

RETECONREPORT

An information service to our clients



2023 | 1

Machine Tools | Cutting Tools | Accessories and Measuring Equipment



NitroCUBE™

PLUG & PLAY Nitrogen Generation Systems

PLUG & PLAY



Nitrogen Generation Systems



**AFRICA'S
BIGGEST
MACHINE
TOOLS
EXHIBITION**

**MACHINETOOLS
AFRICA 2024**

21-24 MAY
EXPO CENTRE • NASREC
JOHANNESBURG • SOUTH AFRICA

**SHAPING
TOMORROW**
THROUGH TECHNOLOGY & INNOVATION

An event by:

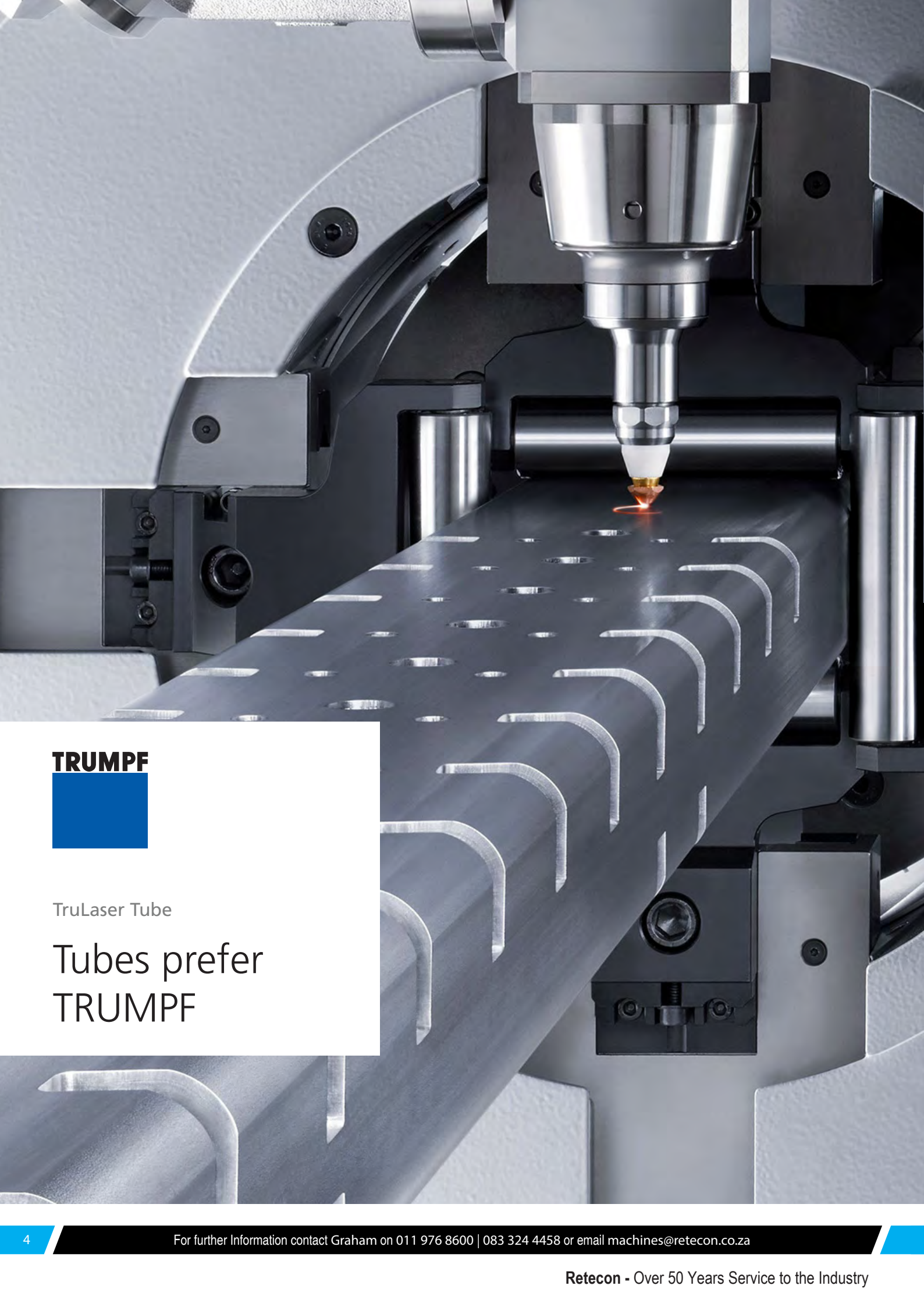


#MTA2024
www.machinetoolsafrica.co.za



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TRUMPF

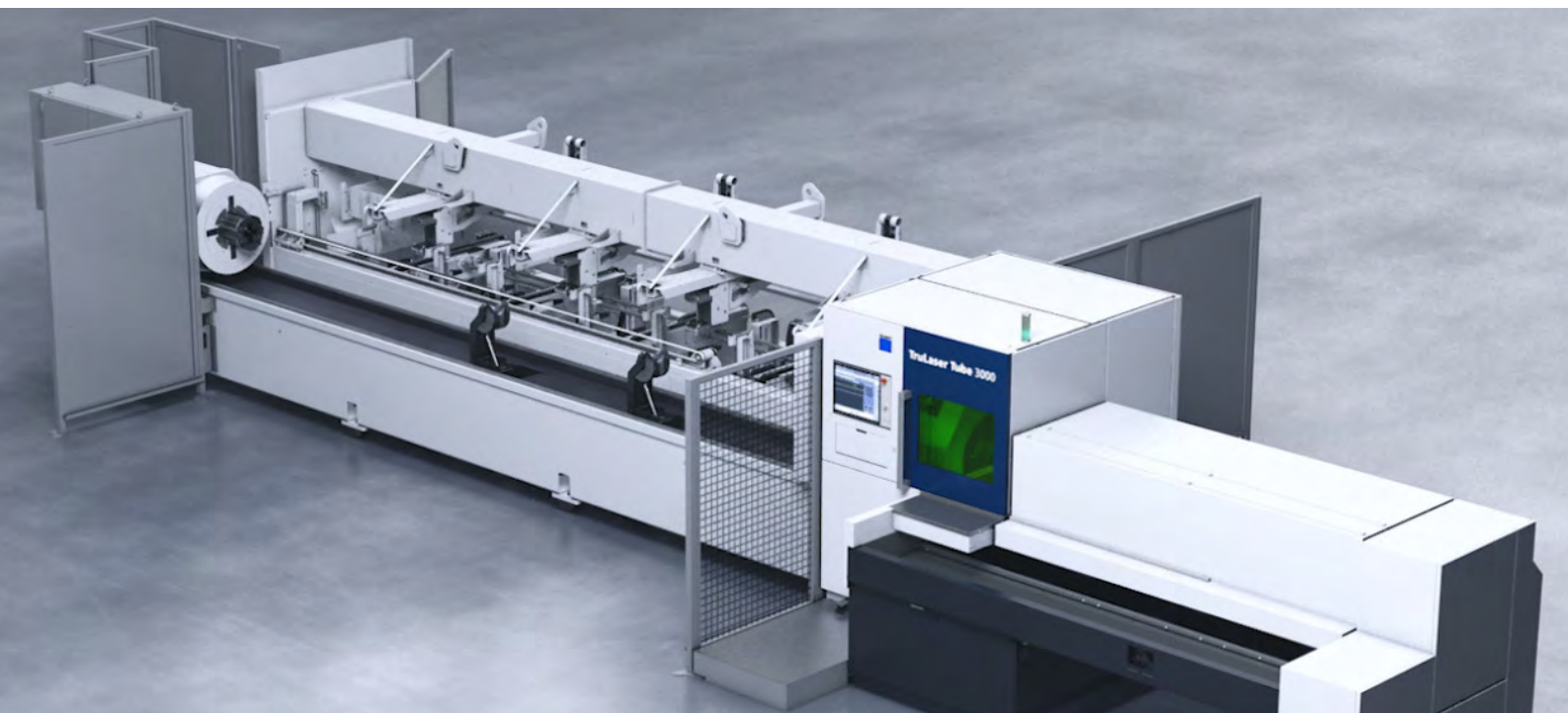


TruLaser Tube

Tubes prefer
TRUMPF

TruLaser Tube 3000 fiber

Economic and robust



Why process tubes with lasers?

No need for sawing, drilling or deburring: Compared with conventional tube cutting the laser replaces a number of work steps. It can cut very precisely complex contours in materials such as mild steel, stainless steel, aluminium or nonferrous metal. Laser tube cutting offers a wide range of design options, opening the door to new products, customers, and orders.

Easy

to handle

Easy to operate: minimal setup times, outstanding accessibility – so that you never lose sight of the process. Loading and unloading can easily be carried out manually or automatically using LoadMaster Tube, crane, or part removal flap.

Precision

cutting and clamping

Its precision matches that of the 5000 and 7000 series: high-precision clamping system, exact optics setup and precise tube guidance for best part quality. Thanks to the adaptive clamping system, you can process L- and U-profiles yourself.

Cost-effective

even when it is not fully utilized

Whether you want to insource quality, require flexible manufacturing to tight deadlines, or want to win new customers and markets: this machine pays for itself, even if you don't utilize it fully.

Reliable

thanks to robust design and intelligent functions

No need for time-consuming manual setting of the machine that is more likely to cause errors, as the machine automatically performs many of the tasks itself. It uses ControlLine to avoid collisions and AdjustLine to cut lower quality material safely. Thanks to FocusLine, the focus is always in the right place.

Technical data:

Tube dimensions	TruLaser 3000 fiber
Max. raw material length	8000 mm
Part-removal station for 3.0 m finished part length	up to 3000 mm
Finished part length +1.5 m (option)	+ 1500 mm
Max. outer circle diameter of round tube	152 mm
Max. outer circle diameter of rectangular tube	170 mm

What is Additive Manufacturing?

The industrial origins of additive manufacturing date back to the mid-1980s. In 1984, the U.S. physicist Chuck Hull patented the process of stereolithography, in which liquid plastic could be selectively cured layer by layer in a tank via a laser beam. This mechanical build-up of material made it possible to create any desired components with complex shapes and even filigree internal structures directly from a three-dimensional CAD model.

Since then, this almost limitless freedom of design has excited researchers all over the world and inspired the development of ever new processes and applications with new materials. The spectrum of materials now ranges from plastics to ceramics and organic fabrics to a wide variety of metals. Overall, however, experts still see additive manufacturing at the beginning of its possibilities.

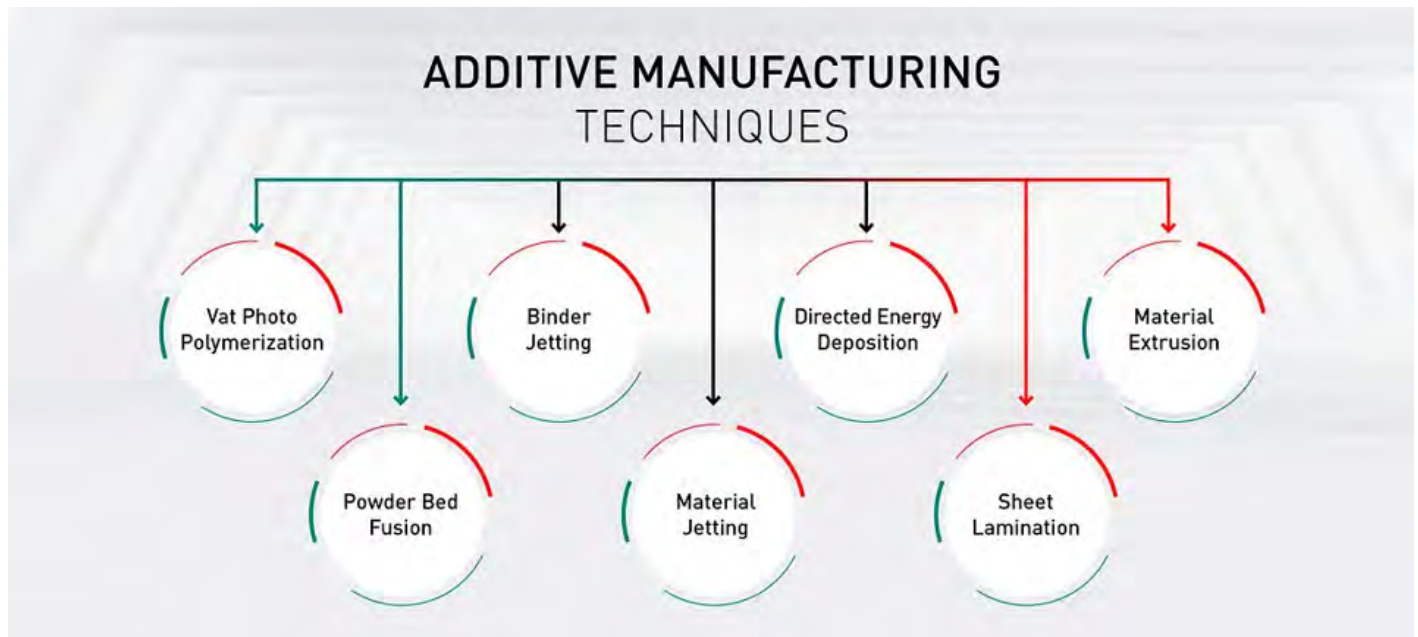


DMG MORI presents itself in additive manufacturing with its LASERTEC SLM and LASERTEC DED or LASERTEC DED hybrid as a unique turnkey partner for powder bed and powder nozzle processes with holistic process integration [Source: DMG MORI]

So the question of what additive manufacturing is can neither be answered in all its diversity nor conclusively. But at least there is a common denominator from which internal standardization has derived a terminology standard. Accordingly, additive manufacturing refers to processes for joining materials to produce parts from 3D model data, usually layer by layer. Moreover, ISO/ASTM 52900 categorizes commercially available AM systems into seven different processes, which differ in the way the material layers are created.

The glorious seven of the additive world

Since some of the additive process sequences are similar to the processes in an inkjet printer, the term **3D printing** has also become established for additive manufacturing in common usage. However, the basic principles of the processes differ, sometimes extremely, according to the starting materials and the way in which the material is joined to form a solid body. Thus, the base of a 3D print can be liquid, powdered, viscous or solid, which is solidified and built up by melting together, sintering, laminating, bonding or polymerization, depending on the technology.



At the beginning of possibilities

This overview of additive manufacturing processes makes the geometric diversity and versatile material selection obvious. Due to such advantages, additive manufacturing has already been able to firmly establish itself in many fields of application such as mechanical engineering, die & mold, medical technology or aerospace. Measured in terms of potential, however, the technology as a whole is still at the beginning of its possibilities. Overall, it is said to have the power to change industrial production profoundly and sustainably – always driven by the vision of being able to manufacture individualized, customer-specific products quickly and cost-effectively. Directly at the heart of the maturation process are materials, component size, accuracy, reliability and reproducibility. Indirect challenges also exist in automated post-processing, standardization of additive manufacturing and testing processes, and in terms of training both operators and engineers.

Additive manufacturing in architecture and construction is much closer to practice (and easier to imagine). The production of design models for construction planning is already commonplace. Even printing the shells of houses is no longer a utopia. The general motivation is growing, especially in these fields of application, from the productivity, **automatability** and environmental compatibility of additive processes.

And the private sector has already discovered the benefits of additive manufacturing for itself. The multitude of materialized self-images are just as much evidence of this as the printer offers at discount stores or the numerous 3D communities for the exchange of tricks and data among tinkerers. One of the important side effects of the positive basic mood toward additive manufacturing processes is that it promotes interest in technology and innovation in society.

The Retecon Group Welcomes a New Supplier!!

The Retecon Group would like to welcome another new supplier, MSS Group.

MSS specialise in the supply of World-Class Nitrogen Generators and Gas Mixers for all types of Laser cutting machines.

Why MSS? They're market leaders in the supply of onsite nitrogen generators.

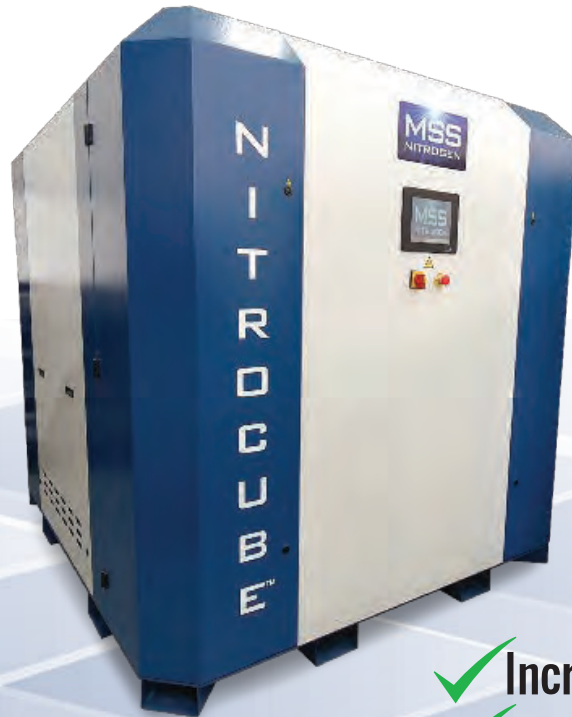
- They installed their first systems in 2004
- They have over 1200 lasers running with MSS equipment
- Their laser expertise **GUARANTEES** correct sizing, purity and flow rates

The design and manufacture of their MSS nitrogen and oxygen generation and mixing systems are ISO 9001:2015 certified by BSI under certificate number FM 723849.

We are very excited to have them on board and look forward to a long and prosperous work relationship with them.



NitroCube is the **MOST SIMPLE** and **ECONOMICAL SOLUTION** for on-site nitrogen generation for laser cutting applications



- ✓ Increased productivity
- ✓ Improved product quality
- ✓ Reduced costs
- ✓ Maximum profitability

NitroCube THE BENEFITS

- No machine downtime for cylinder changes or liquid top up
- Laser cut carbon steel faster, cheaper and with an “oxide free edge”
- Self financing, using money otherwise spent on ready made nitrogen
- Guaranteed low cost, high purity nitrogen
- Continuous 24/7 supply
- No running out of gas unexpectedly
- No gas waste, liquid “boil off” or gas bottles returned partially full
- No rental, delivery or environmental charges
- No restrictive gas contracts

Mobile and automated laser hardening with the AL-ROCK



Laser hardening is a surface hardening process for steel and cast iron. The workpiece surface is selectively irradiated with a laser and thus locally heated. The surface to be hardened gets heated very quickly to the required transformation temperature by the focused laser beam and then quenched by the cold volume of the material. Due to the minimal heat input adjacent areas of the workpiece undergo little or no thermal stress and there is a partially hard surface with a tough core. Further advantages of the method are extremely low distortion of the workpieces and high geometric precision.

To be able to use the advantages of laser hardening also on large workpieces in an automated and mobile way, the AL-ROCK mobile laser hardening system was developed by ALPHA LASER in cooperation with ALOtec Dresden.

The mobile laser hardening system consists of a self-propelled caterpillar undercarriage on which a 6-axis articulated robot with zoom optics for laser hardening is located. With the robot, the processes can be programmed in advance and then automated and performed with high precision. The paths or surfaces to be hardened can be taught either manually (point-to-point) or with software for path planning via a CAD model of the workpiece. In addition, it's possible in advance to scan and digitize the surface of the workpiece to be machined fully automatically with a line scanner integrated into the system the user directly receives the CAD model for the further path planning.

At the front of the robot, the zoom optics are mounted for laser hardening. The system's zoom functions allow flexible adjustment of the hardness track widths. The hardening of larger areas is realized over several tracks next to each other. In addition, a temperature measuring system with a regulation for the laser power is integrated in the zoom optics. Thereby, the surface temperature of the workpiece can be precisely adjusted and kept stable even with locally changing heat dissipation conditions (e.g., bores). Local overheating or even melting of the workpiece surface are thereby efficiently avoided.



On demand, the optics for laser hardening can be replaced by different optics with which further laser production methods - such as, for example, the laser deposition welding – can be carried out.

With the self-propelled caterpillar chassis, the system can be easily driven to the next job site after the successful laser hardening process.

Due to the mobile use of the laser hardening system, the downtimes of large workpieces such as pressing tools are minimized drastically, since the time-consuming removal and re-installation of the components to be repaired or their transport is eliminated.

Mobile laser welding machine *ALFlak Max*

The flexible mobile laser for repairing large moulds



For many years already laser machines are getting used for a variety of highly specialized applications in many industry sectors. But also, in crafts and industry related services, laser technology is more and more popular. Here skilled hand work often delivers good results in far less time than complicated programming. A mobile laser welding system offers big advantages for the service provider and his customers especially for repairs. When it comes to repairing big moulds, it is much easier to move the mobile laser to the work piece than to dismantle the heavy mould and transport it with efforts to the repair tool. With a mobile laser welder, heavy and bulky components can get repaired on site in a fast, easy and precise way, so that transport times, and often also the installation and removal times are completely eliminated. The work piece is ready for use not only much faster after repair, but the repair costs are also significantly lower compared to other welding processes.

For particularly large moulds ALPHA LASER has developed the mobile laser welding system *ALFlak Max*. With its extremely long flexible arm and the lean, flexible laser head, the *ALFlak Max* reaches (almost) every welding spot.

This device is used for all applications where laser welds are required in large areas and deep, hard to reach, places. The highest operating point is 2 m and the deepest 80 cm. With its enormous range of almost 2,80 m, the *ALFlak Max* can weld also far inside of large tools or machine components. The movement of the digital system is designed for fine work movement in the four axes of motion X, Y, Z and R (the axis of rotation is optional). High ease of use is offered by the precise stop of the work piece feed without trailing.



Additional comfort is provided by the patented, semi-automatic user coordinate control, which adapts the motion system to the work piece geometry. Regardless of how the seams are situated – the mechanical movement system is quickly and comfortably set, allowing the user to concentrate on the welding task at hand.

The laser system *ALFlak Max* is available with or without caterpillar track.

Have a look at the...



Benchtop Marker FlyMarker® mini 120/100 STATION

BENEFITS AT A GLANCE

- Attractive price-performance ratio
- High quality guide system for highest stability
- Switchable LED lighting of the marking field
- Pollution-protected electronics
- Drag chain guided electric cables
- Laser pointer for simulating the marking process
- Input via USB keyboard
- Capacitive touchscreen (optional)



Logo



Data Matrix Code

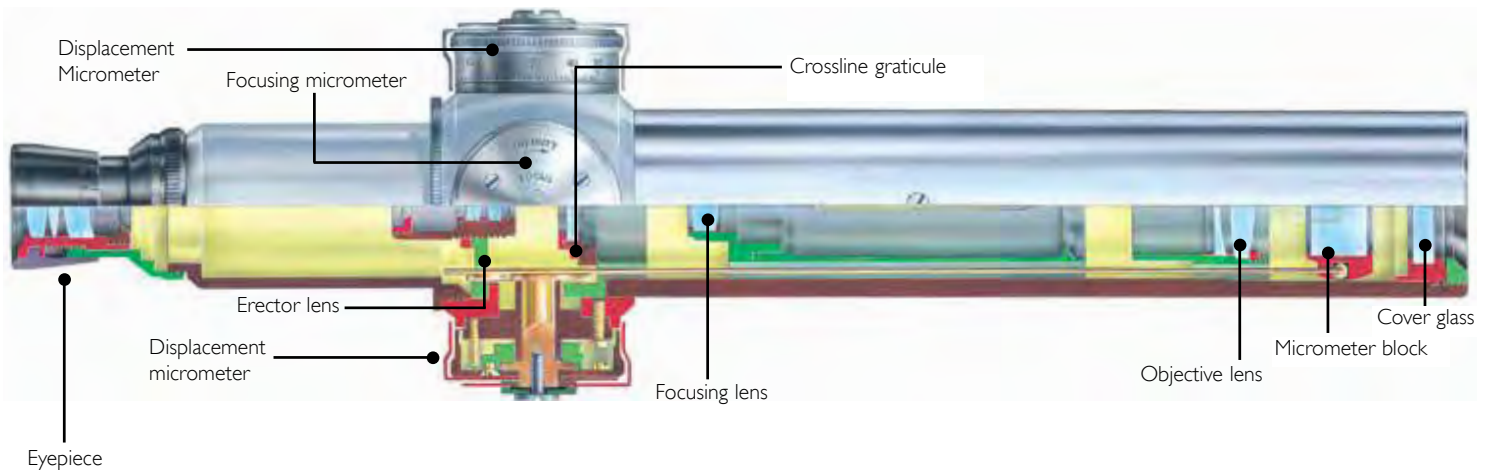


Line



The Micro Alignment Telescope

Solving problems of alignment



Since the late 1930s Taylor Hobson has sold thousands of alignment telescopes to industries throughout the world. The Micro Alignment Telescope is used to set and check alignment, squareness, straightness, flatness, parallelism, verticality and level.

With its wide range of accessories the Micro Alignment Telescope forms a unique and comprehensive system for solving alignment problems in a wide variety of applications and industries.



ViVi camera up to x8 (code 137-2161-01)

The Micro Alignment Telescope system:

- Is simple and easy to use
- Is versatile and adaptable
- Enables improved product performance
- Enables reliable, accurate installation
- Reduces warranty and maintenance costs
- Is robust, reliable and portable
- Can be digitised

The Micro Alignment Telescope has:

- Optical and Mechanical axes aligned to within 3 seconds and concentric within 6 μm (0.00025 in)
- Achievable accuracy within 0.05 mm at 30 m (0.002 in at 100 ft)
- Field of view: 50 mm at 2 m (2 in at 6.5 ft)
600 mm at 30 m (24 in at 100 ft)



Digital Alignment Telescope (code 112-3389)

GANTRY LINE

LARGE-VOLUME COORDINATE MEASURING MACHINES

An innovative product line of cost-effective, medium-capacity multisensor gantry CMMs, the DEA ALPHA 2.0 combines high throughput and high accuracy with excellent operating reliability and minimal maintenance. DEA ALPHA 2.0 is available in two versions, DEA ALPHA 2.0 Classic, and DEA ALPHA 2.0 Performance.



Sheet-Metal machining in a most compact form

WEBER's small-but-mighty-model.

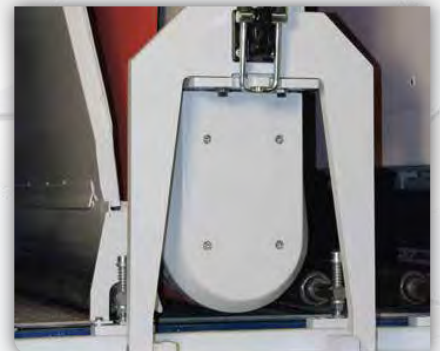
For deburring, rounding, descaling and surface grinding of your sheet-metal parts with a dry grinding procedure

WEBER TTSC | Deburring machine

The **TTSC** model range is the **most compact** of all WEBER grinding machines, equipped with a **variable operating** height. Different machining methods up to three machining stations can simply be combined with each other for deburring, rounding, descaling and surface grinding.



Planetary head technology for all-round edge machining with cup brushes.



Rubber-coated grinding rollers for surface finishing and deburring.



Technical data

- Working widths 600, 1100 and 1350 mm
- Working height 800–900 mm (variable)
- Version with 1 to 3 grinding stations
- Workpiece thickness 0.8–100 mm
- Infinitely variable feed speed
- Grinding belt length 1900 mm
- Grinding belt drive up to 11 kW
- “i-Touch” controller

Robomac TF

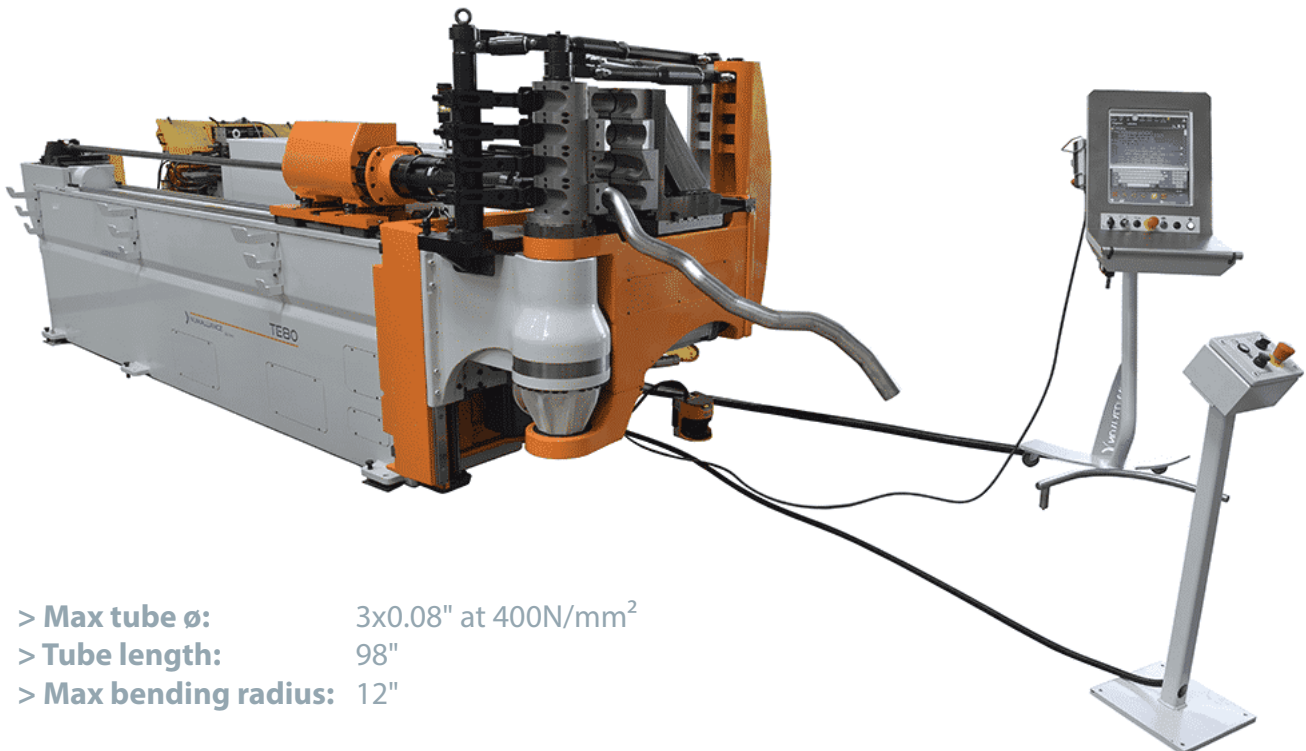


Feed & Form
Robomac 106TF



Wire capacity up to 600 N/mm^2
> From 2 to 6,35 mm

Large Tube Bender - TE80



- > Max tube \varnothing : 3x0.08" at 400 N/mm^2
- > Tube length: 98"
- > Max bending radius: 12"

TRUMPF seam lockers:

Sealed
in no
time.



Whether working with standing, angular or Pittsburgh seams, TRUMPF seam lockers offer fast, reliable and portable sealing for assembly at the job site. If you are in the HVAC, roofing & siding, general construction or metal fabricating field, TRUMPF has the right tool for your job.

Perfect for Pittsburgh seams.

So you can find exactly the right machine for your sheet metal thickness and flange height, TRUMPF offers four different TruTool models: F 300, F 301, F 305 and F 140. They all use the fast, quiet roll/glide process and feature a self-powered drive, and automatic adjustment to your material thickness and seam height. The process gives you a consistent, tight seam.

Fastening Seam lockers (power tools)

Technical Data TruTool F 301

Max. sheet thickness		230 V	110 V
Steel 400 N/mm ² (min.)	mm	0.45	0.45
Steel 400 N/mm ² (max.)	mm	1	1
Flange height (B)			
For sheet thickness 0,45 – 1	mm	8 – 11	8 – 11
Working speed	m / min	4 – 7	4 – 7
Smallest inner radius (preformed)	mm	150	150
Smallest outer radius	mm	300	300
Rated input power	W	550	550
Weight without cable	kg	5.2	5.2

Trumpf TruTool F301
Seam Locker



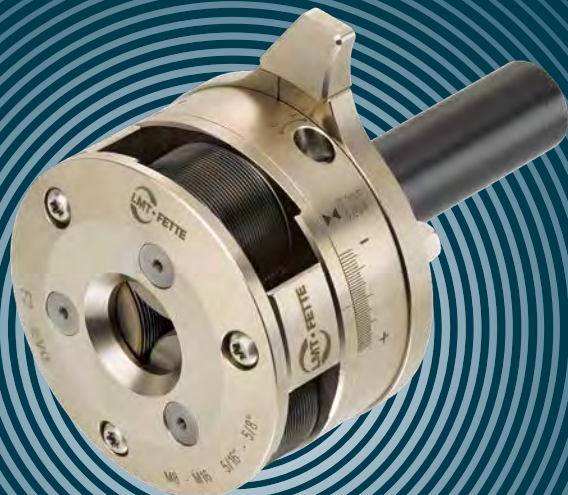


Universal Milling Machines

For further information contact Mike on 011 976 8600 | 083 441 3391 or email machines@retecon.co.za



LMT Tools Advances Thread Rolling Development



LMT Fette has demonstrated how to combine quality and speed within this field with its new generation EVOLine thread rolling head.

It creates threads whose fatigue strength is three times greater than that produced using cutting techniques.

Simple handling – optimized processes

LMT Tools brings together the expertise of leading specialists in precision tool technology.



Optical measuring machines for cylindrical parts

Unbeatable performance with optical and tactile combination

The combination of optical and tactile functions allows more control when measuring turned parts



Touch Probe

One measuring system, many choices

A completely new measuring function for shafts, combining the specific Optical know-how method with a Touch Probe measuring system.

The touch probe

The VICIVISION measuring system is now equipped with a Renishaw Scanning Probe, mounted on the top of the light source. The probe is interchangeable and covers the whole length area.

Optical and Tactile combination

While the optical measuring system quickly provides Static, Geometric, Thread, Form and Nut measurements, the touch probe measures features that are not visible optically.





SPECIAL SERVICES OFFERED

Retecon Service has provided skilled, motivated and dedicated machine tool technicians for the South African manufacturing and engineering industries since 1978.

Most of our staff of technicians countrywide have received training overseas at our principals' manufacturing plants to ensure that their skills match the exacting requirements of our principals and our customers. To complement this, we also have a comprehensive in-house and local training programme, ensuring we equip our technicians with the skills and resources to provide top-quality service.

Retecon Service has four Service Departments allowing each department to specialise in the different machine tools and technologies.

Retecon Service provides a full range of services for the machine tool industry including: Installations and commissioning; Maintenance and repairs; The supply and fitting of spare parts and consumables; Calibration of measuring equipment, geometry and kinematic checks on CNC machines; and spindle refurbishments. With its wide range of expertise and experience, Retecon Service is also well-equipped to offer project implementations.

In addition, our applications technicians can provide a range of applications services and software support, as well as operator and programme training.

After-hours support service is available to enable customers to receive technical assistance before and after normal working hours and over weekends.

Retecon Service also offers service agreements for various machine tools, providing customers with planned, regular maintenance services with the added benefit of discounted labour rates for the service period.

We are proud of our Safety Policy, graded "Green" by Sasol's stringent criteria.

We are currently offering FANUC Programming Courses on Basic Turning or Basic Milling Programming as well as various others.

As a member of the Retecon Group, we also enjoy ISO 9001:2015 certification.



CUT X series

Extreme accuracy, simple and fast



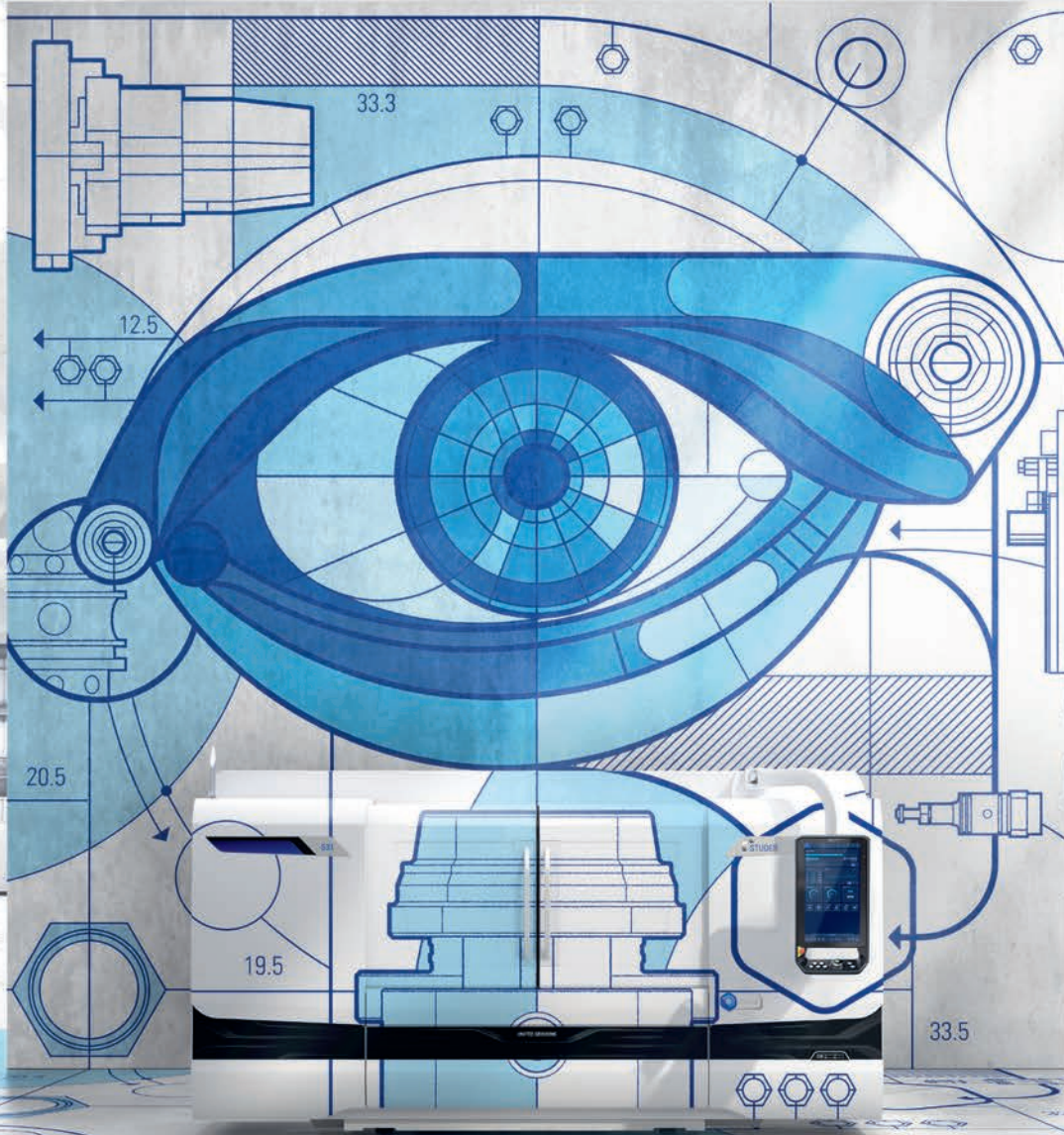
The latest CUT X series condenses more than 100 years of combined expertise in the best-ever wire EDM machine. With an elegant new design and X-technologies enabling ultrahigh accuracy, this series delivers true value.

CUSTOMER ORIENTED REVOLUTION

C.O.R.E. IS NOT ONLY AN EYE-CATCHER



C.O.R.E.®



Join us on our Customer Oriented REvolution. Find out more about C.O.R.E. and the role it plays in the digital future of your production.

studer.com/digitalization



SINCE
1930

WORLD LEADER IN CNC MACHINE MANUFACTURING

FICEP is **the largest producer in the world** today of automated systems for the fabrication of

STRUCTURAL STEEL

EXCALIBUR

Productive drilling of structural steel shapes in half the floor space of conventional drilling lines

- Automated drilling, scribing, milling, tapping, countersinking and more
- Sub-axis spindle positioning for enhanced productivity and capability
- Automatic tool changer to facilitate different applications



VANGUARD

Multiple spindle drilling line that can also be integrated with sawing or robotic thermal cutting

- High performance "Direct Drive" drill spindles maximize productivity
- Scribing to eliminate manual layout on up to 4 surfaces
- Automatic tool changers for each spindle to address diverse processes



GEMINI

Gantry Style Plate Processor Combines Drilling, Milling and Scribing with Plasma/Oxy-Fuel Cutting

- One or two totally independent spindles with sub-axis positioning can double productivity in the same footprint
- Multiple plasma and oxy-fuel torches can be provided
- Automatic tool changers with up to 48 tools available



RETECONREPORT

An information service to our clients



2023 | 1

Machine Tools | Cutting Tools | Accessories and Measuring Equipment

bedra

intelligent wires

BRASS WIRE

BRASS WIRE 0.25mm - SOFT | ECONOMICAL

- Berco Cut 372-392 Nmm 4kg soft
- Berco Cut Special 500 Nmm 16kg soft
- Berco Cut Pro 500 Nmm 5kg soft
- Berco Cut Pro 500 Nmm 8kg soft

BRASS WIRE 0.25mm - HARD 900/Nmm²

- Berco cut Special 900 Nmm 5kg hard
- Berco Cut Special 900 Nmm 16kg hard
- Berco Cut Pro 900 Nmm 5kg hard
- Berco Cut Pro 900 Nmm 8kg hard

COATED WIRE

GAPSTAR WIRE - THE NEW EDM HIGH PERFORMANCE WIRE

- Gapstar.9 - COATED WIRE 900 N/mm 0.25mm 5kg
- Gapstar.9 - COATED WIRE 900 N/mm 0.25mm 8kg

- New Bedra Technology (TRIMPAC)
- Suitable for all EDM wire cutting machines.

TOPAS WIRE - HARD | HIGH TENSILE | FAST | ACCURATE

- Topas Plus H - ZINC COATED 800 Nmm 5kg hard
- Topas Plus H - ZINC COATED 800 Nmm 8kg hard
- Topas Plus H - ZINC COATED 800 Nmm 16kg hard
- Topas Plus H - ZINC COATED 800 Nmm 25kg hard

COATED WIRE (CuZn) - HIGH PERFORMANCE

- Bronco Cut 520 N/mm² 4kg soft
- Bronco Cut 520 N/mm² 8kg soft
- Bronco Cut 520 N/mm² 16kg soft
- Bronco Cut 520 N/mm² 25kg soft

**Great Value FOR
Money!!**

EDM WIRE

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