



INDUSTRIAL PRODUCTS

A LEADING PROVIDER SPECIALIZING IN THE DESIGN, MANUFACTURING AND INSTALLING OF INDUSTRIAL PRODUCTS.

Dickinson Industries (Pty) Ltd; a subsidiary of Dickinson Group of Companies has been designing, manufacturing and installing **standard, custom-made high-quality refractory anchors**, as well as a wide range of anchor supporting systems for more than 35 years.



THE COMPANY MANUFACTURES
AND DISTRIBUTES AN EXTENSIVE
RANGE OF

REFRACTORY ANCHORS, STEEL FIBRES, HEXMESH, STUD-WELDING EQUIPMENT, SHEAR CONNECTORS, ARC & WEAR STUDS

FOR STANDARD INDUSTRIAL USE,
THROUGH TO SPECIALTY
APPLICATIONS IN THE MINING,
METALS SMELTING, MINERAL
PROCESSING, PETROCHEMICAL
INDUSTRIES.

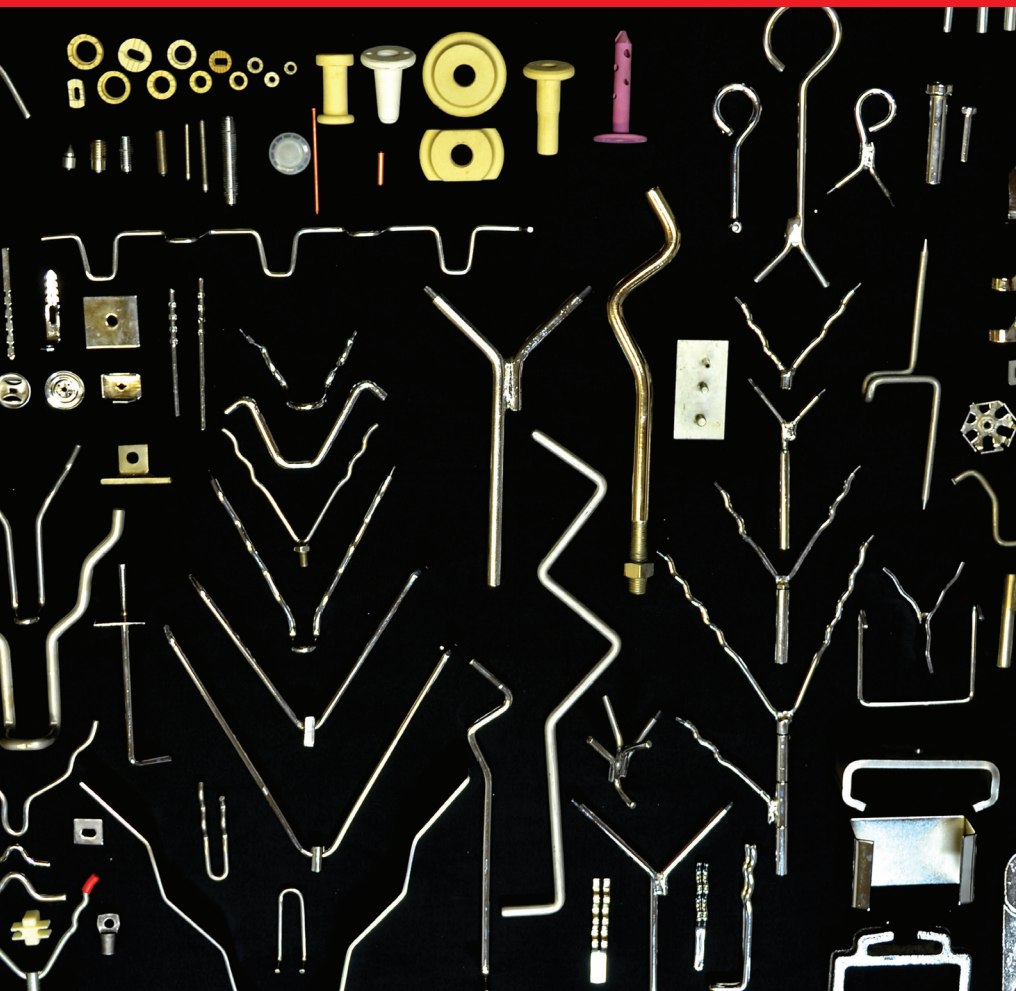
The extensive range of Refractory Anchor Systems includes the following categories:

- Refractory Anchors
- Steel Fibres (Melt Extract)
- Refractory Armour Systems (Hexmesh)
- Reinforcing Fibres
- Stud-welding Equipment
- CD Pins and Clips
- Wear Studs and Spike Studs
- Shear Connectors



REFRACTORY ANCHORS

Since the development of monolithic refractory products, metal anchoring systems have been utilized in supporting monolithic materials. Dickinson Industries (Pty) Ltd designs, manufactures and supplies an extensive range of high quality custom made refractory anchor systems suitable for any refractory lining; including bricks, castable, mouldable or ceramic fibre for temperatures up to 1600°C.



The company uses its state-of-the-art manufacturing facilities, in-house design capabilities and rapid response services to produce a unique range of anchor systems that increase performance, speed up installations and save money for clients.



Dickinson Industries (Pty) Ltd uses wire coils that adhere to strict internal material specifications and has undergone the annealing process. Anchors are produced by means of free bending on a CNC-3D bending machine, thereby ensuring that the anchors meet the required high quality standards.

The company also strategically stocks a substantial amount of inventory of various high temperature alloys including 304, 310, 316 and 253MA in various shapes so as to confidently offer clients short delivery times. Should the client have a preference on self-designed anchoring

APPLICATIONS

Dickinson Industries (Pty) Ltd offers an extensive range of hand and stud welded refractory anchors for all applications:

- Monolithic castable and guniting for Single and Multi-Layer linings – Y series, V series, Bullhorn
- Brick Lining Anchors – Staples, Scissor Clips, Claws, Tie Back Anchors, Support Brackets
- Suspension Anchors
- Rotary Kiln Hand and Stud Welded Anchors
- Rotalock Refractory Anchors
- Christmas Tree and Strap Anchors

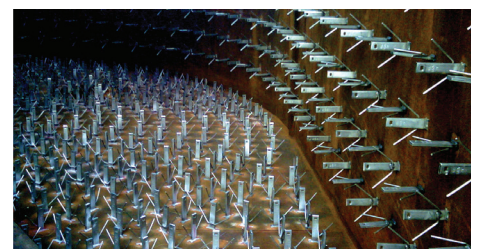
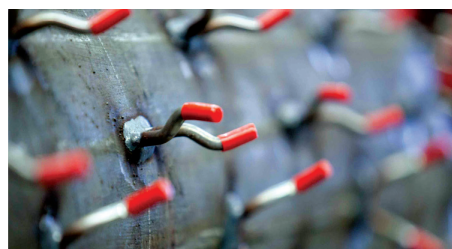
INSTALLATION

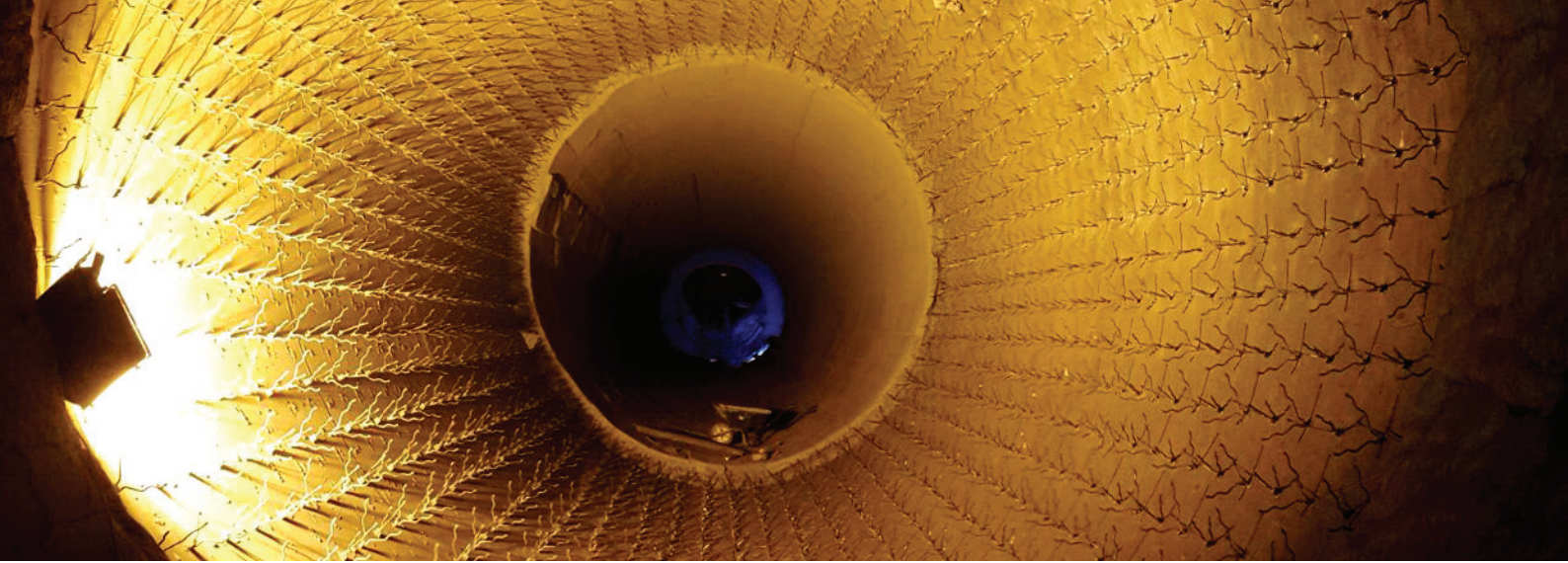
Dickinson Industries (Pty) Ltd offers flexible services ranging from simple supplies of anchors to full turnkey services involving design and planning of anchoring systems, manufacturing of the anchors and installation on site.

BENEFITS

The benefits of Dickinson Industries (Pty) Ltds' range of refractory anchors include:

- A comprehensive range of common anchor shapes and sizes
- Full in-house design and manufacturing for fast turnarounds on custom anchor designs
- Range of stainless steel and nickel alloys including alloy 304, 310, 316 and 253MA
- Specialty high-temperature heat-resistant alloys, available on request





STUD WELDING SYSTEMS



PRODUCT RANGE

- Capacitor Discharge (CD) Equipment
- Drawn Arc (DA) Equipment
- Automatic Systems & Studwelding Pistols
- CNC Systems
- Desk Type Welding Machines
- Feeders
- Accessories

Dickinson Industries (Pty) Ltd are distributors of Taylor Stud Welding Systems (United Kingdom) and Soyer (Germany), **two world leading manufacturers of stud welding equipment.**



HIGH-SPEED FASTENING TECHNOLOGY

The company supplies a full range of Studwelding equipment; from hand held, light weight units to fully automated CNC and Robotic Studwelding Systems. With over 35 years in the industry, the company has vast professional experience as well as a network of extensive resources to build up an enviable reputation exporting products throughout Africa and beyond. The company's strategic warehousing system allows for sufficiently large stocks to fulfil even the most complex orders. The division also offers full turnkey solutions to any stud welding requirements.

ADVANTAGES

Stud Welding provides 3 primary advantages:

- Greater flexibility in design and usage as Studwelding may be applied on very thin plates and on platforms with limited or only one sided access.
- Unsurpassed economy through high levels of automation, fast weld rates and low price for standard studs.

INSTALLATIONS

During the stud welding process, an arc is ignited between the face of the stud and the surface of the work piece. Once both surfaces melt, the stud is smoothly pressed against the work piece and joined together. Welding elements like threaded studs, pins and tapped pads are welded by an arc without any additional material being required. As the stud is joined with the work piece over the whole surface of the stud, the strength of the joint is even higher than the base material or the stud.

The company uses two types of Stud Welding:

- Capacitor Discharge (CD) Stud Welding
- Drawn Arc Studwelding





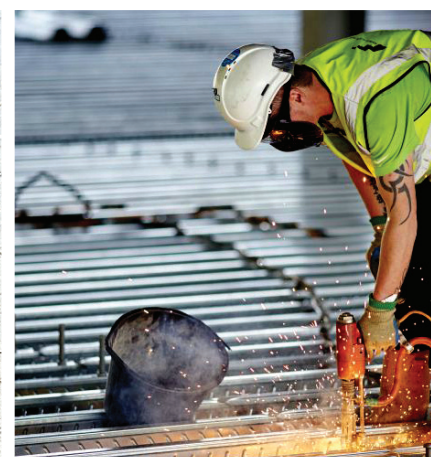
CD STUD INSULATING PINS & WASHERS

The stud welding insulation pin is a capacitor discharge weld insulation fastener. Insulation welding pins work with a stud welding machine, weld the pins on the sheet metal, then put the insulation through the welding pins, press a self-locking washer onto the pin, bend over or clip off the pin to finish fastening insulation installation.

SHEAR CONNECTOR STUDS

Dickinson Industries (Pty) Ltds' Shear Connectors are used as an essential component in steel-concrete composite structures, beam design and construction.

The use of shear connectors allows for composite construction on a large scale. Shear Connectors act as reinforcing members, locking the support structure to the concrete floor. Shear Connectors transfer horizontal shear from slab to beam, causing the two elements to act as a unit. Strength and stiffness of the stud welded Shear Connector section can be increased without using more steel.



BENEFITS

Some important benefits of using Shear Connectors in construction include the following:

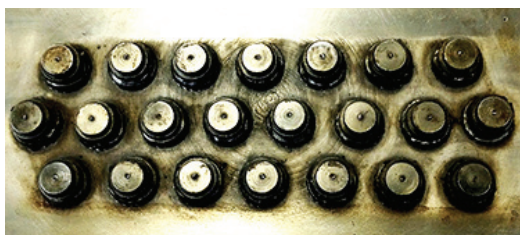
- Cost savings in reduction of building materials in the design of composite structures.
- Reduces building height and saves on materials as lighter beams result in shallower floor sections.
- Secures concrete to steel structural components.
- Increases shear loading capacity in steel buildings.
- Provides larger rooms with fewer obstructions because longer beams can be used.
- Reliable and safe under static and dynamic stress.
- Mechanical interlock of steel and concrete.
- Anchorage of steel parts in concrete for various load directions, no cracking forces because of mechanical interlock.
- Firm welds produced by stud welding.
- Electronically controlled and monitored stud welding equipment ensures repeatability and verifiable quality of the weld.
- Easy to install, application can be done by trained operators.

APPLICATIONS

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WEAR STUDS & SPIKE STUDS

Dickinson Industries (Pty) Ltds' wear studs and spike studs are used to reduce wear on surfaces which are exposed to abrasion.



They are commonly installed in the earth moving industry, where excessive wear is experienced. The studs' extreme abrasion resistance ultimately extends the machinery's wear life. In some areas the stud welded Wear Stud pattern retains mineral debris, establishing a dead bed effect, which further improves the wear resistance factor for the equipment. Wear Studs, in contrast to wear plates also offer permanent protection as the studs will not pop off even when buckets or plates buckle. Wear studs are generally stud welded and can be installed on-site with minimum labour and minimal machinery down-time.



SPECIFICATIONS

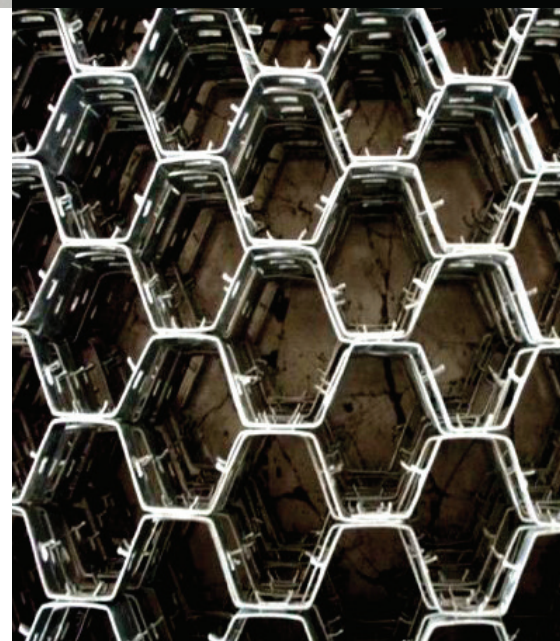
Dickinson Industries (Pty) Ltds' Wear Studs are available in 3 specifications:

- Standard Range: M16 & M20 diameters; maintain a core hardness after welding of 58-60HRC.
- Premium Range: M16 diameters; features a tapered top that fits perfectly into the chuck. Fast loading for efficiency they maintain a core hardness after welding of 58-60HRC.
- High Performance Range: M16 diameters; feature a Tungsten Carbide insert for higher wear resistance. Recommended for use across 10 -20% of total surface area for additional durability, these studs maintain a core hardness after welding of 1,200HV.

REFRACTORY ARMOUR SYSTEMS (HEXMESH)

Refractory Armour Systems (Hexmesh) are designed to provide retention and reinforcement for thin wall refractories and to complement dense hydraulic and chemically bonded refractories in resisting erosion.

Dickinson Industries (Pty) Ltds' Refractory Armour Systems include Hex Metal (Hex Mesh), as well as Flex Metal (Flex Mesh). A full range of lining ancillaries including adjustable corner tabs, edge tabs etc. are also available for the easy connection of armour systems and to protect the mother steel work when plant geometry dictates directional changes in gas flow.



STAINLESS STEEL FOR REFRACTORY APPLICATIONS

Dickinson Industries (Pty) Ltd offers a range of Melt Extract (ME) reinforcing fibres for different applications; from standard industrial uses through to specialty applications such as extreme temperature, high corrosion and niche industry requirements.

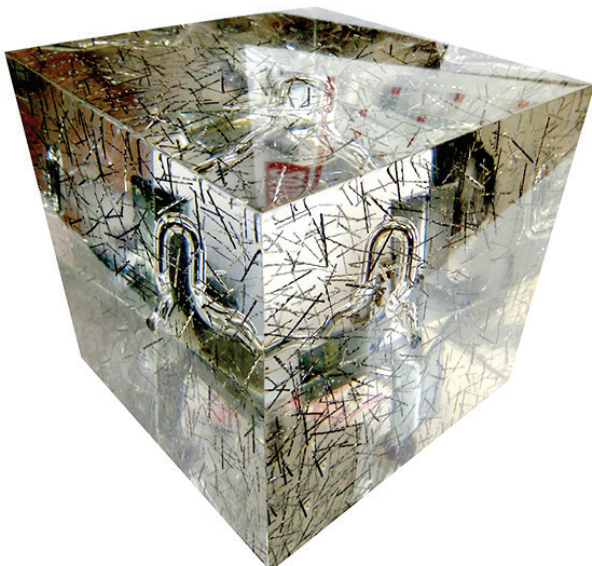
Our fibre technology extends refractory life and offers added benefits such as outstanding spalling resistance, superb fracture toughness, better abrasion resistance, superior thermal and mechanical shock resistance and uniform alloying characteristics.

To meet the demands of its customers in high temperature processing industries, Dickinson Industrial Products exerts strict quality control and quality assurance measures to ensure alloy purity and consistency while enforcing the dimensional and physical requirements. The use of our stainless steel alloy fibres substantially improves refractory durability and performance, and reduces refractory installation, maintenance and material

PROPERTIES

The company supplies the finest steel fibre products and technology with excellent properties including:

- Custom fibre designs
- Excellent crack control
- Superior installation performance
- Unequaled cost-effectiveness
- Ideal for all modern installation techniques
- Lightweight
- High Stiffness
- High energy absorption
- High noise and vibration damping properties





OUR MISSION

DGC's mission is to focus on helping our industrial customers optimising their maintenance costs and improving plant performance, by providing innovative solutions together with our market leading technologies to enhance the service life of their operating assets.

DGC is customer centric with the adoption of our group-wide "One Personalised Solution", **underpinned by our range of high-quality niche services, with our superior technical expertise, delivery and customer service.**

DICKINSON GROUP OF COMPANIES HEAD OFFICE
www.dgrpint.com

T +27 (0) 16 421 3720

F +27 (0) 16 422 1038

E sales@dgrpint.com

10 Smuts Avenue, Vereeniging, South Africa, 1930



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