



Choose from a range of innovative products  
for all your architectural, structural and  
construction requirements.

A photograph of two construction workers in a quarry or construction site. They are wearing white hard hats and high-visibility yellow safety vests. One worker is pointing towards the background, which shows a large, dark, excavated area under a blue sky with some clouds. The image is partially obscured by a blue diagonal band that runs from the top right towards the bottom left.

2018 Product Catalogue

*"Si Powders Australia offers suitable products for a wide variety of projects. Superior performance extends to such key areas as strength, durability and aesthetics"*

With over 20 years' experience, Si Powders Australia has established itself as an important supplier of specialty powders and cementitious products in the construction and mining industry.

Our expertise in powder micronising and blending constituents is backed by a certified quality management system.

This has helped establish a strong customer base that continues to grow with an ever-expanding and improving product range. This range of products include:

- Mining grouts
- Renders and tile adhesives
- Civil construction grouts
- Flooring and waterproofing products
- Micro-fine cements
- Specialty products including repair etc
- Shotcretes (including dustless) and premium pool sprays
- Supplementary Cementitious Materials and accelerator systems
- Testing services and technical consulting



## OVERVIEW

Si Powders Australia proudly offers the following products.

### Blended Products:

- **Hi-X** – High Early Strength Grouts
- **Hi-Bolt** – Industry standard Grouts
- **Hi-Pak** – High Yield Grouts
- **Hi-Spec** – Specialty Grouts
- **Sewerior CAC** – High strength sewer repair mortar
- **Hi-Pform** - specialty concrete mineral additive

### Micro-fine cements:

- **S-12, S-30** - Type GP
- **HS-12, HS-30** - Type GB

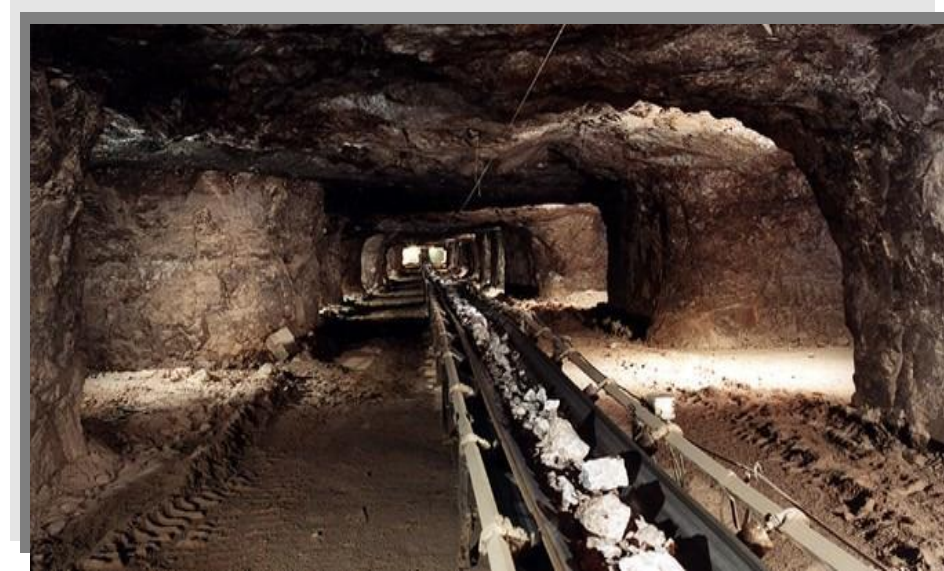
### Shotcrete (all with option of fibre addition):

- **Hi-Shot High Strength / Sulphate Resisting**
- **Hi-Shot Dust Free / Wet Spray versions**
- **Hi-Shot Corrosion Inhibiting**
- **Hi-Shot Rapid**

### Supplementary Cementitious Materials:

- **FA-16**
- **Hi-Pozz**
- **High performance binders: HPB 60 / HPB 80**
- **Premium binder HPB 140**
- **Hi-Ash**
- **Silica Fume**
- **Ferro Pozz**
- **Retarders / accelerators**
- **Bonding agents (liquid)**

Our unique civil products brand – ‘Fenrir’ offer exceptional products to civil constructions where quality is paramount. Refer separate catalogue and p.12





## CIVIL AND CONSTRUCTION CAPABILITIES

Si Powders Australia team of staff and colleagues include a chemical engineer, consultants and experienced industry experts who are able to contribute during early project phases and solve practical issues to provide fit for purpose advice and real cost savings. A long affiliation with the construction industry has allowed us to provide efficient solutions for major projects.

With a core organisational objective of reducing occupational injuries and environmental impacts, our commitment to safety has long been noted in the industry. Our unique expertise of powder manufacture is highly valued and respected.

A range of quality product solutions are on offer to service the civil and construction markets. We have successfully delivered specialised products on a number of major projects around Australia and pride ourselves on delivering on time and on budget.

Experienced management and committed ownership structure will ensure Si Powders remains at the forefront of product development and industry desires. A focus on quality products and reliable contracting methods, backed up by professional support and equipment can grant our clients peace of mind.

A Quality Management System and a progressive and forward thinking environmental policy places emphasis on management to care for the environment and consistently look to material inputs; and develop outputs (finished goods) with a reduced carbon footprint. Research and development programs are ongoing and aim to serve these principles.



## QUALITY CONTROL

Quality control is at the forefront of Si Powders Australia's business. In addition to the quality management systems in place, we assure products are fit for purpose by a series of quality control tests performed at an on-site laboratory. Currently this laboratory hosts an array of certified and specialised equipment which can:

- Measure particle size and distributions of powders
- Compression test rig (MCC8) capable of UCS, flexural strength (beamlets to large 100mm x 500mm moulds) and elastic modulus exothermic behaviour analysis
- Accelerate test results, wet or dry cure

To maintain client confidence, and develop exciting new products, this laboratory will be upgraded in 2018 to include commissioning of a large compression testing machine which will add tensile strength testing to our repertoire, a proposed FT-IR spectrometer and much more.

These strategic upgrades will make future NATA certification possible. All quality control is overseen by a team of specialists.



***“Precise Quality Control =  
Reliability of Performance”***

## HI-GROUT GP

**Hi-Grout GP** is a purpose blended general purpose Class A non-shrink grout. Specifically developed for applications that require high strength **Hi-Grout GP** offers excellent benefits.

Current products in this range are:

- **Hi-Grout GP30**
- **Hi-Grout GP40**
- **Hi-Grout GP50**
- **Hi-Grout GP60**

Benefits of **Hi-Grout GP** include:

- High early strength
- Can be mixed at a range of consistencies
- Non-shrink

Uses for Si Powders **Hi-Grout GP** grout include:

- General grouting and anchoring
- Civil
- Construction.

	1 hour	7 day	28 day
<b>Compressive Strength (MPa)</b>	>30	>50	>60

\*(data presented Hi-Grout GP60)



## HI-X GROUTS (The gold standard)

Si Powders Australia's latest addition of high performance grouts is the **Hi-X** range. No other products in the market can claim these performance properties. Expansive by nature and tested to be waterproof due to its internal crystal structures.

Blended with high quality ingredients, **Hi-X** is available as a top- down thixotropic or bottom-up flowable version.

The innovative use of specialty constituents allows the customers to select gel times (30 minutes to 4 hours), strength and flow parameters to suit their specific applications. Product range is licenced and undergoing global patent protection.

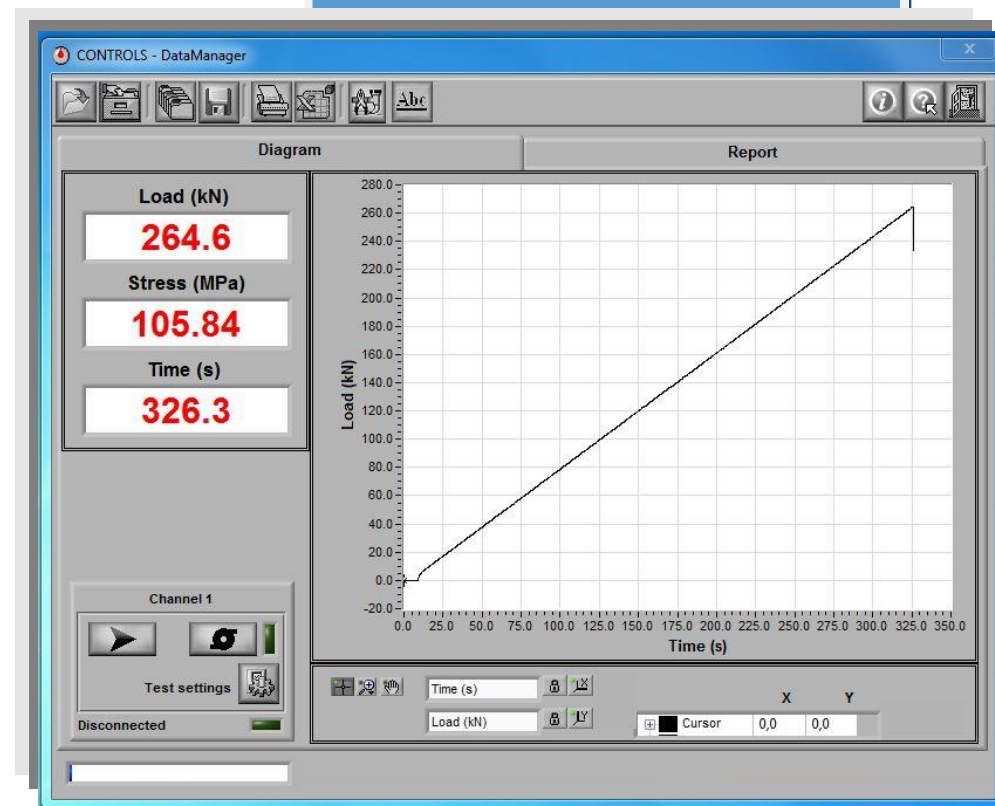
Benefits of **Hi-X** include:

- Ultra-high strength
- Excellent pumpability
- Low porosity
- Non-shrink
- Lower cost compared to resin grouts.

Uses for Si Powders Australia's **Hi-X** grouts include:

- Top down or bottom up grouting
- Civil
- Mining
- Construction

	2 hours	4 hours	6 hours	1 day	7 days	28 days
<b>Compressive Strength (MPa)</b>	30	50	60	80	90	110
*(data presented Hi-X TD 30 or HI-X BU30)						



## HI-BOLT GROUTS (the silver standard)

**Hi-Bolt** is a purpose blended industry standard grout. Specifically developed for applications that require high strength at a reasonable price, **Hi-Bolt** offers excellent benefits.

Like the **Hi-X** range, customers can request flowable or thixotropic grouts with varying gel times to suit their project (30 minutes to 4 hours).

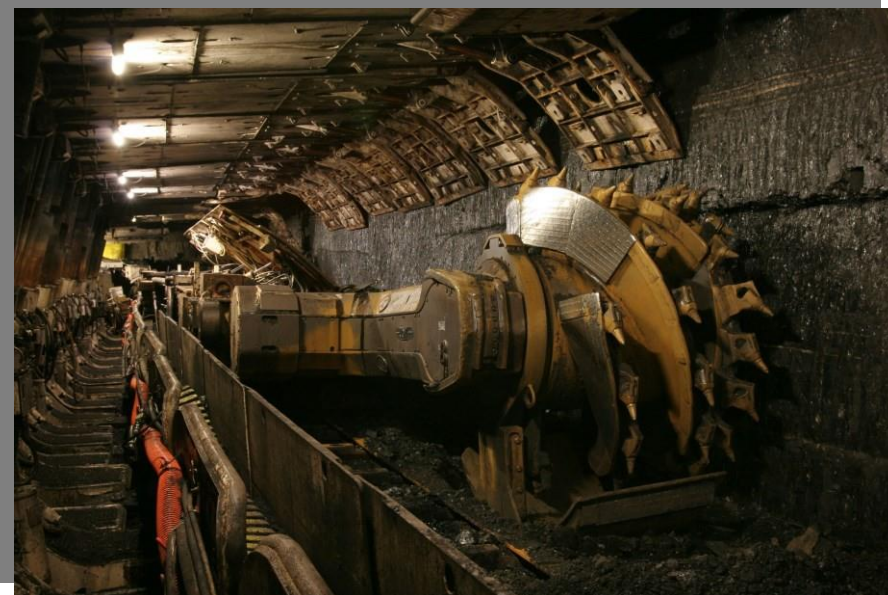
Benefits of **Hi-Bolt** include:

- High early strength
- Excellent pumpability
- Low porosity for long term durability
- Non-shrink

Uses for Si Powders Australia's **Hi-Bolt** grout include:

- High early strengths
- Top-down or Bottom-up applications
- Mining
- Civil
- Construction

	4 hours	1 day	7 days	28 days
<b>Compressive Strength (MPa)</b>	>5	50	70	80
*(data presented Hi-Bolt TD60 or Hi-Bolt BU60)				





## COBALT GROUTS

The **Cobalt** range includes the bronze tiered general purpose grouts. Again, like the **Hi-Bolt** and **Hi-X** range, customers can specify gel times (30 minutes to 4 hours) and request bottom up or top down flow characteristics.

Benefits of **Cobalt** grouts include:

- Thixotropic or flowable
- Superb pumpability
- Low porosity
- Non-shrink
- Lower cost
- Cost competitive versus existing market alternatives

Uses for Si Powders Australia's **Cobalt** grouts include:

- Top-down or bottom up grouting
- Secondary support
- Mining
- Civil
- Construction.

	1 day	7 days	28 days
<b>Compressive Strength (MPa)</b>	>30	>60	>70



## BLACKROCK GROUTS

**Blackrock** grouts are ready to use blended mining grouts utilizing the latest technologies. Its gel time is 2 hours, allowing extended worktimes whilst offering the performance of other competitor HES version grouts.

Benefits of **Blackrock** include:

- Thixotropic or Free-flowing
- Superb pumpability
- Low porosity
- Non-shrink
- Cost competitive opposed to other HES grouts
- Increased mine development due to its initial strength versus time

Uses for Si Powders Australia's **Blackrock** grout include:

- Bottom up or top down grouting
- Mining
- Civil
- Construction

	4 hours	1 day	7 days	28 days
<b>Compressive Strength (MPa)</b>	>20	>60	>80	>90
*(BU / TD)				



## HI-PAK GROUTS

Si Powders Australia is proud to introduce a range of high yield grouts to suit the specific requirements of customers.

Products in the **Hi-Pak** range include:

- **FPT200** (1.75:1 7MPa)
- **Foams** (typical / and high strength and yield performance)
- **2P** (2-part HY grouts), also available in performance **Hi-X** versions
- **Hi-Pak 5**
- **Hi-Pak 7** (high strength @ 2.5:1 WPR)
- **Accelerated systems** available as add-ons
- **Annulus** grouts
- **Pre-injection** grouts and safe level pH **TBM** grouts

Benefits of the reliable **Hi-Pak** range include:

- Rapid placement and strength gain
- Non-shrink
- Large pumping distance
- Reduced transport costs of raw material
- Improved yield compared to current market options

Uses for Si Powders Australia's **Hi-Pak** range include:

- Rock fall
- Consolidation
- Ventilation control
- Mining
- Civil
- Construction

Typical strengths			
W:P 2.5:1	1 day	7 days	28 days
<b>Hi-Pak 5</b>	1.7	2.8	5.0
<b>Hi-Pak 7</b>	1.6	3.0	7.0



## HI-SPEC GROUTS / *FENRIR* brand

The **Hi-Spec** range includes various specialty grouts that target specific applications in the mining, construction and civil area.

Some products are only available in our civil performance range - **Fenrir**. Please refer to the Fenrir catalogue to learn more about this range of products.

In order to provide customers with a range of products that complement the existing range, the **Hi-Spec** series features innovative use of constituents to deliver high-performance grouts.

Products in the **Hi-Spec** series include:

- **HS70** and **40HB** (repair mortars)
- **Plug-it 60** (emergency water-stopping mortar)
- **Hi-Floor** (range of flooring products with quality and performance in mind)
- **CGB** (pre-injection grout successfully used at various collieries)
- **LA55 R2™**
- **Hi-Coat** (renders and adhesives)
- **Hi-Lyght** (varied lightweight product range)
- **Hi-Set** low alkali Class 1 accelerator
- **HPB** performance binders with class leading performance
- **Tile adhesives and tiling grouts**
- **Screeds**
- **Soil stabilisation products**
- **Bonding agents**
- **Engineered Composite Cements**
- **Thin Spray Liners (TSL)**
- **Waterproof membranes** (rapid set versions)
- **Sewperior CAC Range** (sewer repair and or new sewer developments)





## SEWPERIOR CAC

**Sewperior CAC** is Si Powders Australia's state-of-the-art sewer repair mortar designed specifically for harsh environments.

Developed to resist biogenic corrosion, **Sewperior CAC** can be used to rehabilitate sewer infrastructures and provide a protective layer to new sewers.

Incorporating a 100% calcium aluminate cement and aggregate system, **Sewperior CAC** is supplied as a ready to use dry powder for standard shotcrete equipment.

**Sewperior CAC** has been designed for a range of different applications and customers may order sprayable, trowelable or high early strength products.

Benefits of **Sewperior CAC** include:

- 100% premixed calcium aluminate system
- Biogenic corrosion resistance
- High early strengths
- Excellent cohesion with minimal rebound
- Aggregates do not exceed 4 mm.
- Wet and Dry Spray compatible

Sewperior CAC	1 day	3 days	7days	28 days
<b>Compressive Strength (MPa)</b>	>40	>50	>60	>75



## S-12 AND HS-12 MICROFINE CEMENTS

**S-12** is a micro-fine General Portland cement based injection grout, mortar, or binder additive, and is supplied ready to use as a dry powder.

**HS-12** is a micro-fine slag cement soil stabilisation grout and is supplied ready to use as a dry powder.

Si Powders Australia uses a unique manufacturing process to fine-tune these products according to customer requirements. We are the only Australian manufacturer of microfine cements.

Benefits of **S-12** and **HS-12** include:

- top size particles do not exceed 14  $\mu\text{m}$
- D98 = 12  $\mu\text{m}$
- D50 = 1.5-3  $\mu\text{m}$
- Blaine Surface Area exceeds 10 000

**S-12 and HS-12** are considered suitable for, but not limited to:

- High Performance Concrete
- Repair and rehabilitation of cracks, voids, or direct injection into fissure
- CSG applications
- Post consolidation - Tunnel panelling
- Pre-consolidation of broken ground
- Micro-cementing and grout repairs



## S-30 and HS-30 FINE CEMENTS

**S-30** is a fine General Portland injectable grout or cement additive and is supplied ready to use as a dry powder.

**HS-30** is a fine slag cement soil stabilisation grout and is supplied ready to use as a dry powder.

Si Powders Australia uses a unique manufacturing process to fine-tune this product according to customer requirements.

Benefits of **S-30** and **HS-30** include:

- Top size particles do not exceed 30µm
- D50 = 3-4 µm (50% of particles under)

**S-30** and **HS-30** are considered suitable for, but not limited to:

- Grout injection
- HPC projects
- Rock injection including tunnels, caverns
- Repair and rehabilitation for concrete cracks, voids, or direct injection into fissures.
- Tank repairs / waterproofing
- Dams, tunnels and foundations
- Concrete additive to improve performance and early set



## HI-SHOT SHOTCRETE

**Hi-Shot** is a pre-packaged, ready to use, cement-based shotcrete mix for wet or dry applications. Fibres or corrosion inhibitor can be added upon request.

Benefits of **Hi-Shot** include:

- Reduction in rebound reducing cost and time
- Easy application in dry or wet systems
- High early strength with rapid setting time.

**Hi-Shot** is recommended for use in mining or civil applications such as:

- Underground mining support & lining
- Ground & embankment stabilization
- Concrete repairs
- Tunnel linings & repairs
- Fireproofing.

	1 day	7 days	28 days
<b>Compressive Strength (MPa)</b>	>25	>45	>55

For applications that require high strengths, customers may request **Hi-Shot HS**.

	1 day	3 days	28 days
<b>Compressive Strength (MPa)</b>	>25	>50	>75





## HI-SHOT DF SHOTCRETE

**Hi-Shot DF** is recommended for customers that require a dust-free shotcrete. Ideal for critical and claustrophobic spaces and areas of high safety concern.

Especially important and useful as safety has rightly become more relevant within the construction sector, mining and civil alike.

**Hi-Shot DF** is available in three variations including:

**CI** – For situations where increased corrosion resistance is required.

**MC** – Recommended for marine projects where increased corrosion and salt water resistance is required.

**WP** – For situations where a water proofing membrane is required.

Should customers require a personalised shotcrete for a project Si Powders Australia can offer and supply “black-box” products.

Tested in-house the personalised shotcrete can include increased coarse aggregate, be a wet or dry shotcrete and much more.

	1 day	3 days	7 days	28 days
Compressive Strength (MPa)	30	40	45	55



## SUPPLEMENTARY CEMENTITIOUS MATERIALS

Si Powders Australia offers a range of highly pozzolanic supplementary cementitious materials (SCM).

The use of processed supplementary cementitious materials reduces Portland cement consumption and can be used for improved concrete performance in its fresh and hardened state.

Benefits of SCM's include:

- Improved workability and trowelability
- Durability
- Strength (earlier and continued late age strength)
- Lower heat generation
- Excellent cohesion

Uses include:

- Additive to concrete including HPC
- Shotcrete
- Standard pool spray
- Precast and tilt-panel
- Concrete structures
- Render mix designs
- Guniting mix
- Accelerating wet/dry mix concrete and cementitious systems



## SUPPLEMENTARY CEMENTITIOUS MATERIALS

Current pozzolanic SCM's offered by Si Powders Australia include:

**FA-16** is our premier ultra-fine classified fly ash (UFFA). An extremely narrow particle size distribution and a top size of 16 microns allows it to penetrate even the smallest voids.

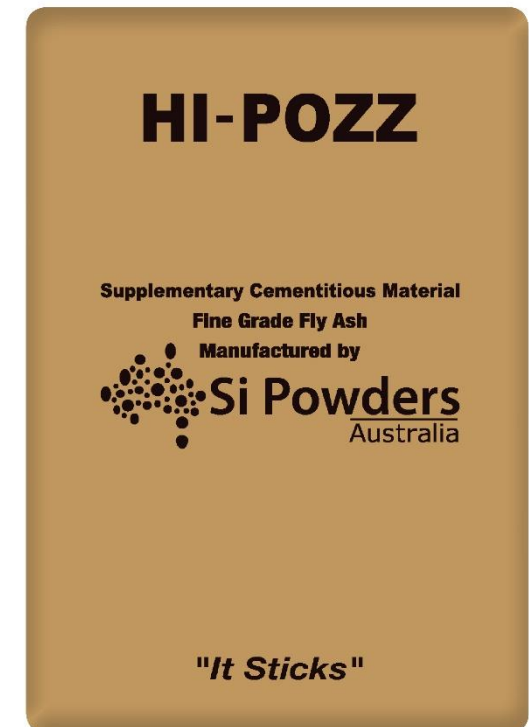
**Hi-Pozz** is a micro processed, ultra-fine fly ash powder for use in a wide range of applications.

**Silica Fume** sourced from Si Powders Australia is undensified silica fume and densified silica fume is available for greater bulk density, less dust and reduced shipping costs.

**Ferro Pozz** is a calcium silica fume, a highly pozzolanic powder that has hydraulic properties. Si Powders Australia currently owns the Australian distributor rights to this unique product.

**Hi-Set** is our new, patented dry powder accelerator. Class 1 performance. Allows the client to use the required dose without having to purchase minimum lots of liquid accelerator. Performance is dramatically enhanced with the addition of our HPB (high performance binder) range.

*“Australian standards currently allow up to 7.5% SCM additions for GP cement mix designs with up to 35% allowable for blended cements. The additions are therefore an economical and environmentally smart choice.”*



## FURTHER DEVELOPMENTS

Si Powders Australia is developing new processes to stay ahead of competition including:

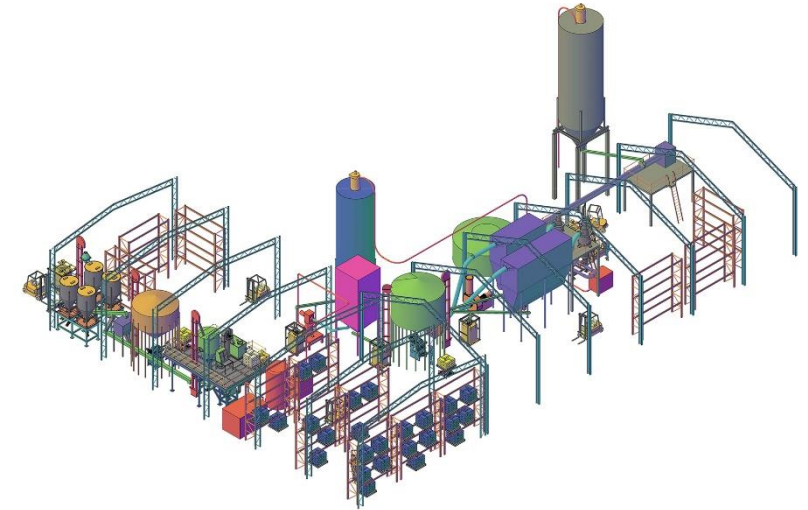
Our cement separation is a patented process incorporating the latest in separation technology. Offering a low energy process to create two highly flexible product streams, we are able to minimize waste and cost to customers. This is planned to fully integrate with a new grinding circuit that has been designed by an Australian company for Si Powders Australia. It will incorporate the existing classification and centrifuge systems and offers a 'closed-loop' design.

Our latest integrated blending plant is highly accurate and caters for the most complex mixing options. The Australian designed blending plant allows us to offer our customers any number of blended products, including 'own' mix designs or proprietary designs formulated by us. This is further to our current mixing and packaging capabilities.

### **Increased product range**

Between now and mid-2019 the company is committed to add a suite of products to the market.

- Flooring
- Adhesives
- Renders
- Bagged concretes
- Premium beaded pool sprays
- Fine powder derivatives
- CSG products for permeation grouting





## ADDITIONAL SERVICES

**Si Powders Australia** can provide further services including:

### **In-house product development**

We work with you to develop your bespoke product using our development expertise, product sourcing and manufacturing experience. We are able to tailor our existing products to your requirements and develop 'fit for purpose' products using our in-house laboratory.

### **You develop, we manufacture**

Come to us with your product and we will manufacture and quality assure under license. Have peace of mind while we organise product sourcing, quality control and manufacturing.

### **Contract testing**

We are able to provide contract materials testing for our customers as an extra service or incorporate it into standard manufacturing rates. Contact us for competitive rates on mechanical tests on mortars, concretes and grouts.

### **Contract Manufacturing**

One of the company's greatest assets is its independence. This allows us to offer contract manufacturing services without a conflict of interest

Benefits of using Si Powders Australia for your contract manufacturing:

- Over 20 years' experience in product design and equipment
- Supported by a renowned equipment supplier
- Increased capacity has improved capabilities
- Independence means you can offer your own design, or we'll package ours for you!
- In-house laboratory support
- State of the art plant and equipment
- Benefit from our established bulk handling systems
- Vast industry understanding and network
- Design consultancy, and / or product licencing is available



## FIND OUT MORE

### Head Office

9 Holt Drive, Torrington,  
Queensland 4350

Ph: (07) 3154 5361

Fax: (02) 9754 1351

[www.sipowders.com.au](http://www.sipowders.com.au)

### General Manager – Michael Archer

Mobile: 0423 058 886

Email: [michael@sipowders.com.au](mailto:michael@sipowders.com.au)

### Hours: For pick-up or delivery

Mon – Fri: 6am – 4pm

Sat: Pick-up available on request

Sun: Pick-up available on request

### Site Foreman – Luke Driver

Mobile: 0402 501 123

Email: [operations@sipowders.com.au](mailto:operations@sipowders.com.au)

### Administration – Sandy Archer

Phone: (07) 4633 3347

Mobile: (04) 3262 8250

Email: [sandy@sipowders.com.au](mailto:sandy@sipowders.com.au)

Email: [admin@sipowders.com.au](mailto:admin@sipowders.com.au)

### Product Engineer – Gunther Benkenstein (APEGA) B.Eng Chemical Engineering

Mobile: 0456 694 658

Email: [technical@sipowders.com.au](mailto:technical@sipowders.com.au)

#### Disclaimer:

All information, including technical specifications are current as of date of printing. Please note that products may be discontinued or changed without notice. Please contact us for up-to-date information regarding any products.

© Si Powders Australia 2018

