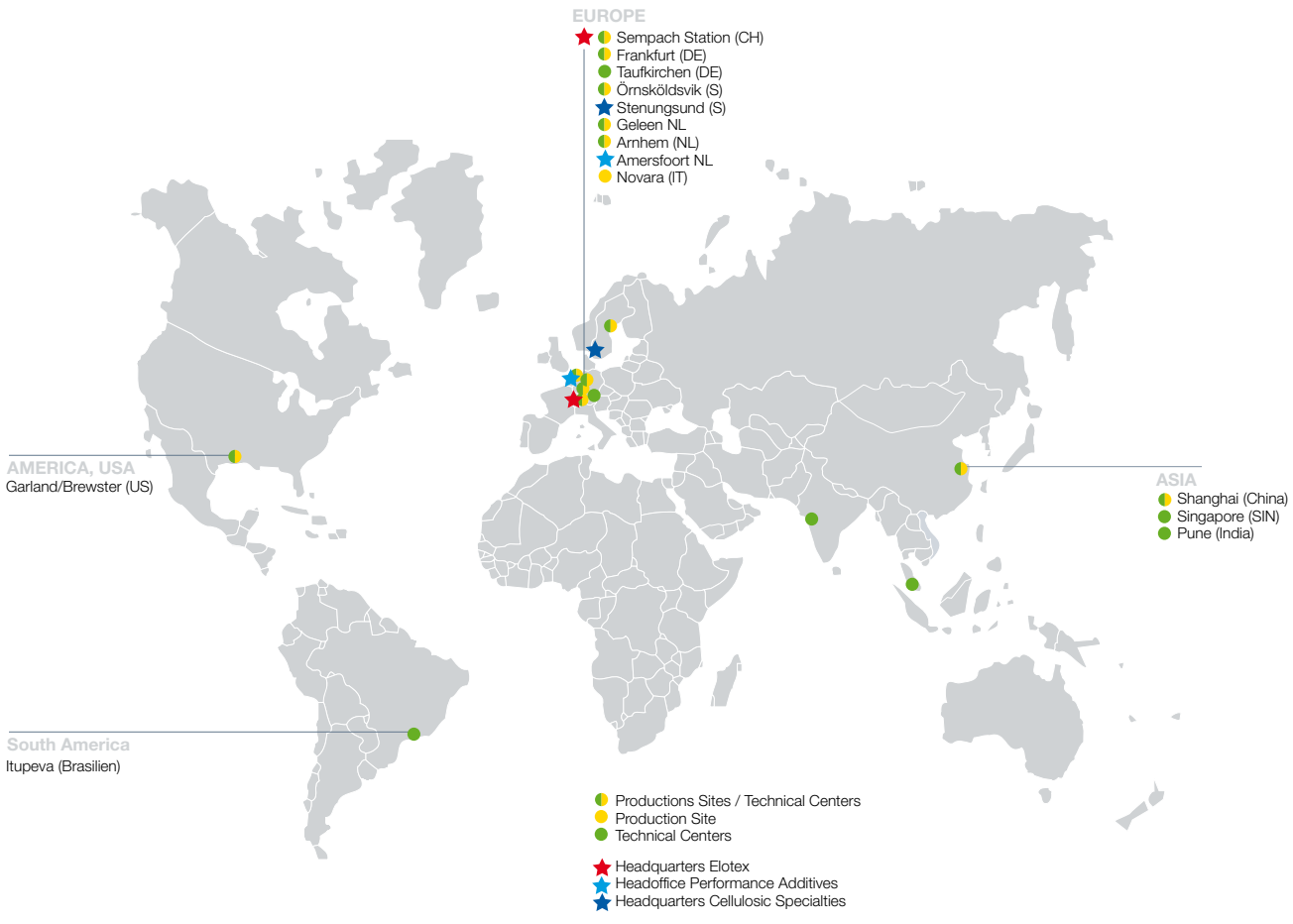
As a market leader, Elotex is continuously investing in basic research in order to better understand the fundamental mechanisms controlling the development of the polymer – cement matrix and its impact on the physical product performance. We would be happy to share our latest advances with you and provide you with the right tools to support your new developments.

PRODUCT TESTING AND TECHNICAL SERVICE



Elotex's technical centres worldwide are strategically positioned and have the full range of equipment required to undertake testing in accordance to current specification. Our technical staff have many decades of experience in the area of formulation development, testing and assessment of mortar systems in all applications. Elotex offers its customers (dry mortar manufacturers) a first-class technical service, including advice and laboratory work in developing and optimising appropriate products, whilst always taking the regional raw material situations and requirement profiles into consideration.

Dry mortar systems are complex formulations using numerous raw materials and additives that can vary depending on the requirement profiles and the local raw material situation. For self-levelling smoothing compounds, ternary mineral binder systems such as ordinary portland cement, calcium aluminate cement and calcium sulphate of calcium sulfo-aluminate cement in combination with a polymeric binder (redispersible powder) are generally used.


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Technical Centers
Headquarters Elotex
Headoffice Performance Additives
Headquarters Cellulosic Specialties

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