Global Identification and Traceability

World leading solutions for industrial marking, product identification and traceability

pryormarking.com

PRYOR

The Pryor Story

Established in 1849 the Pryor Group has remained at the pinnacle of quality manufacturing, from engraving cutlery to robotic laser marking of hybrid vehicles.

The Pryor Name

On 23rd May 1849 William Pryor purchased a Sheffield based mark making business where Edward Pryor, his son, was serving his apprenticeship. Edward went on to become a master engraver and led his business to international renown in its field. Edward's eldest and youngest sons, Edward Staniforth Pryor and George Albert Pryor took over the running of the company in 1883 and 1898 respectively, before handing over to his grandson Ronnie Pryor in 1938.

Ronnie led the company through its period of greatest expansion including an extensive global footprint, until his death in 1984. Since then Pryor has been owned by the Ronald and Kathleen Pryor Charitable Trust. The trustees distribute dividends to local and national charities and ensure the long term stability of the Pryor Group and the historic Pryor name.

Digital Revolution

In the late 1970s Pryor revolutionised the entire marking industry by introducing the first computer controlled marking machines to the market. Now industry standard across the world, these machines have been developed into the most precise and high speed industrial equipment, with a full range of hand-held, benchtop and production line equipment.

As it entered another century, Pryor acquired a machine vision company, and began building its own laser marking machines, embracing the latest technologies for permanent industrial identification.

Industry 4.0

Never standing still and always looking to innovate, Pryor has introduced sophisticated software, control and electronic systems to ensure that it remains at the forefront of 21st century manufacturing. A full software package can now automate marking processes, network production locations and collate production data on a massive scale.

Making permanent identification marks remains at the core of Pryor's business, but the ease with which it can input, control and store data is where the company offers added value today.

Global Supply, Local Support

A Single Supplier

Whatever the size of your business, the volume of your manufacturing or the nature of your product, Pryor is able to provide a suitable permanent marking or identification solution. The breadth and depth of Pryor's experience is unique and, with mechanical, electrical, software and manufacturing teams all under one roof the company is a true one stop shop.

Pryor is able to recommend the best technology for your application and with the capability to fully integrate systems into production lines and control systems, there is no need to involve multiple suppliers.

Support

Preventing disruption to manufacturing is of vital importance to our customers. Pryor ensures that its products have the highest uptimes and reliability. But it also ensures that customers have quick access to skilled service personnel, available at their own location for preventative maintenance, training, upgrades and refurbishment.

With all mechanical, electrical and software systems designed and manufactured in-house, Pryor has unrivalled expertise to assist with your requirements.

Quality & Innovation

The most important feature of any Pryor product is that it is of the highest quality. Durable, reliable, robust and industrial, they are products made to high standards that will enhance your production for years to come. Pryor constantly develops and improves its solutions to ensure that its customers are at the forefront of manufacturing technology and is proud of the multiple awards it has been given for innovation.
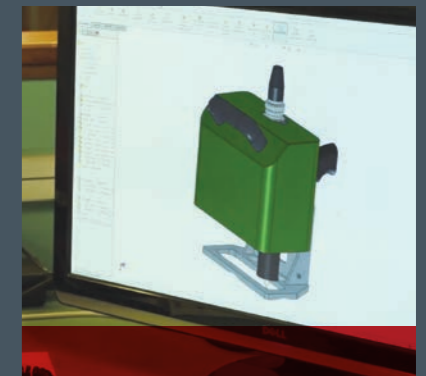
Global Presence

Pryor is a truly global corporation. In addition to its historic headquarters in Sheffield, UK it now has subsidiaries, joint ventures and distribution partners on 5 continents and in over 60 countries around the world.

Wherever you operate from, Pryor has local support and language skills.

Mecagrav Industrie S.A.S

Since 1989 the French manufacturer, establish in 1949, has been a wholly owned subsidiary of Pryor and today supports the full Pryor range.

Marks Pryor
Marking Technology Pvt. Ltd.

For over 10 years Pryor has had a joint venture operation based in Pune, India, which has become the market leader for marking machinery.

Pryor Technology Inc.

After many years of selling in North America and a strong brand presence, in 2016 Pryor opened a wholly owned subsidiary based in Richmond, Virginia.

Traceability and Identification

Do product recalls cost you time and money?

Can you instantly trace quality issues in your manufacturing process?

88243-009

88243-010

88243-008

88243-001

88243-007

88243-006

88243-002

88243-003

88243-005

88243-004

Unique ID

A unique identification mark on each component and a software package from Pryor is an easy way to implement a Smart Factory solution to reduce quality escapes.

Process Control

Scanning each component before a process ensures steps cannot be missed or completed in the wrong order.

Production Monitoring

Real-time monitoring of production data provides advanced warning of bottlenecks.
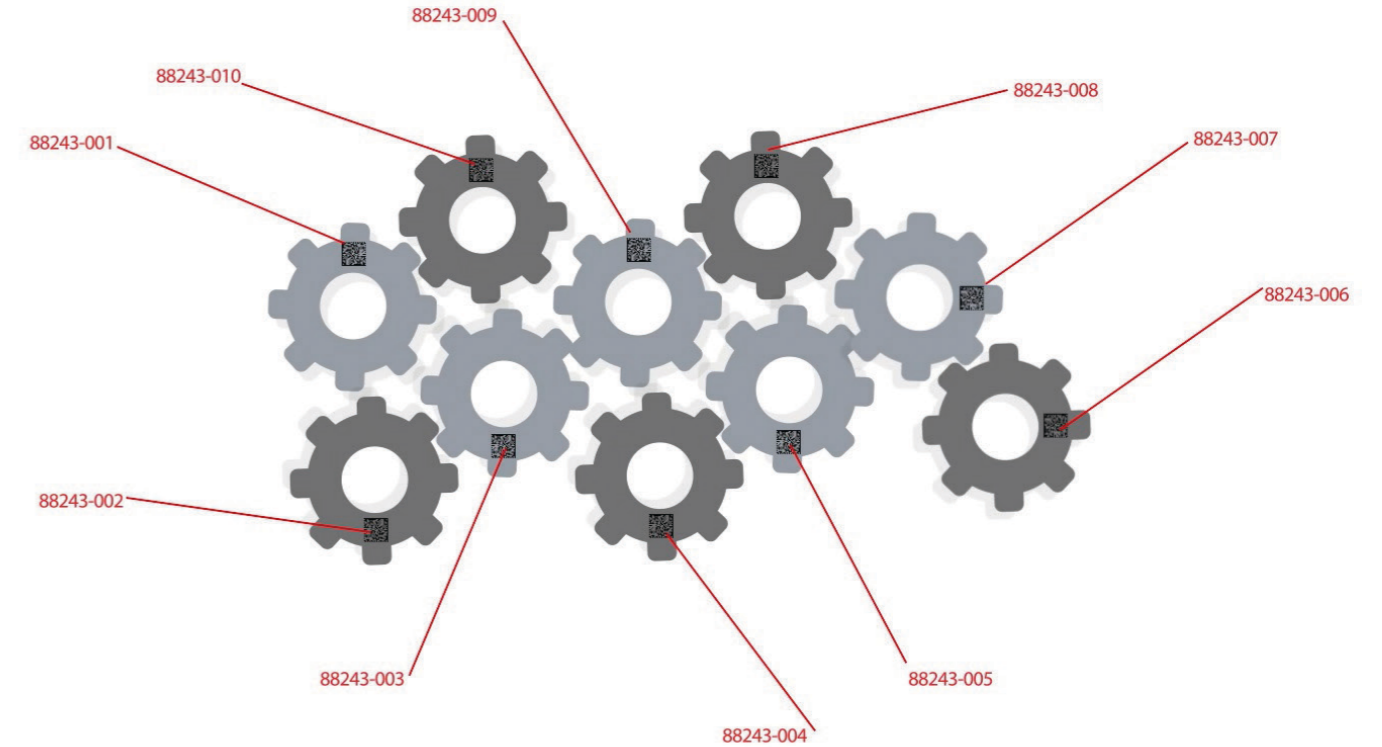
Life-cycle Traceability

Database records can store component level information for the most complex assemblies. Ongoing records can be updated as components are replaced in service. Recall products can be instantly located and pin-pointed.

Manufacturing History

Full manufacturing history can be instantly recalled for each component. Root cause analysis is fast and accurate. Trends can be monitored and highlighted.
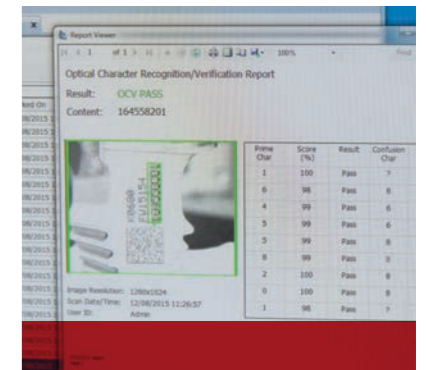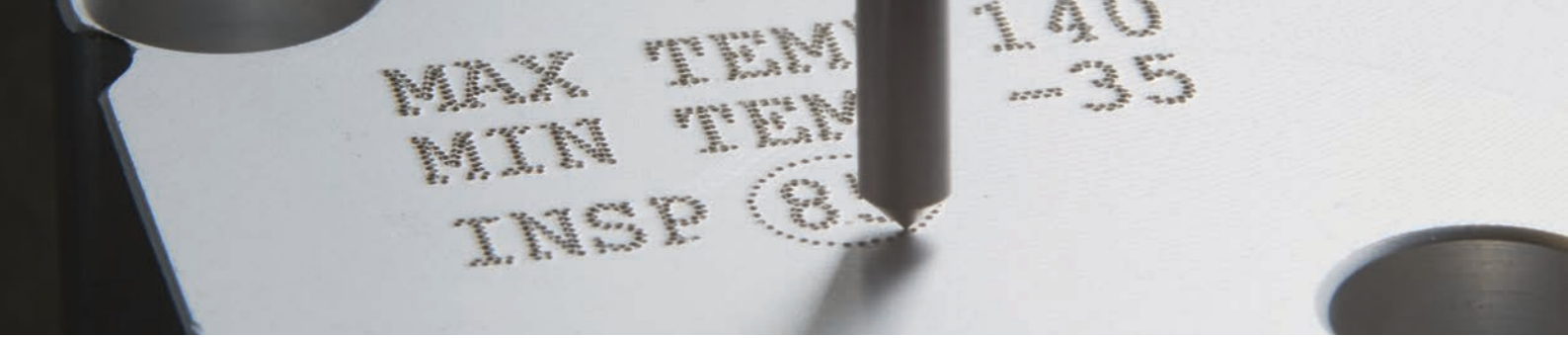
Dot Marking

The industry standard for fast and low stress permanent marks, the "dot peen" method was pioneered by Pryor in the 1970s. Any text, lines or image can be permanently marked with a series of dots.

Flexible

Dot markers are available as bench mounted, hand-held and production line integration units. With minimal guarding requirements and a broad scope of marking areas, the product range is suitable for most metal marking applications.
Pneumatic operation can be added to enable high speed or very deep marking.
Curved surfaces can be handled with the natural drop of the machine or with an optional circumferential fixture.

Precise

Pryor Dot markers are the most precise and reliable in the world.
They are used by leading manufacturers of precision components where mark location and quality are vital and rework or illegible marks are unacceptable.

Dot peen is an ideal marking technique for critical parts, where flaws cannot be introduced to the metal.

Dot marking is ideal for marking unique data matrix codes for machine readable identification.

Laser Marking

Pryor's own range of laser products, designed and made in-house, suit most industrial applications, from benchtop cabinets for batch marking to high speed production lines.

High Contrast

Laser marking provides a high contrast mark on a wide variety of surfaces. Most metals, plastics, glass and ceramics can be marked with a clearly visible and easily readable permanent mark.

Using a higher power or longer marking time, material can be removed to leave a permanent laser engraved mark.

Non-contact

Laser marks are applied without making contact to the part being marked. Without the need for any fixtures or clamps, laser marking is faster, easier and less invasive to perform in production. Laser marking is much quieter than dot and scribe marking. By using an integrated camera, marks can be automatically located on the part via feature recognition.

"On the fly" laser marking uses a stationary marking head to mark parts as they move past it on a conveyor, enabling very high speed marking.
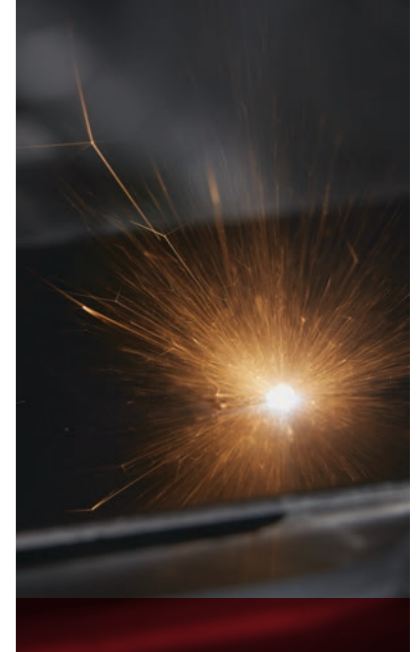
Scribe Marking

Scribe marking, or engraving, gives a clear continuous line mark. It is chosen for its aesthetic appeal in applications where the marked material can be firmly clamped in place.

Continuous Line

Used in many automotive applications, the continuous line of a scribe engraved mark is often chosen for a VIN mark where legibility is important and production volume does not justify a laser engraving solution.

Integrated Clamping

Scribe marking can be used with a benchtop machine for small components or integrated into production lines with custom fixtures. An integrated scribing and clamping system can be hung on a balancer above a production line for fast and simple application and use.

Chemical Etching

Chemical etching provides a cost effective solution for a high contrast mark.

High Contrast

Chemical etching of metal provides a high contrast, dark etched surface mark, similar to a laser mark in appearance. It is applied to a conductive, metal material by passing a current through a stencil soaked in an electrolytic chemical.

Aerospace Grade

Pryor's range of electrolytes conform to the high requirements of aerospace specifications, ensuring that component damage is minimised and critical components can be marked.

Custom Marks

The system is supplied with a stencil printer and Pryor's standard, easy to use software, so that unique marks can be quickly and easily generated for each component.
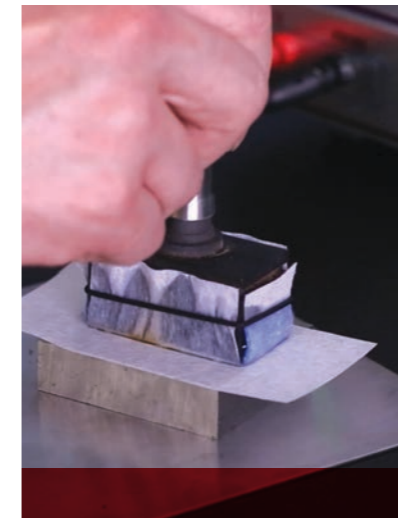
Portable Marking

Portable marking equipment is useful in applications where the marked component is large and immovable or a variety of marks are needed in multiple locations.

All Shapes and Sizes

The Pryor range of handheld marking equipment covers all requirements - from a small, fully portable power tool to heavy duty, industrial units ideal for manufacturing lines, foundries, and as back-ups to automated systems. The units are all robust, with electronics carefully protected from the vibrating marking head. Laser marking can also be configured into a hand-held system for larger components.

Deep Marking

The pneumatic versions of Pryor's portable dot markers are the lightest weight, deep marking tools available on the market. Where a painted or coated mark needs to be applied to a large component, the system provides clear permanent identification.
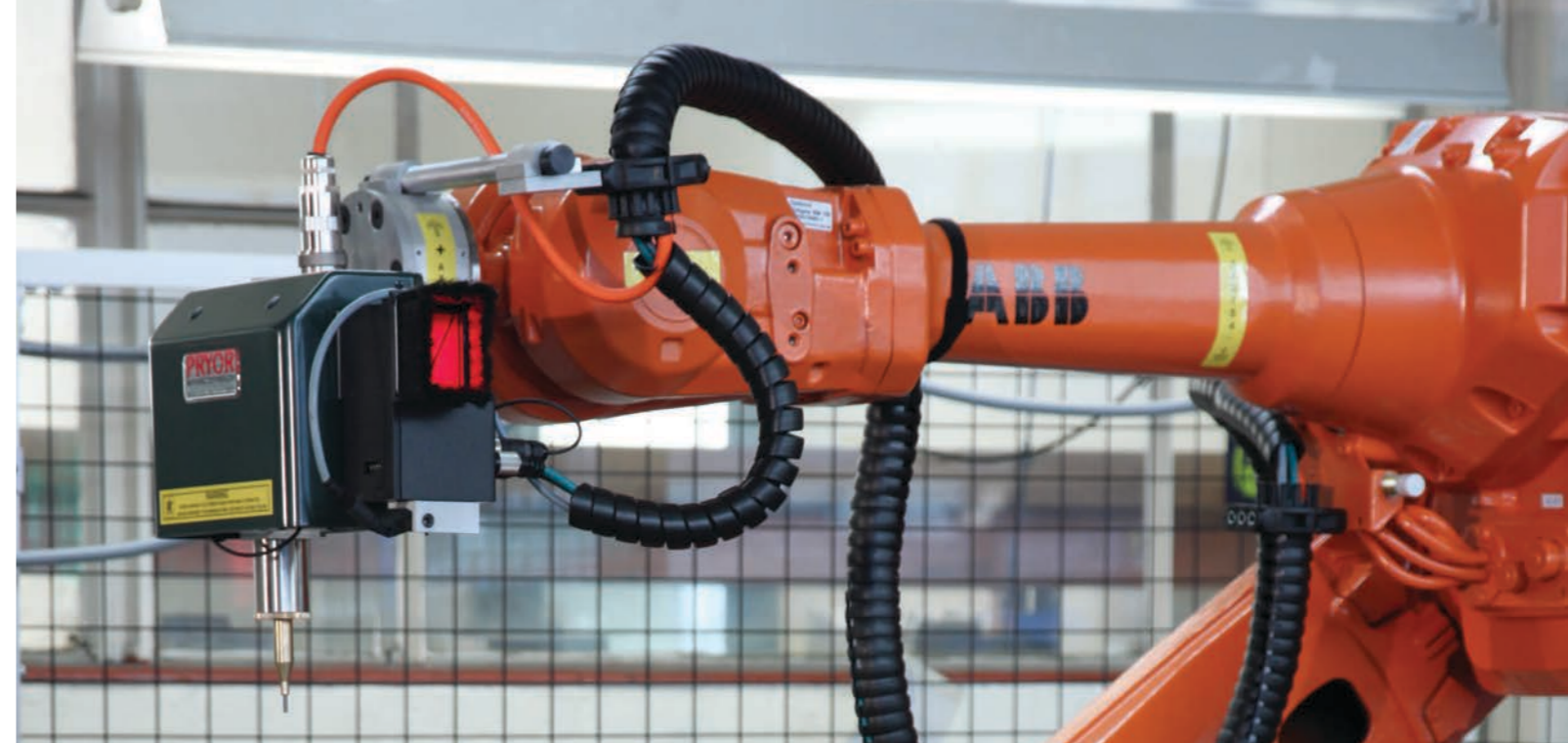
Robotic Marking

Pryor can supply robot end effectors, marking stations for robotic presentation of parts or fully integrated turn-key robotic systems.

Pryor installed its first robotic marking system in 2004.
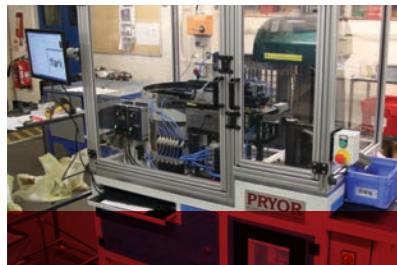
Flexible Manufacturing

A robotic marking system can mark virtually any component in any location. Robot moves can be programmed directly from Pryor's PC based software, without the need for PLC programming or robotics expertise. Systems can be integrated to production lines to mark within a product flow, or as independent manufacturing cells.

Eliminate Errors

Marking sequence can be triggered manually or automatically, from a variety of inputs, eliminating operator error. Vision systems are used to identify components and trigger correct robot moves and marking sequence. Physical features are identified and marks located relative to them.

Production Line Integration

With in-house mechanical, electrical and software development, Pryor can provide turnkey marking systems or integrate to production processes.

Expertise in vision control, robotics and automation lie at the heart of the company's core competencies.

Integrator Machines

Pryor's extensive range of marking equipment includes units specifically designed for integration into production lines, automation cells and multi-operation manufacturing locations. The range covers laser, dot marking and scribe engraving and can suit all requirements for marking area and component size. They can be purchased as stand-alone units or fully integrated and commissioned by Pryor.

Customisable HMI

Systems can be run from Pryor's touchscreen embedded controller or a PC based interface. Both offer advanced manufacturing control features including password protection levels for different functions, customisable interface with simple, graphic instructions, operator prompts and push button controls.

Connectivity & Networking

Pryor embedded control systems offer a broad range of connectivity options: up to 32 I/O, Ethernet, Ethernet IP, Profibus, Profinet. Marking stations can be networked together and controlled from a central server offering the following advantages: Central control of marking layouts and programs; Universal duplicate checking of serial numbers or marked data; Universal generation of marking programmes.

Control Options

Industry leading software and control solutions mean that Pryor's marking technologies can be used in the simplest and most sophisticated manufacturing environments.

Embedded Controllers

Stand-alone, robust, industrial controllers, with touchscreen, available in Benchtop and Panel Mount versions. Pryor's purpose designed electronics and software ensure clear, easy and reliable functionality.
Multiple connectivity options available including I/O, Ethernet, Ethernet IP, Profibus, Profinet.

PC Based Software

Provides an intuitive interface and familiar Windows control environment. All machine movements, layout steps and checks can be sequenced on screen. Operator interface can be customised with images, control buttons, traffic light indicators, process feedback and status reports. Password protection of different levels of user account can lock down operator controls.

Networked Solutions

Connecting marking stations to a central server gives several key benefits:

» Marking layouts and data can be stored and managed globally, with operators at local stations loading programs directly from master files

» Marking data can be cross-checked across all stations to ensure identification marks are not duplicated

» Layouts can instantly be used on multiple machines, providing backup and a more flexible manufacturing capacity

Data Capture

Pryor's software package can be used to implement an affordable manufacturing data capture system within a production environment.

Unique ID

By applying a unique ID mark to components, tools, operators and processes a quick and easy data capture system can be implemented in a manufacturing site. Scanning each component before and after manufacturing processes enables automatic logging of cycle times and production parameters – ambient temperatures, shift numbers, operator ID - for every individual component. Pryor software can log as many streams as required and associate data to unique component IDs.

Data Reporting

Big Data is quickly accumulated for the manufacturing processes being monitored. Reports can be generated for individual components, or for each process step, considering numerous parameters. Trends can be studied and production improvements proposed. The impact of improvements can be monitored and checked.
Pryor software can generate simple reports in various formats.

"Andon"

Andon is a Japanese term, used to describe a system for live monitoring and notification to management of process and quality problems. Pryor software can use traffic light and statistical indicators to flag up potential bottlenecks in production. Networking together multiple marking and/or reading stations across a facility allows central management to monitor, in real time, the location and status of every component on a shop floor.

Machine Vision

Following its purchase of a machine vision company in 2003, Pryor has developed unrivalled expertise in using them within marking applications.
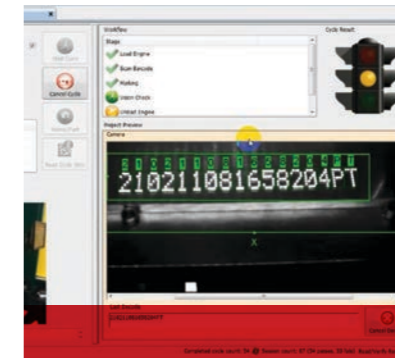
A Data Matrix code contains redundancy. The code can be damaged but still fully read. If marked poorly the code might be readable but already damaged. A verification check ensures that the redundancy is fully available for the lifecycle of the code.

Reading Data

Barcode and Data Matrix scanners can be used to input data to Pryor marking controllers. The scanned data can either be used to automatically select a layout and marking data from a database or directly input the information into the layout for marking.

Verification of Mark Quality

Both Data Matrix and Alphanumeric marks can be automatically quality checked by an integrated vision system directly after production. This ensures legibility of the mark and allows monitoring of the marking performance to prevent degradation.

Automation

Vision systems can be used to automatically locate a mark on a component. Using feature recognition to find a known position, Pryor marking machines can then offset the mark to the correct location every time. This feature is available in all ranges - hand-held, bench mounted and fully integrated systems with dot and laser marking.

Punches

The Pryor range of punches and stamps for indenting and embossing characters has been market leading for over 70 years.

Industrial Tools

The standard product range features a variety of alphabets, numbers and symbols covering premium, heavy duty and economy punches. Dot stress and mini stress punches are available for low stress marking requirements. Reverse punches are available for marking dies and moulds.

The punches are precision engineered tools, featuring a specially designed font to minimise damage to the marked surface and are carefully hardened and tempered to ensure longevity and safety.

Custom Design

Pryor has full in-house capability to manufacture a punch to any specification you require. Non-standard sizes, designs, logos or marked content can all be accommodated. Full artwork service is available to transform your design into a hard wearing industrial stamp.

Indenting Type

Indenting type was developed by Pryor in the 1940s for identifying critical aircraft components. The product remains a simple, cost effective method for marking part numbers, company names or other product information.

Versatile Marking System

Letters and numbers can be arranged in a holder so that a neat, clear, uniform mark can be applied quickly and easily. Holders can be struck with a hammer or loaded into a press. Character sizes vary from 1.0mm to 10mm and holders can take up to 14 characters in a single line. Ideal for batch and date marking, applying a product or company name or other identification mark.

Number Marking Kits

A common application is to apply dates, batch or serial numbers to products or components.
The affordable number marking kit provides a full set of type and a holder for most applications. Additional characters can be added to the set to meet your exact requirements.

Custom Design

If the standard range of characters, symbols and fonts available does not meet your requirements, any design can be engraved onto our standard blanks and used in the marking system.

Embossing and Printing Dies

For over 160 years Pryor has been engraving precision dies for embossing, indenting and printing.

Dies can be produced for use in hand presses, automated systems, designed for manual use or with the wide variety of machinery used in stamping and printing processes.

Design Service

Applications requiring the same inscription for all products, such as a logo, product or company name are often marked using a solid metal die. These are hard wearing, highly precise and can mark at very high speed in production lines. Pryor offers a complete artwork service to convert your design into an industrial, precision machined product.

Tailored To Your Needs

Dies can be engraved onto standard or custom blanks, onto cylindrical forms for high speed roller marking, onto concave and convex surfaces, in a wide range of dimensions and options of material.

Two Part Dies

Where thin materials need to be embossed with a design, two part dies are manufactured with male and female versions of the same impression so that the material is evenly deformed. These complex dies can be made to the very high tolerances required of aesthetic marks.

Other Identification Technologies

Stencils

For applying painted text and number marks, a series of interlocking or custom designed stencils can be used to give a professional, clear appearance.

Security Seals

Traceability and identification can be applied to a product via a tamper evident security seal. Uniquely numbered seals can be supplied in a variety of sizes, styles and closing mechanisms. Common applications include medical supplies, medical waste and airport supplies.

RFID

If a permanent, visible mark is not possible or not desirable then an embedded RFID tag can be used. Pryor's software solutions integrate seamlessly with this technology to provide traceability and data capture. RFID can be combined with other marking technologies to provide fail-safe, combined component identification and tracking.

Inkjet

While not providing a permanent identification mark, there are some applications which require an inkjet printed mark. Pryor has experience of integrating direct part printing into systems, fed and monitored by Pryor software and integrated with other marking technologies as required.

PRYOR

MARKING TECHNOLOGY

pryormarking.com

Global Identification and Traceability

Pryor Marking Technology designs and manufactures the broadest range of manual and automated marking tools in the world. The range includes hand tools, power tools, production line machines, laser marking and traceability software.

Pryor Marking Technology
Egerton Street
Sheffield
S1 4JX
United Kingdom
T: +44 (0)114 276 6044
Email: info@pryormarking.com

Twitter: @PryorMarking
Facebook: facebook.com/pryormarking
YouTube: youtube.com/PryorMarkingTech