



Geotechnical Solutions



When your business needs a supplier for construction products who can offer you impartial advice and support, you need a distributor who you can trust. At SIG we are dedicated to supporting you on your projects.

As one of the UK's market-leading specialist suppliers to the construction industry, we take the time to understand the demands of our customer's project. We work with our customers throughout their project, from early design stage through to completion enabling us to provide on hand support, offering the right solution backed by our technical expertise.

You can trust the extensive product range, and excellent service of SIG to deliver what you need when you need it.

2

How SIG can support you

- ✓ We can offer you an **extensive product range** from leading manufacturers in Construction Accessories, Insulation, Fire Protection, Dry Lining, Interiors, Ceilings, Fixings & First Fix M&E and Roofing
- ✓ We provide **technical support** when you need it, including estimating and technical calculations
- ✓ With a **diverse fleet**, we have the right vehicle to deliver the product to you on site
- ✓ Our **nationwide** branch network means we're never far away
- ✓ Our **dedicated** Construction Accessories sales team are always on hand to support you



3

SIG Construction Accessories, are a specialist distributor of products for Masonry, Groundworks, Geotechnical, Waterproofing, Concrete Repair and Technical fixings. Our team is made up of skilled professionals who are passionate about what they do and are dedicated to delivering the best possible solutions for our customers. We pride ourselves on our ability to tailor our services and the products available to meet the unique needs of each, and every project we work on.

With years of experience, we have developed a deep understanding of our industry, and we are always striving to stay ahead of the curve when it comes to new developments and innovations. We work with Architects and design teams in the early stages of projects, to provide value engineered solutions which consider application, sustainability and commercial viability. Once the project is on site we are on the ground supporting our customers for the duration.

When you need a supplier who has the products you need, when you need them through a national branch network, then trust SIG Construction Accessories to deliver.

Our Range of Products



1 Concrete Repair & Protection

Available products:

- ✓ Grouts & Anchors
- ✓ Primer
- ✓ Cementitious Repair Mortars
- ✓ Resin Repair Mortars
- ✓ Levelling Compounds
- ✓ Protective Coatings
- ✓ Specialist Sealants



2 Waterproofing

Available products:

- ✓ Membranes (Pre & Post-Applied)
- ✓ Bentonite
- ✓ Cavity Systems
- ✓ Liquid Applied
- ✓ Cementitious
- ✓ Waterstops
- ✓ Waterproofing Accessories



3 Masonry

Available products:

- ✓ Masonry Support Systems
- ✓ Windposts & Parapet Posts
- ✓ Lintels
- ✓ Surface Fixed Wall Channel
- ✓ Brick Reinforcement
- ✓ Wall Ties & Restraint Fixings
- ✓ Head Restraints
- ✓ Remedial Wall Ties
- ✓ Wall Starter Systems
- ✓ Builder's Metalwork
- ✓ Damp Proof Course Systems & Accessories (DPC)
- ✓ Cloak Units, Cavity Trays & Abutment Trays
- ✓ Crack Stitching Injection
- ✓ Brickwork Joint Filler
- ✓ Brickwork Protection
- ✓ Through Wall Ventilation
- ✓ Wall Ventilation/Weep Vents



4 Groundwork Engineering

Available products:

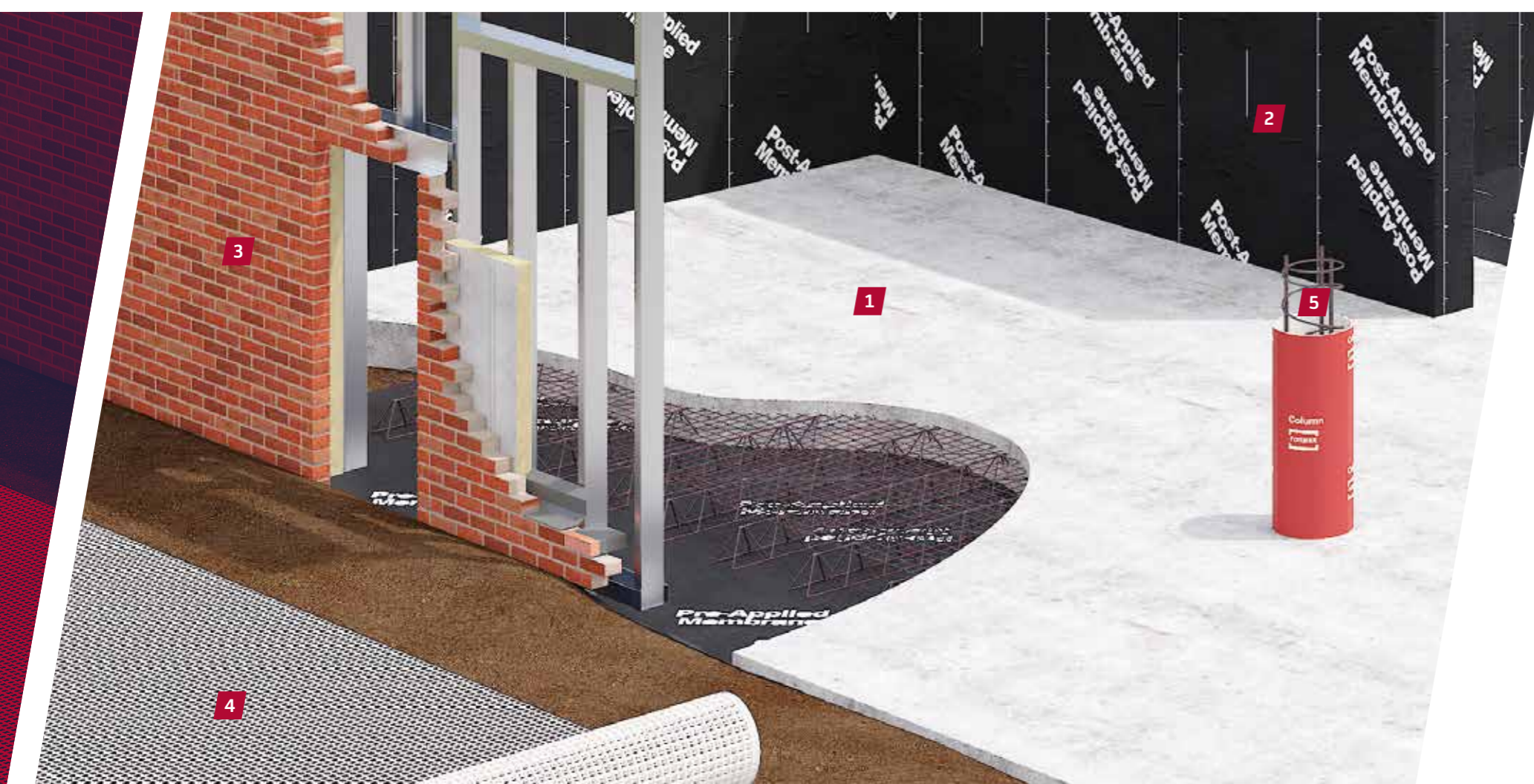
- ✓ Geotextiles
- ✓ Geogrids
- ✓ Walls/Gabion Baskets
- ✓ Erosion Control & Matting
- ✓ Cellular Confinement System
- ✓ Root & Weed Barriers
- ✓ Grass Protection Mesh
- ✓ Geocomposite Drainage
- ✓ Clay Liners & Plastic Membranes
- ✓ Gas/Hydrocarbon Barriers
- ✓ Clayheave/Void Former Insulation
- ✓ Permeable Paving
- ✓ Slope Stability



5 Reinforcement & Formwork

Available products:

- ✓ Reinforcement Mesh
- ✓ Reinforcing Bars
- ✓ Cut & Bent
- ✓ Reinforcement Spacers
- ✓ Dowel Bars & Accessories
- ✓ Tying Wire
- ✓ Concrete Slab Accessories
- ✓ Beamform/Ground Prop
- ✓ Tie Bar Systems
- ✓ Column Formers
- ✓ Expanded Metal Formwork
- ✓ Screed Rails & Accessories
- ✓ Crack Inducers & Void Formers
- ✓ Structural Concrete Reinforcement
- ✓ Cast-in Channels
- ✓ Floor Decking
- ✓ Brick & Concrete Cleaning Materials
- ✓ Continuity Systems
- ✓ Formwork Chemicals



Geotechnical Specialists

Our SIG Construction Accessories Geotechnical Team support Clients, Contractors, Local/National Authorities at early stages of projects – specifically looking at ways to optimize designs and offer safe, efficient, low carbon and cost saving solutions.

We Offer

Early involvement to offer advice on costs, product specifications, design solutions, value engineered services, and more.

We Provide

Technical support through our dedicated supply chain partnerships, including preliminary design, technical CPD's, full design including indemnity via third party, technical support on products and applications.



We Assist

Temporary and permanent work designs at ECI stage to optimize the site and reduce on material import.

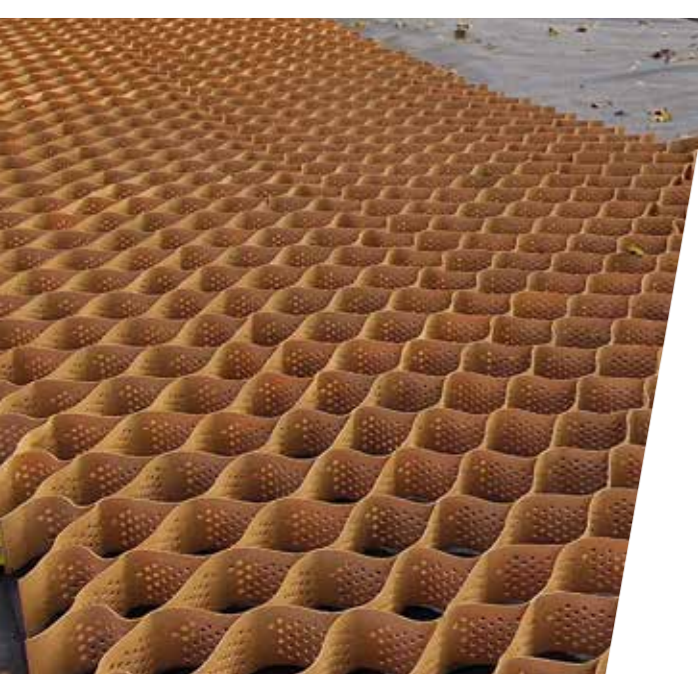
We Partner

With specialist suppliers & design engineers to offer a robust solution to your problem.

Benefits Include:

- Reduction in import/export of materials
- Use of a wider variety of fill material
- Reduced foundation thickness
- Lesser vehicle movements = safer sites
- Cost reductions due to savings on materials

& much more



Foundations

Applications

- ✓ Road Stabilisation Paved/Unpaved Designs
- ✓ Temporary Working Platforms
- ✓ Basel Reinforcement on Soft Ground/
Capping of Mine Voids
- ✓ Compounds
- ✓ Load Transfer Platforms
- ✓ Tree Root Protection
- ✓ Container Storage Yards
- ✓ Track-bed Stabilisation
- ✓ Embankments on Soft Soil



PRODUCT FOCUS

Naue High strength geogrid: Secugrid™ HS

Secugrid™ HS are high strength geogrids. They are laid geogrids made of high tenacity polyester filaments with an extruded polyethylene protective coating and welded junctions.

Secugrid™ HS combines high tensile strength and low creep tendency with extreme robustness and resistance.

Secugrid™ HS was developed specifically for geotechnical applications in earthworks where tensile strengths of more than 400 kN/m are required.

Secugrid™ HS product advantages

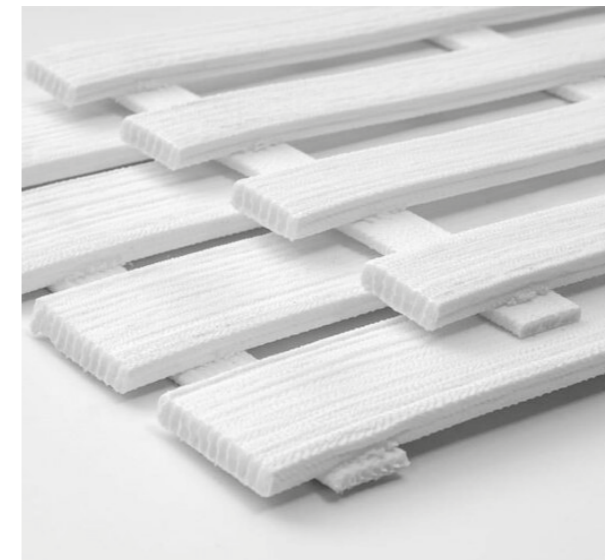
Secugrid™ HS is the choice for all applications where high tensile strengths over a long service life is required. The selection of the polymers used in combination with the applied product technology guarantees a robust and durable reinforcement product.

Low creep tendency

All geosynthetics that are exposed to permanent loads experience loss of tensile strength over time as a result of creep effects. The degree of tensile strength reduction depends on the stress level, time, temperature and molecular composition of the polymer used.

Robust against damage during installation

Installation of soil and the subsequent compaction mean high stresses for geogrids during the installation phase. Robust reinforcement products largely retain their strength during installation. The very high robustness of Secugrid™ HS was documented in field trials. For Secugrid™ HS 1200/100 R6, for example, a reduction factor of only 1.03 can be expected when installed below crushed stone (d85 < 35 mm).



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PRODUCT FOCUS

Foundations – PRS Neoloy® Tough Cells

Neoloy® Tough-Cells are a 3D honeycomb geosynthetic made from a nano-polymeric alloy (NPA) for unparalleled performance in terms of stiffness, creep resistance and service life. NPA-based Neoloy® Tough-Cells stabilize soft soil with more engineering, environmental and economic advantages than Soft-Cells (HDPE geocells), chemical additives or any other reinforcement solutions.

3D Tough-Cells made of a strong and stiff polymer (NPA) mechanically confine weak soil to increase the strength of infill and reinforce pavements. The result is higher engineering performance, sustained for long-term, achieved with lower construction and maintenance costs.

Engineering Benefits

- Stabilises pavements over problematic soils such as sand, peat, and clays typically found on many construction projects worldwide
- Can extend pavement lifespan by 2 to 5 times
- Reinforced pavement foundations enables up to 40% reduction in asphalt and support layer thickness
- Durable design with dynamic modulus, creep resistance and tensile strength properties, guarantee the same pavement performance for the entire project design life

Economic Benefit

- Optimizes design with costs
- Simple logistics and all-weather installation
- Lowers capital construction costs –reduces costs of asphalt and/or aggregates
- Decreases repairs, downtime, and maintenance by up to 85%

Environmental Benefit

- Enables use of marginal but locally available soils and/or recycled materials for structural infill (i.e: sand and recycled asphalt)
- Reduces quarrying, haulage, fuel, pollution, carbon footprint



Retaining Walls

Applications

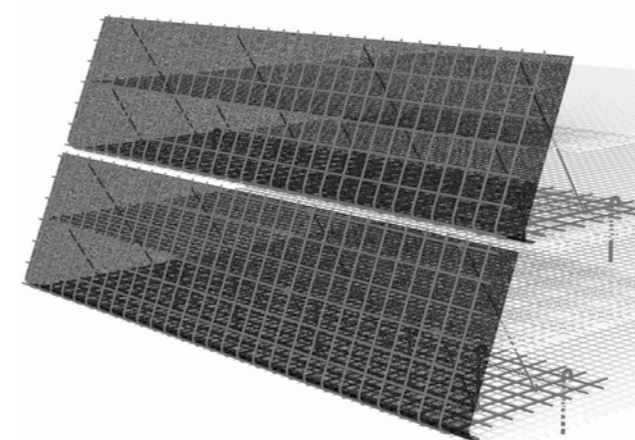
- ✓ Segmental Retaining Walls
- ✓ Precast Modular Block Units (Large blocks)
- ✓ Reinforced Soil Slopes (Steep & Shallow)
- ✓ Soil Nail/Anchored Wall Systems with Different Facing Systems
- ✓ Gabion Retaining Walls
- ✓ Acoustic Soil Bunds
- ✓ Gabion Walls (Welded & Woven)
- ✓ Hybrid Structures
- ✓ Pressure Relief Walls & Temporary Walls
- ✓ Earthworks with Site Won-fill Material



Naue M³ Retaining Wall System

The Naue Steel P system combines Secugrid™ geogrid reinforcement with longterm (permanent) steel-skin facings to create reinforced soil structures amenable to numerous slope shapes.

Vegetation is allowed on slopes up to 70°. For steeper slopes on which vegetation is desired, special plantings and irrigation are necessary.



PRODUCT FOCUS



Selected advantages of Secugrid™ m³ Steel P

- Permanent stability even up to 90°
- High load capacity from 20 deg to 90° slopes
- Variable spacers allow site-specific slope face adjustment
- Quick and easy construction
- Site soils (including cohesive soils) can be used
- Extremely economical, due to the ability to utilise more-affordable cohesive soils rather than dispose of or replace them with non-cohesive soils
- Secugrid™ geogrids can be used with cement stabilised and lime stabilised soils
- Ecological benefits associated with the use of local soils include decreased transportation pollution (and cost) and conservation of natural resources

System components

- Secugrid™ geogrid reinforcement
- Secumat® erosion control mat and/or nonwoven Secutex® geotextile
- Fasteners
- Hydroseeding
- Galvanised steel facings

Water Retention

Applications

- ✓ Retention Basins
- ✓ Attenuation Systems (Residential/Commercial/High Loadings)
- ✓ Lakes/Reservoir Lining
- ✓ Canal Lining
- ✓ Swales/Channel Diversion
- ✓ Flood Embankment Protection



PRODUCT FOCUS

Geosynthetic clay liner: Bentofix®

Bentofix®, also known as geosynthetic clay barriers (GBR-C) are needle-punched, reinforced composites that combine two durable geotextile outer layers and a uniform core of high-swelling powder sodium bentonite clay.

This forms a uniform, multi-directional, shear-resistant hydraulic barrier with self-sealing and re-healing characteristics.



Typical solutions with Bentofix®

- Landfill caps, closures and base seal
- Environmental protection under roads, railways, airports
- Dams and dykes
- Water containment and pond applications
- Structural waterproofing
- Secondary containment
- Mining applications
- Tunnels

Project advantages

- Versatile sealing applications possible
- Immediate sealing and long-term performance with high swellable sodium bentonite powder
- Outperforms compacted clay liners
- Robust geotextiles encapsulate and contain the bentonite
- Uniform needle-punching provides multi-directional shear strength
- Thermal Lock process increases internal shear strength and interface friction angles
- Self-sealing length overlaps; with BFG types all overlaps self-seal
- Quick, easy and cost effective to install



Slope Stability & Erosion Control

Applications

- ✓ Veneer Slope Design with Neoloy® Tough Cells
- ✓ Channel Protection & Retention Ponds
- ✓ Driven Earth Anchors
- ✓ Lining Protection Systems
- ✓ Rock Fall Mitigation



PRODUCT FOCUS

PRS Neoloy® Tough Cells

Neoloy® Tough-Cells are the ideal slope protection and soil stabilization solution. Neoloy® confinement protects the soil structure from erosive forces and ensures the long-term stability of slopes with various surface cover options:

- Topsoil for landscaping
- Permeable aggregate for more protection where green landscape is not required
- Concrete hard-armour for more severe conditions

Neoloy®'s confinement efficiency reduces the quantities of whichever surface cover is used making it cost-effective. The enhanced drainage, frictional forces and cell-soil-plant interaction of Neoloy® Tough-Cells prevents downslope movement and provides **erosion control on the slope**. It is the only geocell made from Neoloy® nano-polymeric alloy, which guarantees reliable landscape stabilization for the project lifespan.

Operational Benefit

- Frictional resistance reduce sliding from hydrodynamic and gravitational forces
- Cell walls provide mechanical protection against run-off and rill development
- Confinement preserves integrity of soil structure to minimize impact of rain
- Cell perforations facilitate drainage and plant-root interlock

Material Benefit

- Unique Neoloy® polymer technology – very high resistance to UV, oxidation, water, extreme temperatures

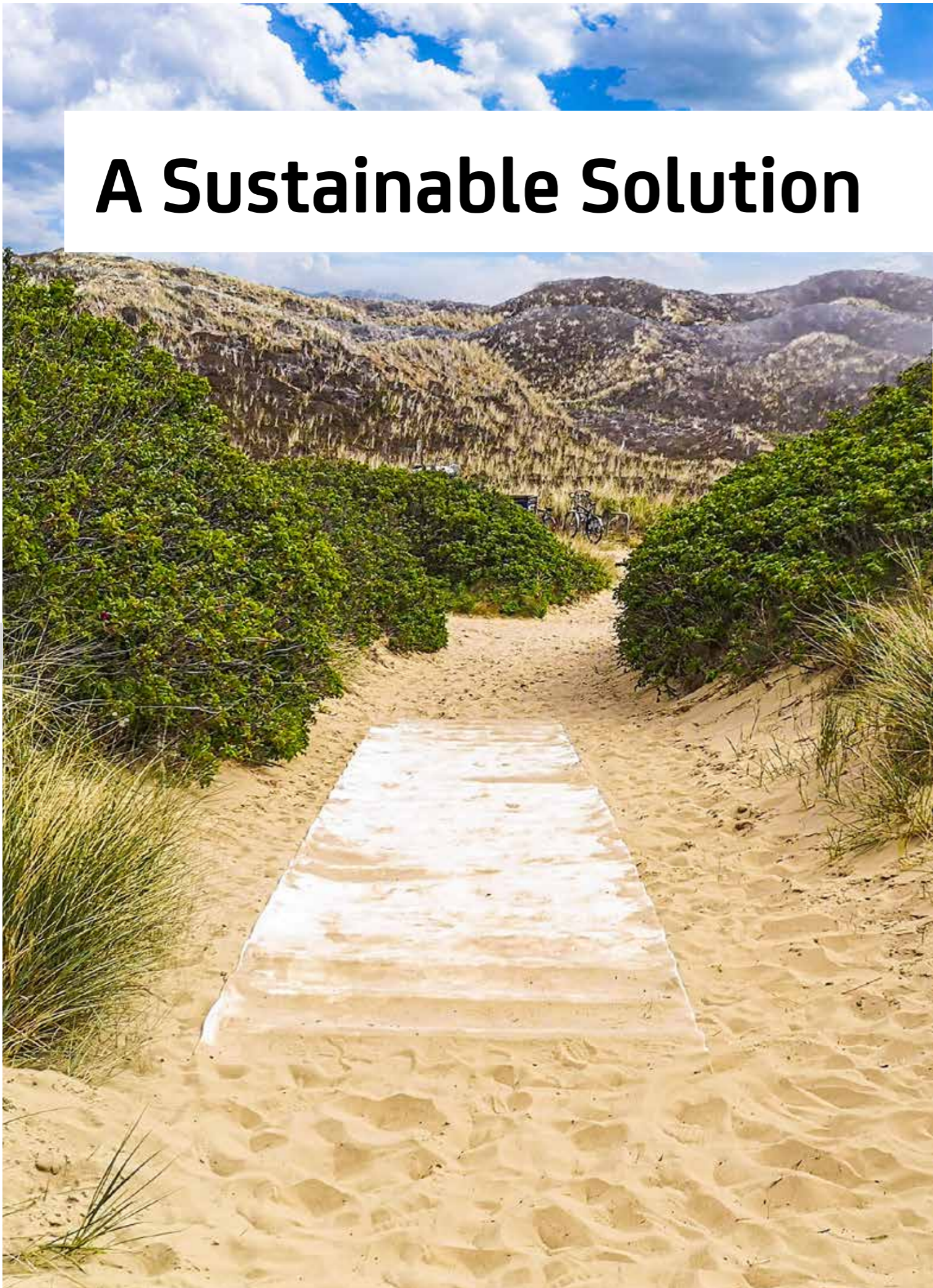
Engineering Benefit

- Protect embankments and restored slopes – often at a steep angle of repose to save land and costs
- Hold slope cover materials in place
- Slope stabilization for unstable and steep slopes

Economical Benefit

- Cost effective – reduce the quantities of surface cover required (topsoil, gravel or concrete)
- Long lifespan – maximize project lifecycle costs and help slope protection against erosion

A Sustainable Solution



Secutex® Green - Building on sustainable ground.

Secutex® Green is a 100% biodegradable, mechanically bonded nonwoven. Due to its certified biodegradability, residues of the product do not harm the environment. Secutex® Green is also UV-resistant, the nonwoven can therefore be used in uncovered applications.

Secutex® Green is suitable for all applications where a temporary solution is required.

Typical Applications

- Gardening and landscaping
- Temporary road and path construction
- Bank protection/natural watercourse development, coastal protection and scour protection

Application Advantages

- Remaining onsite or composting after renaturation
- No entry of plastic into the environment during installation, operation or renaturation
- UV-resistant

Expected Service Life

The range of applications and the maintenance of the function depend on the site factors such as soil, water and climate conditions of the respective project. As a rule, a service life of three years can be assumed.

Guarantee (biodegradability)

- Guarantees complete biodegradability in garden compost
- Guarantees biodegradation in a natural freshwater environment
- Guarantees biodegradability in an industrial composting plant
- Guarantees complete degradation in natural soil
- Guarantees biodegradability in a natural seawater environment



CASE STUDY

PROJECT AT A GLANCE

Application: Compound & Haul Road
Subgrade/Soil: Clay
Location: Wakefield, UK
Installation: 2022
Clients: Network Rail



CASE STUDY



Neoloy® Tough-Cell Reinforced Foundation for Railway Compound & Haul Road, UK.

PRS Neoloy® Tough-Cells Stabilization Provides a Solid Foundation for Railway Logistics and Working Facilities without Impacting Underground Services.

As part of the Transpennine Route Upgrade (TRU) railway infrastructure improvement program in Northern England, the Batley station required a compound/haul road to service site cabins, heavy rail plant and access to the Road Rail Access Point (RRAP).

The challenges on the site included, weak ground conditions with low bearing capacity in addition to accommodating existing services and ensuring the additional load from the compound did not affect

the integrity of an underpass which was situated directly beneath the site.

Amey, an Alliance Partner of TRU, sought to provide a cost-efficient and sustainable ground improvement solution that offered significant value compared to a traditional design. The solution was a Hybrid design including Neoloy® Tough-Cells 330-150-C and Combigrid 40/40 Q1 Geogrid which was all supplied by SIG.

Conventional Solutions

Traditional ground improvement methods required large, deep concrete foundations for site cabins as well as thick layers of high-quality aggregate under the compound and road layers. In addition to the time, logistics and cost of concrete and large quantities of aggregate, this solution would have required subgrade replacement and regular maintenance.

Neoloy® Tough Cells Solution

Neoloy® Tough Cells' unique performance properties – validated by field testing and supported by international ISO, ASTM and other cellular confinement system standards:

- High (elastic) stiffness (>525 MPa @60°C)
- Low permanent deformation (<3% at 75 years)
- High tensile strength (>19 kN/m perforated)

Collaboration between Amey, PRS and SIG, ensured the process of design and installation met all the project requirements “with the full width of the road to work with. This, combined with how the system came together meant it was easy to lay down.” There was also no need to dig out any existing services or soil excavation...“we didn't need to remove any existing pipework or cables. The load could be spread over the top without any risk of damage to underlying services.” (Max Ragdale, AMEY)

The Neoloy® sections were laid over a Composite Goegrid (Naue Combigrid 40/40 Q1). Infill was aggregate type 1 material, compacted to verified density.

Benefits

Neoloy® Tough-Cells were highly cost effective due to:

- Eliminating need for concrete foundations
- Eliminating soil excavation and replacement
- Sustainable – reduced pavement thickness by more than 40%
- Fast construction
- Durable solution – no surface layer maintenance required

“Neoloy® offered us a real time and cost saving as well as being a more sustainable approach to groundworks”

SUSTAINABILITY

SIG are committed to building modern, sustainable, and safe living and working environments in the communities in which we operate, while also doing what we can to influence the industry to take meaningful environmental action.

As we respond to climate change and rising energy costs, addressing our own carbon footprint is crucial. We also want to play an influential leadership role in the transition to sustainable construction through our central position in the building materials supply chain.

We say that SIG was born green because since we were founded, we have supported the drive for better energy efficiency standards and greater protection for the environment. Our five group-wide sustainability commitments, launched in 2022, support our renewed focus.



NET ZERO CARBON BY 2035

We have committed to net zero carbon in SIG's operations by 2035 at the latest and as stated in 2021, we aim to achieve this target by meeting the following secondary goals:

- 80% reduction against total Scope 1, 2 and business travel emissions by 2035 (using 2021 emissions as a base year) and offsetting any residual emissions
- Cars and forklifts ("FLT's") to be 100% electric by 2030
- Commercial vehicles to be 100% electric, hydrogen, or lower-carbon alternative by 2035 (although this continues to be dependent on the pace of progress in the development of external technology, especially for HGVs).



PARTNER WITH MANUFACTURERS AND CUSTOMERS TO REDUCE CARBON AND WASTE ACROSS THE SUPPLY CHAIN

Our commitment is to partner with manufacturers and customers to reduce carbon and waste across the supply chain.

As a specialist distributor of products central to building energy efficiency, SIG is at the heart of the supply chain, uniquely placed to help suppliers and customers meet their own sustainable construction ambitions.

SIG's role is to provide choice, data transparency and expertise on regulatory compliance. We are working to identify and promote more sustainable products from new and existing suppliers.



ZERO SIG WASTE TO LANDFILL BY 2025

Our commitment is for zero SIG waste to landfill by 2025. Our primary responsibility is the SIG waste that we directly control, including monitoring and validating third-party waste contracts for our sites. This will be achieved by waste segregation, reuse of packaging and paperless processes.

However, the nature of our role as a distributor in the middle of the supply chain, handling logistics between customers and suppliers, means we are already coordinating complex logistics and breaking bulk, which helps reduce on-site waste (both materials and labour) in construction. We are also well placed to support a circular economy by recycling and repurposing materials to reduce waste and raw materials extraction.



HEALTH AND SAFETY

We are committed to being a health and safety leader in building materials distribution and to providing workplaces that assure the safety, health and wellbeing of our employees, contractors, and stakeholders.



OUR PEOPLE

Our commitment to our people is to make sure they feel safe, proud, and valued. Their health and wellbeing are integral to this. Now more than ever, we will do what we can to support, educate and provide opportunities for our people to stay happy and healthy at work.

Contact SIG construction accessories today for...

- Structural Waterproofing
- Groundwork Engineering
- Geotechnical
- Concrete Repair & Protection
- Masonry
- Reinforcement & Formwork

Scotland

Aberdeen

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Cambuslang

95 Westburn Drive, Glasgow, Scotland, G72 7NA
0141 445 7960

North

Leeds

Intermezzo Drive, Pontefract Road, West Yorkshire, LS10 1RU
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Sheffield

Nunnery Drive, Sheffield, South Yorkshire, S2 1TA
0114 241 3000

Manchester

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0161 836 4488

Tyneside

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0191 487 4983

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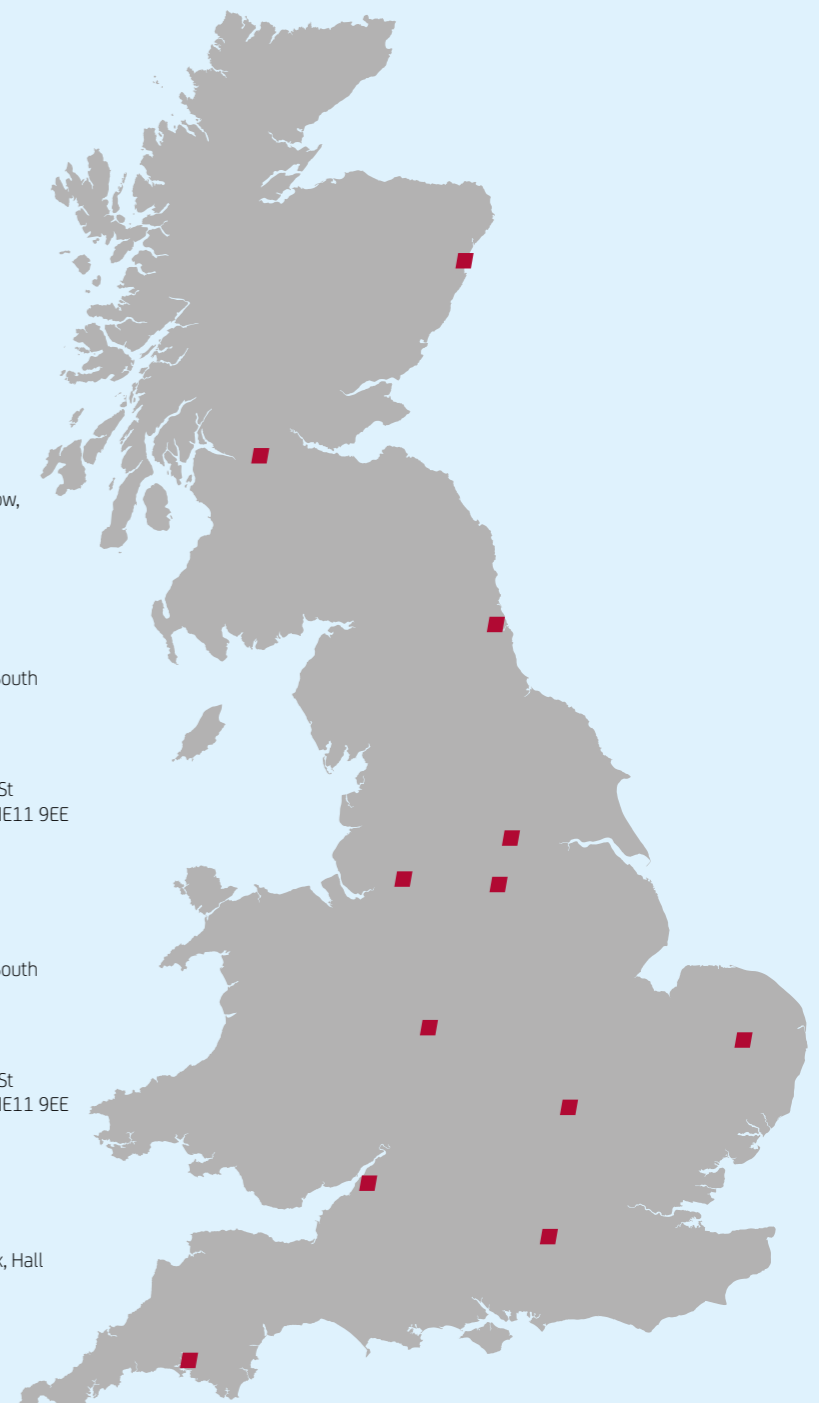
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Speak to your local SIG Construction Accessories Branch



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Neoloy® is a trade mark of PRS
Bentofix® is a trademark of Naue

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